Talent Quest: Advanced Business Services and the Geography of Innovation

(A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy)

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I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Marcus L. Spiller

January 30, 2009
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January 30, 2009  
Melbourne, Australia
Abstract

Talent Quest: Advanced Business Services and the Geography of Innovation

This thesis investigates whether the tendency for Advanced Business Services to concentrate in Sydney and Melbourne implies a similar spatial bias in the propensity for innovation across the Australian economy.

The various models of business innovation are reviewed. The traditional Schumpeterian view is characterized by a strategic leap in customer offer, based on some new break-through technology. Alternatively, innovation may proceed in incremental or organic fashion. Other conceptual frameworks for analyzing innovation conceive of it as a network process, which is becoming more prevalent as corporate value chains ‘unbundle’ with improved communication technologies, reduced barriers to capital transfers and new techniques for managing transaction risk.

Regardless of which model of innovation is applied, Advanced Business Services have a critical role in sparking and facilitating innovation. This is gathering potency as the ‘thinking part’ of the value chain becomes increasingly separable from the ‘making’ and ‘distribution’ aspects of production.

While Advanced Business Services are vital to successful innovation in the modern economy, they continue to operate within primitive commercial models where social networks and trust based relationships are paramount in successful client service. The innovation catalyst function of Advanced Business Services may be prone to a significant distance deterioration effect, because of the difficulty of maintaining the requisite social relationships over an extended geography. This, in turn, suggests an emergent core and periphery geography in innovation.

The thesis examines this hypothesis through both demand and supply side analyses. The latter involves a random sample survey of approximately 100 Advanced Business Service firms in Melbourne. This confirms the tendency of these firms to favour local clients.

The demand side analysis includes case studies of Advanced Business Service use and innovation outcomes amongst six metropolitan Melbourne based firms and six similar firms based some two hours drive away in Bendigo. In line with the hypothesis, the metropolitan cases show much stronger engagement with knowledge intensive advisory services than their counterparts in regional Victoria.

The demand side analysis also includes a quantitative component, which is exploratory in nature owing to data limitations. It considers how innovation outcomes in manufacturing change with increasing distance from key Advanced Business Service centres. Innovation outcomes are proxied by variations in manufacturing worker wages. These results are also consistent with the hypothesis of distance deterioration in the innovation role of Advanced Business Services.
1 Introduction

Overview

The principal themes of this thesis are summarised as follows.

Advanced Business Services or Knowledge Intensive Business Services play a crucial role in the innovation process, both in terms of traditional conceptions of this process (‘strategic leap’) and more recent notions of 'organic' innovation.

A key characteristic of Advanced Business Services is their tendency to centralise in relatively few cities nationally and, indeed, globally. The centralisation of Advanced Business Services is to be expected given their highly specialised nature - they need to reach large national and global hinterlands, and they, themselves, draw heavily on local support services.

Alongside this tendency for centralisation of Advanced Business Services, there is a well established trend in many industries for more and more of the value chain, including strategic aspects of business planning, marketing and brokerage, to be outsourced to specialists. This is conditioned by acceleration in inter-regional and international trade flows, equally rapid advances in communications and funds transfer technologies and widespread adoption of sophisticated financial brokerage and risk management strategies. There is now a much greater ‘services intensity’ per unit of final demand for manufactured goods and consumer services; in effect, the ‘thinking’ part of the value chain is increasingly spatially removed from the locus of physical production or consumer delivery.

Notwithstanding their crucial role in the modern, globally connected, economy, Advanced Business Services represent a primitive form of commerce. Their transactions are highly social in nature, built around networks of personal contacts and relationships accumulated over long periods. This inclines such firms to transact most of their business within a relatively confined spatial domain, notwithstanding that they may maintain a portfolio of more distant clients.
Should this be proven - and this is the main focus of this thesis - the role of Advanced Business Services as an innovation catalyst may be prone to a distance deterioration effect. This would mean that the unbalanced distribution of Advanced Business Services – a product of the natural centralisation of specialised functions – may dictate to a significant extent the geography of innovation in countries like Australia. Those regions without a significant local body of Advanced Business Services are likely to suffer reduced rates of innovation, other things equal, compared to those one or two metropolitan areas in Australia that dominate in these industries. Ultimately, this means the emergence and/or entrenchment of a ‘core and periphery’ pattern of economic development across the nation.

This raises consequential questions about the scope to intervene in the geography of Advanced Business Services. Are these Services indeed bound to centralise because of powerful agglomeration economies or does their domination by 'knowledge workers' and the 'creative class' render them susceptible to locational intervention by improving the livability and urban quality of cities which are currently lagging in their share of such enterprises?

Principal Research Question

In the context of Fordist models of value creation, featuring mass production, common designs, standardised assembly processes and centralized ownership of input sources and sales networks (Harvey, 1989), it was possible to think of business innovation as a process largely 'hard-wired' into the corporation. The capacity to generate product and process improvements was, itself, an element of a vertically integrated production and distribution process. Internal management directly employed and controlled the required 'thinking power' in value adding; that is, the analytical and creative skills necessary to conceive of new customer offers and ever more efficient manufacturing and distribution processes. Under this model, where the main potential for innovation is embedded in the primary value adder, the geography of innovation may well have reflected the principal locational drivers for these vertically integrated corporations, namely, convenient access to routine production labour, materials and mass consumer markets.

With the demise of Fordist vertical integration – dubbed 'unbundling of the value chain' in this thesis – the nexus between thinking power and the locus of primary production has
been broken. It may be that innovation is now much more dependent on outsourced business services and the learning networks which they sustain. Given that these business services have locational drivers which differ markedly from those which governed Fordist production, it is possible the geography of innovation more broadly has shifted.

Against this background, the thesis addresses the following question:

_Is the tendency for Advanced Business Services to concentrate in relatively few centres in Australia likely to skew the propensity for innovation in favour of these host regions?_

A Profile of Advanced Business Services in Australia

Working Definition

While there is widespread reference to ‘Advanced Business Services’, ‘advanced producer services’ or ‘knowledge intensive business services’ in the regional development literature, there is no standard definition of the precise scope of these services. Varying definitions have been developed in line with the particular objectives of the research projects in question (Gatrell, 2002; Simmie & Strambach, 2006).

In the current study, ‘Advanced Business Services’ are conceptualised as.....

"_Enterprises providing a largely customised, problem solving service to other businesses, where the services in question require application of significant intellectual effort or capital_”.

On this basis, Advanced Business Services will encompass enterprises that:

- derive most of their sales from **business clients**;
- provide product development and / or cost management solutions which are specifically **tailored** to the needs of clients;
- apply a high degree of **creativity and intellectual analysis** in delivering these solutions; and

• act as the **primary provider** of intellectual content as opposed to agents for other corporations providing pre-designed goods and services.

Application of these criteria in the Australian context captures firms not ordinarily considered to be part of the ‘business services sector’, for example organisations officially defined to be in the ‘education sector’ but involved in product R&D or delivery of customised training and human resource management services. On the other hand, some enterprises which are often automatically included in ‘finance and business services’ – for example, deposit taking banks – are excluded because they are largely engaged in retailing standard products.

For the purposes of this research, a working definition of Advanced Business Services was developed by relating the four above-mentioned criteria to a long list of industry codes drawn from the Australia and New Zealand Standard Industrial Classification (ANZSIC). This yielded the following target codes. Full descriptions of each industry category are provided in Appendix 1.

- 7511 Financial Asset Broking Services
- 7519 Services to Finance and Investment n.e.c.
- 7730 Non-Financial Asset Investors
- 7810 Scientific Research
- 7821 Architectural Services
- 7823 Consultant Engineering Services
- 7831 Data Processing Services
- 7832 Information Storage and Retrieval Services
- 7834 Computer Consultancy Services
- 7841 Legal Services
- 7842 Accounting Services
- 7851 Advertising Services
- 7852 Commercial Art and Display Services
- 7853 Market Research Services
- 7854 Business Administrative Services
- 7855 Business Management Services
- 7861 Employment Placement Services
- 7869 Business Services n.e.c.
- 8431 Higher Education
- 8432 Technical and Further Education
9621 Business and Professional Associations

This group of ANZSIC codes is reasonably congruent with that captured by ‘Knowledge Intensive Business Services’ (KIBS) as defined by Miles et al (1995).

Advanced Business Services defined in this way employed almost 866,000 Australians in 2006 or 9.8% of the classifiable work force, up from 6.9% in 1986 (Table 1).

Advanced Business Services have grown much faster than national employment as a whole (Figure 1). This reflects both the increasing demand for creative thinking in competitive enterprises and ‘unbundling’ of the value chain under which jobs have been reclassified from their original sectoral home (for example, manufacturing) into their new ‘outsourced’ category in the services sector.

Table 1  Advanced Business Services Employment in Australia, 1986 – 2006

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Advanced Business Services</td>
<td>434,464</td>
<td>520,599</td>
<td>674,940</td>
<td>793,831</td>
<td>866,136</td>
</tr>
<tr>
<td>All Other Industries</td>
<td>5,840,954</td>
<td>6,053,745</td>
<td>6,711,475</td>
<td>7,318,359</td>
<td>8,001,557</td>
</tr>
<tr>
<td>Not stated / non classifiable</td>
<td>240,814</td>
<td>519,946</td>
<td>254,833</td>
<td>192,452</td>
<td>236,494</td>
</tr>
<tr>
<td>Total employed</td>
<td>6,503,882</td>
<td>7,086,175</td>
<td>7,636,319</td>
<td>8,298,604</td>
<td>9,104,187</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census data, special tabulations

Figure 1  Index of Employment Growth, Advanced Business Services v All Industries, Australia

Source: Australian Bureau of Statistics Census data, special tabulations
The following outline of the scale and nature of Advanced Business Services in Australia relies on special tabulations generated from the 1986, 1991, 1996, 2001 and 2006 Census data bases. Whilst these are the best available data sets for profiling purposes, the limitations of this data source must be acknowledged. All firms matching the identified ANZSIC categories are counted as ‘Advanced Services’ even though a proportion of these enterprises will not be offering particularly high order skills. Many of the ‘Legal Services’ and ‘Accounting’ firms, for example, will be suburban solicitors and tax agents. Ideally, genuinely ‘advanced’ firms would be identified according to whether they are engaged in significant interstate and international exporting of their expertise. Exporting is likely to indicate a degree of specialisation and refined expertise befitting the four point definition set out above. However, the Australian Bureau of Statistics does not publish data to enable disaggregation of the firms in the nominated ANZSIC groups according to export activity. Elsewhere in this thesis an attempt is made to measure the scale of employment in firms which are genuinely ‘advanced’ in their service offering, by applying location quotient analysis to impute inter-regional export orientation.

Sub-sector Composition

Just four ANZSIC sub-sectors Higher Education, Computer Consultancy Services, Accounting Services and Legal Services account for almost half the total employment in Advanced Business Services (Table 2).

It is possible to discern six broad groupings of ‘discipline based’ services within this array of sub-sectors with accounting and financial services and human resource development emerging as the largest. The discipline based groupings include:

- **Accounting and financial services** (comprising ANZSIC codes 7842, 7519, 7511, 7730 and 7869) which accounted for 228,332 employees in 2006 or 26% of all Advanced Business Service jobs;
- **Human resource management and training** (ANZSIC 8431, 7861, 8432), 201,114 employees (23%);
- **Management, Advertising and Marketing** (ANZSIC 7855, 7854, 9621, 7853, 7851, 7852), 127,799 employees (15%);
- **Design / engineering** (ANZSIC 7823, 7821, 7810), 117,363 employees (14%);
- **Information technology** (ANZSIC 7834, 7831, 7832), 104,696 employees (12%); and
- **Legal services** (ANZSIC 7841), 86,832 employees (10%).
Table 2  
Employment Distribution by Sub-sector, Advanced Business Services, Australia, 2006

<table>
<thead>
<tr>
<th>Employment in 2006</th>
<th>Share of total Advanced Business Services Employment</th>
<th>Cumulative Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>8431 Higher Education</td>
<td>108399</td>
<td>12.52%</td>
</tr>
<tr>
<td>7834 Computer Consultancy Services</td>
<td>101872</td>
<td>11.76%</td>
</tr>
<tr>
<td>7842 Accounting Services</td>
<td>96023</td>
<td>11.09%</td>
</tr>
<tr>
<td>7841 Legal Services</td>
<td>86832</td>
<td>10.03%</td>
</tr>
<tr>
<td>7519 Services to Finance and Investment, nec</td>
<td>66393</td>
<td>7.67%</td>
</tr>
<tr>
<td>7823 Consulting Engineering Services</td>
<td>62945</td>
<td>7.27%</td>
</tr>
<tr>
<td>7855 Business Management Services</td>
<td>57250</td>
<td>6.61%</td>
</tr>
<tr>
<td>7869 Business Services, nec</td>
<td>50440</td>
<td>5.82%</td>
</tr>
<tr>
<td>8432 Technical and Further Education</td>
<td>48297</td>
<td>5.58%</td>
</tr>
<tr>
<td>7861 Employment Placement Services</td>
<td>44418</td>
<td>5.13%</td>
</tr>
<tr>
<td>7821 Architectural Services</td>
<td>29848</td>
<td>3.45%</td>
</tr>
<tr>
<td>7851 Advertising Services</td>
<td>26889</td>
<td>3.10%</td>
</tr>
<tr>
<td>7810 Scientific Research</td>
<td>24570</td>
<td>2.84%</td>
</tr>
<tr>
<td>7852 Commercial Art and Display Services</td>
<td>15198</td>
<td>1.75%</td>
</tr>
<tr>
<td>7511 Financial Asset Broking Services</td>
<td>14782</td>
<td>1.71%</td>
</tr>
<tr>
<td>7853 Market Research Services</td>
<td>11664</td>
<td>1.35%</td>
</tr>
<tr>
<td>9621 Business and Professional Associations</td>
<td>9215</td>
<td>1.06%</td>
</tr>
<tr>
<td>7854 Business Administrative Services</td>
<td>7583</td>
<td>0.88%</td>
</tr>
<tr>
<td>7831 Data Processing Services</td>
<td>1492</td>
<td>0.17%</td>
</tr>
<tr>
<td>7832 Information Storage and Retrieval Services</td>
<td>1332</td>
<td>0.15%</td>
</tr>
<tr>
<td>7730 Non-Financial Asset Investors</td>
<td>694</td>
<td>0.08%</td>
</tr>
<tr>
<td><strong>Total Advanced Business Services</strong></td>
<td><strong>866136</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census, special tabulations.

Growth Rates

As noted, employment in Advanced Business Services has grown significantly faster than employment as a whole across Australia. It is not possible to accurately track growth rates within the various sub-sectors over the full twenty year period to 2006, due to changes in definitions for the constituent ANZSIC codes. However, over the 1996 to 2006 period, the fastest growing sub-sectors were generally in finance, IT consultancy and management advisory services (see Table 3). A small number of sub-sectors experienced a decline in jobs over this decade, including scientific research, business and professional associations and information storage and retrieval services. The latter appears to have been the casualty of technology change in data base management, or shifts in self-classification behaviour within the dynamic IT services sector; information storage and retrieval services had been one of the fastest growing sub-sectors between
2001 and 2006. It is also noteworthy that some of the comparative laggards in the 1996 to 2001 period, including training and education and technical services (architecture and engineering), enjoyed a turnaround in the following five years, perhaps reflecting Australia’s strong population growth and construction boom over this period.

### Table 3 Growth Rates – Advanced Business Service Sub-sectors, 1996 – 2006

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7519 Services to Finance and Investment, nec</td>
<td>28812</td>
<td>45402</td>
<td>66393</td>
<td>57.58%</td>
<td>130.44%</td>
</tr>
<tr>
<td>7511 Financial Asset Broking Services</td>
<td>7195</td>
<td>8644</td>
<td>14782</td>
<td>20.14%</td>
<td>105.45%</td>
</tr>
<tr>
<td>7834 Computer Consultancy Services</td>
<td>51608</td>
<td>96902</td>
<td>101872</td>
<td>87.77%</td>
<td>97.40%</td>
</tr>
<tr>
<td>7869 Business Services, nec</td>
<td>30438</td>
<td>39058</td>
<td>50440</td>
<td>50.47%</td>
<td>65.71%</td>
</tr>
<tr>
<td>7851 Advertising Services</td>
<td>18768</td>
<td>25793</td>
<td>26889</td>
<td>37.43%</td>
<td>43.27%</td>
</tr>
<tr>
<td>7842 Accounting Services</td>
<td>69279</td>
<td>88115</td>
<td>96023</td>
<td>27.19%</td>
<td>38.60%</td>
</tr>
<tr>
<td>7823 Consulting Engineering Services</td>
<td>47225</td>
<td>50856</td>
<td>62945</td>
<td>7.69%</td>
<td>33.29%</td>
</tr>
<tr>
<td>7841 Legal Services</td>
<td>66778</td>
<td>85736</td>
<td>86832</td>
<td>28.39%</td>
<td>30.03%</td>
</tr>
<tr>
<td>7821 Architectural Services</td>
<td>23390</td>
<td>26723</td>
<td>29848</td>
<td>14.25%</td>
<td>27.61%</td>
</tr>
<tr>
<td>8431 Higher Education</td>
<td>87709</td>
<td>96497</td>
<td>108399</td>
<td>10.02%</td>
<td>23.59%</td>
</tr>
<tr>
<td>7861 Employment Placement Services</td>
<td>36415</td>
<td>44997</td>
<td>44418</td>
<td>23.57%</td>
<td>21.98%</td>
</tr>
<tr>
<td>7730 Non-Financial Asset Investors</td>
<td>571</td>
<td>369</td>
<td>694</td>
<td>-35.38%</td>
<td>21.54%</td>
</tr>
<tr>
<td>7855 Business Management Services</td>
<td>48504</td>
<td>58418</td>
<td>57250</td>
<td>20.44%</td>
<td>18.03%</td>
</tr>
<tr>
<td>7853 Market Research Services</td>
<td>10468</td>
<td>11769</td>
<td>11664</td>
<td>12.43%</td>
<td>11.43%</td>
</tr>
<tr>
<td>8432 Technical and Further Education</td>
<td>43462</td>
<td>39011</td>
<td>48297</td>
<td>-10.24%</td>
<td>11.12%</td>
</tr>
<tr>
<td>7852 Commercial Art and Display Services</td>
<td>14030</td>
<td>14845</td>
<td>15198</td>
<td>2.21%</td>
<td>8.83%</td>
</tr>
<tr>
<td>7810 Scientific Research</td>
<td>24732</td>
<td>25366</td>
<td>24570</td>
<td>2.56%</td>
<td>-0.66%</td>
</tr>
<tr>
<td>9621 Business and Professional Associations</td>
<td>9415</td>
<td>6498</td>
<td>9215</td>
<td>-30.98%</td>
<td>-2.12%</td>
</tr>
<tr>
<td>7832 Information Storage and Retrieval Services</td>
<td>1367</td>
<td>2759</td>
<td>1332</td>
<td>101.83%</td>
<td>-2.56%</td>
</tr>
<tr>
<td>7831 Data Processing Services</td>
<td>3750</td>
<td>9131</td>
<td>1492</td>
<td>143.49%</td>
<td>-60.21%</td>
</tr>
<tr>
<td>7854 Business Administrative Services</td>
<td>44536</td>
<td>9733</td>
<td>7583</td>
<td>-78.15%</td>
<td>-82.97%</td>
</tr>
</tbody>
</table>

**Source:** Australian Bureau of Statistics Census, special tabulations.

### Knowledge Intensity

The fact that Advanced Business Services as defined here comprise enterprises primarily engaged in intellectual problem solving is evident in the ‘knowledge intensity’ of this group of industries. Overall, 49% of those employed in the Advanced Business Services sector hold degrees at Bachelor level or higher, compared to 19% for all other industries. Indeed, each one of the selected ANZSIC groups has a significantly greater representation of Bachelor or higher qualified workers compared to all other industries (Table 4)
Leaving aside organisations involved in scientific research and tertiary education, where higher degrees are increasingly a pre-requisite for employment for non administrative staff, the most knowledge intensive sub-sectors as measured by the Educational Attainment Quotient for post-graduate degrees (i.e. the percentage of sub-sector workforce holding post-graduate qualifications divided by the percentage of the total Australian workforce holding such qualifications) relate to management consultancy, engineering and IT services. Legal, accounting and financial services also have quotients well in excess of 1.00, but significantly below these other, more technically oriented, disciplines (Figure 2).

Table 4  Percentage of Sub-sector Workforce Holding Bachelor Degrees or Higher, 2006

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>8431 Higher Education</td>
<td>69.12%</td>
</tr>
<tr>
<td>7810 Scientific Research</td>
<td>68.10%</td>
</tr>
<tr>
<td>7821 Architectural Services</td>
<td>54.70%</td>
</tr>
<tr>
<td>7834 Computer Consultancy Services</td>
<td>52.96%</td>
</tr>
<tr>
<td>7855 Business Management Services</td>
<td>52.83%</td>
</tr>
<tr>
<td>7841 Legal Services</td>
<td>51.68%</td>
</tr>
<tr>
<td>7842 Accounting Services</td>
<td>51.20%</td>
</tr>
<tr>
<td>7823 Consulting Engineering Services</td>
<td>49.05%</td>
</tr>
<tr>
<td>7854 Business Administrative Services</td>
<td>48.95%</td>
</tr>
<tr>
<td>8432 Technical and Further Education</td>
<td>48.51%</td>
</tr>
<tr>
<td>7511 Financial Asset Broking Services</td>
<td>47.26%</td>
</tr>
<tr>
<td>7853 Market Research Services</td>
<td>45.10%</td>
</tr>
<tr>
<td>7519 Services to Finance and Investment, nec</td>
<td>42.94%</td>
</tr>
<tr>
<td>9621 Business and Professional Associations</td>
<td>41.98%</td>
</tr>
<tr>
<td>7831 Data Processing Services</td>
<td>40.47%</td>
</tr>
<tr>
<td>7832 Information Storage and Retrieval Services</td>
<td>33.53%</td>
</tr>
<tr>
<td>7852 Commercial Art and Display Services</td>
<td>31.38%</td>
</tr>
<tr>
<td>7851 Advertising Services</td>
<td>31.06%</td>
</tr>
<tr>
<td>7861 Employment Placement Services</td>
<td>29.67%</td>
</tr>
<tr>
<td>7869 Business Services, nec</td>
<td>26.94%</td>
</tr>
<tr>
<td>7730 Non-Financial Asset Investors</td>
<td>21.01%</td>
</tr>
<tr>
<td><strong>Total Advanced Business Services</strong></td>
<td><strong>49.01%</strong></td>
</tr>
<tr>
<td><strong>Total All Other Industries</strong></td>
<td><strong>19.34%</strong></td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census, special tabulations.
Outline of the Thesis

Innovation is now widely acknowledged as the key to sustainable prosperity at corporate, regional and national levels. According to the OECD, approximately half the total growth in output from developed countries between 1970 and 1995 resulted from business innovation and this proportion is growing (Simmie & Strambach, 2006). This thesis examines whether and how the geography of innovation, and, by implication, the living standards of sub-national regions, might be profoundly shaped by a relatively small sector in the economy – Advanced Business Services.

The substantive thesis commences in Chapter 2 with a review of the literature regarding the central role which Advanced Business Services play in the innovation process. Traditional perspectives on business innovation are based on insights of the early 20th century economist, Joseph Schumpeter, who conceptualised a process of “creative destruction” in market economies. This involves the generation of breakthrough ideas or step changes in technology. These technological breakthroughs enjoy a degree of lock in so that the innovators in question can extract monopoly rent for an extended period, until the next step change (Berry, 2003). Under these models, Advanced Business Services

Figure 2  Educational Attainment Quotient – Post Graduate Qualifications – Advanced Business Services – Australia - 2006

Source, Australian Bureau of Statistics Census, special tabulations
Services play a vital role in the codification of intellectual property and the protection of this information in market transactions.

The more recent literature reminds us that innovation can also be pursued via incremental improvements, characterised as *organic* as opposed to *strategic leap* innovation.

Organic innovation and, indeed, the strategic leap form, are prompting, and in turn are being supported by, the process of value chain *unbundling*. This refers to the addition of more and more suppliers, distributors, intermediaries and brokers in the production process. Value chain unbundling includes, but extends beyond, *outsourcing*. The latter is a contractually driven and often narrowly focussed means of re-assigning *non-core* and routine aspects of the production process to other providers; for example, payroll management, IT support and logistics services. Unbundling also includes less formal means of spreading risk and tapping the services and know how of other firms, achieved through strategic alliances, informal partnerships and project by project collaborations.

Unbundling was first commented on by Anne P Carter in the 1960’s (Carter, 1970). More recently, the business economics literature has given a great deal of attention to the processes of outsourcing and value chain management. This literature suggests that value creation is being broken down into a mosaic of independently executed steps involving an increasing separation between *thinking* processes and *routine production* processes. In this context, as *agents for hire* specifically focussed on creative problem solving, Advanced Business Services play a critical role in technology diffusion and the formation of competitive advantage.

Thus, both the traditional and more recent commentaries on economic innovation involve a centre stage role for Advanced Business Services. Indeed, this potential has been acknowledged in the literature for some time, although the specific role of these services in technology diffusion in the Australian regional context is relatively under-researched.

Having confirmed the important role of Advanced Business Services in innovation, Chapter 2 moves to an examination of their agglomerative tendencies in Australia. It notes the heavy centralisation of these Services into Sydney and, to a lesser extent, Melbourne. These two cities may account for more than 80% of Australia’s inter-regional exports in Advanced Business Services, a proportion well in excess of their combined share of total employment (39%). Moreover, Advanced Business Services are shown to
be concentrated in relatively few locations within metropolitan areas, typically inner urban areas characterised by high urban quality (sometimes summed up in the term 'cafe culture') and accessibility.

Whether this geography of concentration matters depends on just how Advanced Business Service firms interact with their clients, and whether the quantity and quality of these transactions are prone to deterioration with increasing distance from the supply point. Thus, the next question taken up in Chapter 2 concerns the spatiality of a 'new' innovation process which is dominated or strongly influenced by Advanced Business Services. The literature on the importance or otherwise of face to face contacts, social networks and culture in the creation of business advantage, including innovation, is examined.

As this literature signals the possibility that the concentrated geography of Advanced Business Services, both nationally and intra-regionally, may skew the propensity for successful innovation (and therefore the prospects for superior economic growth and living standards) towards these locations, Chapter 2 finally turns to whether policy interventions can be effective in achieving a more even distribution of innovative enterprises and quality jobs. Here, the thesis reports on two divergent schools of thought that have a bearing on the scope for such intervention. On the one hand, there is a group of researchers who emphasise the economies of scale, agglomeration effects and historical factors that anchor Advanced Business Services in relatively few and dominant locations. On the other hand, there are those writers and commentators who argue that the bulk of the labour force in Advanced Business Services, variously referred to as knowledge workers, the cognitive elite, or the creative class, are, in fact, highly footloose and prone to be attracted, by positive policy, to cities which offer cultural diversity and high urban quality.

Chapter 3 synthesises the foregoing literature review and identifies a gap in the current body of research, related to the issue of whether the innovation boosting effect of Advanced Business Services is prone to significant distance decay. That is, are client firms with otherwise similar characteristics likely to enjoy less beneficial contact with Advanced Business Service firms simply because they are located in regional areas or smaller capital cities distant from the main distribution nodes of these services?

A three pronged research strategy to explore this gap is proposed. The first element comprises a survey of approximately 100 Advanced Business Service firms in Melbourne,
(Victoria, Australia) focussing on how they gain clients and transact their ‘innovation support’ role. The second element investigates productivity and innovation outcomes with respect to increasing distance from key supply points for Advanced Business Services. Innovation outcomes are proxied by variations in manufacturing worker remuneration. Thirdly, a series of exploratory case studies is developed comparing how metropolitan and non-metropolitan firms in Victoria engage in the innovation process, as revealed by accounts from senior managers in participating companies.

Chapter 4 details the findings of the research. This evidence tends to support the hypothesis that the positive effect of Advanced Business Services on economic development is significantly stronger in the host region.

The thesis concludes in Chapter 5 with some observations regarding the policy implications of this research.
2 Advanced Business Services and Innovation

This chapter reviews previous research and commentary regarding the nature of innovation and the role of Advanced Business Services in this process.

The different concepts of innovation encountered in the literature are identified and discussed. Regardless of which form of innovation is under examination, or whether a single firm or business network perspective is taken to its analysis, it appears that Advanced Business Services play an increasingly important part in the successful execution of new product and process ideas.

The geography of Advanced Business Services is explored, both through reference to the literature and further analysis of the Australian Bureau of Statistics data introduced in Chapter 1. When interpreted in the context of other research highlighting the importance of face to face contacts and social networks in the transaction of Advanced Business Services, the observed pattern of concentration of these services into relatively few centres, both nationally and within metropolitan regions, suggests that the overall propensity for innovation in an economy may also be spatially biased towards these centres. This, in turn, implies that some regions may enjoy superior long term prospects for quality jobs and living standards by virtue of their superior endowment of Advanced Business Services.

Given that the propensity for innovation may be susceptible to this form of spatial patterning, the Chapter considers further views in the literature regarding the scope for policy intervention to reshape the distribution of Advanced Business Services to achieve more even economic prospects across and within regions.

Thematic Groupings in the Literature

The literature on technological change and economic development can be segmented according to whether the focus is on innovation within the enterprise itself, or whether innovation is approached from an industry or region-wide perspective; that is, large groups of transacting enterprises. These segments are shown in Figure 3. The horizontal dimension of the matrix distinguishes between the firm’s engagement in invention driven innovation ('Strategic Leap') versus its propensity for incremental innovation ('Organic').
Commentary in respect of the vertical dimension of the matrix is focussed on business to business links and may not be overtly concerned with ‘innovation’ as such. More likely, it will concentrate on ‘productivity improvements’ or enhanced competitiveness in nations, regions and industries. One powerful theme in the literature within this dimension relates to the re-engineering of industry value chains and, in particular, to extensive outsourcing supported by new information, communication and management technologies, as the keys to national and regional prosperity.

Broadly speaking, the classical literature on innovation occupies the bottom right quadrant in the model. It characterises innovation in ‘strategic leap’ terms – the creation of new products and processes from formal ‘new knowledge’ like scientific research. This view generates a policy focus on knowledge institutions (universities and the like), economies of scale, the venture capital market, general skills and competency development and protection of intellectual capital. This perspective generally supports the notion that modern economies have a ‘dual character’ – one economy based on new knowledge (‘hi-tech’) and a second, based on older, commodity based, industries. Analyses of competitive advantage using these conceptual frameworks revolve around notions of ‘path dependency’ in innovation, ‘lock in’ of new technologies and ‘first in takes all’.

**Figure 3 Perspectives on Innovation**

The classical literature tends to be somewhat ‘introspective’; it focusses on the hero innovator. There is little emphasis on the business-to-business networks within which innovation takes place. To the extent that there is commentary on business to business links, it highlights key bilateral relationships, for example, those between researchers...
and sponsor firms, and those between sponsor firms and the providers of high risk capital.

More recently, business analysts have begun to emphasise the incremental or ‘organic’ nature of innovation. In these perspectives (top left quadrant), the knowledge base of the economy, as in the science / pure research system, remains important. However, it is recognised that strategic or opportunistic alliances between firms, distribution and supply links and ‘tacit knowledge’ – the non-codified know-how held by workers and agents in industry clusters, as theorised by Porter (1996, see below) – can become just as critical as science in successful innovation.

This way of thinking about innovation inevitably involves greater analysis of how businesses interact with each other and create, to greater or lesser degrees, ‘learning networks’; that is, formal and informal protocols for exchanging strategic information (see Cooke and Memedovic, 2006). Therefore, understanding how outsourcing to specialists generates opportunities for new ideas, both in product content and in the delivery of value adding processes, becomes an abiding theme in this space within the literature. This segment has been driven by management theory and commentators on business strategy (see for example, Wolpert, 2002 and Myer and Ruggles, 2002).

The top right quadrant in the model contains, perhaps, the most recent material within the literature. While its focus is still on discrete, patentable and often dramatic innovations based on scientific break-throughs, the writers in this space urge a more systemic approach to analysis compared to the bilateral pre-occupations of the classicists (Simmie and Strambach, 2006, The Economist, 2007a). They argue that learning networks are just as important to the successful detection and incubation of big new ideas as they are to implementation of incremental improvements to business practices.

Regardless of the framework through which the innovation process is examined, Advanced Business Services appear to play a key role. In the classical interpretations of ‘strategic leap’ innovation, these Services are key brokers, necessary to mediate commercially sensitive information when bringing new ideas to market. Moreover, Advanced Business Services including marketing, management and financial consultants are often contracted to do the front end work on innovation (i.e. testing new ideas), because production corporations are generally under pressure to maintain market share in their mainstream suite of products and services.
In the ‘organic form’ of innovation (top left quadrant) and contemporary analyses of ‘strategic leap’ innovation (top right quadrant), Advanced Business Services are the glue that holds industry clusters together. They forge links between anchor exporter firms, suppliers, training institutions, regulators and researchers both through the circulation of knowledge workers between enterprises within the same competency sphere, and through standard contractual arrangements to deliver financial brokerage, strategy advice, skills development and many other services. They find and transmit new ideas for productivity improvement.

These divergent and overlapping ways of looking at innovation are elaborated below.

Classical Perspectives

The term “creative destruction” perhaps best characterises classical perspectives on the process of economic innovation. Coined in 1942 by Joseph Schumpeter in his *Capitalism, Socialism and Democracy*, it denotes a "process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (quoted in Kwasnicki, 2003).

According to Simmie (2001), Schumpeter pioneered four key concepts in economic theory. The first is that innovation is the main source of dynamism in economies. Secondly, Schumpeter stressed the importance of taking an historical perspective in understanding long term economic change. Thirdly, he drew out the conceptual distinction between invention, innovation (capitalist exploitation of inventions) and the diffusion of innovations. Finally, Schumpeter identified the importance of links between organisational, managerial, social and technical innovations.

Schumpeter’s insights into how entrepreneurs create a cost or product advantage over rivals have led to him being credited as one of the founders of the ‘Evolutionary School’ of economics. This contrasts with the ‘neo-classical’ school where innovation is treated as an exogenous or given factor. On the neo-classical perspective, material welfare is achieved through the promotion of perfect competition, with firms responding to prices as the key signallers of consumer and societal preferences. In part, competition is maintained by the force of ‘diminishing returns to scale’, a process by which large firms may not indefinitely hold a market advantage (Berry, 2003).
Ironically, while ‘creative destruction’ is something of a catch cry in Evolutionary Economics, this school holds that, far from being prone to diminishing returns, firms can forge a continuing market advantage, and even market domination, by being the first to create a compelling new product or service. Berry (2003) cites the near universal adoption of Microsoft’s DOS, and the continuing use of the ‘QWERTY’ keyboard configuration (a 19th Century innovation) as evidence that this market advantage can be maintained, despite the subsequent availability of technically superior products and services in the same market.

As Berry (2003) explains, quoting Arthur (1996), the reasons why a ‘new technological paradigm’ persists once established relate to increasing returns to scale, which are a function of several factors, including; the large up-front or sunk costs (major R&D) required; network effects (dependence between different products perpetuates a common platform); and customer ‘groove in’ (it costs customers time and money to switch to different products). In effect, the innovating firms create the conditions for natural monopoly and a ‘lock in’ effect under which, in most cases, it is a ‘winner takes most’ outcome (Arthur, 1996).

Schumpeter had a broad view of innovation, defining it to include new products, drawing on new technologies, exploiting new sources of supply and introducing new forms of business organisation. Nevertheless, many theorists who have built on his work have focussed on one manifestation of commercial innovation, namely that which involves the creation of a new product or service which incorporates sufficiently novel technology to warrant formal protection as intellectual property.

This focus on discrete and legally protected innovation draws policy attention to two issues; the entrepreneurial culture of the economy in question (including the approach to intellectual property law); and the formal ideas engines within that economy, in particular universities and other R&D institutions. In line with this, much of the applied regional economic development thinking in Australia during the 80’s and 90’s, and continuing to a significant extent today, has emphasised the commercialisation of new knowledge created in publicly funded research institutes. Relevant programs have included the fostering of ‘technology precincts’ to build improved relationships between universities and nearby industry (Blakely, 1987), the creation of new collaborative institutions to steer university research towards more commercially promising fields (e.g.

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1 See literature review undertaken by Berry (2003) as part of his assessment of what drives economically dynamic regions.
the Co-operative Research Centre initiative launched by the Hawke/Keating Government in the mid 1990's) and a host of technology incubator programs undertaken at Commonwealth, State and local government levels.

Organic Innovation

As noted, the Schumpeterian view of innovation is undoubtedly holistic in scope, but most of the classical commentary inspired by this concept focusses on a key firm making some form of technological or ‘new product’ breakthrough. As discussed below, the more recent business literature has tended to rebalance the discourse on innovation by placing greater emphasis on building competitive advantage through ‘continuous improvement’. This could involve a series of relatively modest innovations in a firm’s business operations, none of which might qualify for patent protection nor even concerted conservation as a ‘trade secret’.

In their survey of the innovation experiences of 70 Australian companies in the early 1990’s, Carnegie and Butlin (1993) critiqued the pre-occupation in the literature with ‘invention driven’ innovation.

“Conventional wisdom says that innovation equals invention plus commercialisation. [We see]..this view as both narrow and misleading. Innovation is not science. Nor is it technology or the ownership of invention. The conventional wisdom has its limited truth, but it is only one aspect of a broader process that covers new or improved products, services, individual supply processes and collective supply systems.” (p. 3)

Against this background Carnegie and Butlin (1993) identify two forms of innovating enterprise. The first includes firms engaged in an ‘innovating thrust’. This involves both ‘continuous incremental improvement’ – where risk levels are very low owing to the high degree of familiarity with the products, services and supply processes in question and the minor scale of individual changes – and ‘step change’ innovation which, whilst discontinuous, ‘(is) closely linked to existing strengths and has a high degree of fit with the enterprise’s activities’, thereby containing risk. The second form of innovating enterprise is engaged in a ‘strategic leap’ – the classic commercialisation of a major new idea or technology. This entails the development of ‘radical new products, services or supply processes that do not fit with the activities of existing business units’. The strategic leap is described as the high risk / high return form of innovation.
An important differentiating factor with respect to continuous improvement or ‘organic innovation’ relates to its tactical nature. Unlike innovation based on substantively new knowledge – where a long term commitment to strategic R&D is often necessary – organic innovation is highly responsive to near term competitive pressures or changes in the firm’s operating environment; for example, a change of leadership, a corporate take over or the move into a new geographic market. Organic innovation can be conceptualised as multiple adjustments and initiatives undertaken by motivated enterprises as they seek to gain advantage in one or more of the key ‘dimensions of value for customers’ as identified by Carnegie and Butlin (1993) – see Figure 4.

**Figure 4   Dimensions of Customer Value (after Carnegie & Butlin, 1993)**

<table>
<thead>
<tr>
<th>PRICE</th>
<th>Short term</th>
<th>Long term</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTILITY</td>
<td>Conformance to quality</td>
<td>Durability</td>
</tr>
<tr>
<td>TIME</td>
<td>Reliability</td>
<td>Response time</td>
</tr>
</tbody>
</table>

Opportunities to differentiate a company’s market offer on any one of these dimensions can be identified through a variety of channels. Occasionally, they will be turned up by formal studies or audits of business process. More often than not, they will flow from operatives on the shop floor who are highly sensitized to the scope for efficiency improvements in the local environment and/or are in command of invaluable intelligence about currently unsatisfied needs of customers (Brown, 2002)

It would be imprudent to undervalue the contributions which technological breakthroughs make to productivity and wealth generation. The rapid rate of ‘strategic leap’ innovation in information and communication technologies, for example, has left virtually no part of the production economy untouched, from mining to the marketing of hair-cuts. Nevertheless, organic innovation may be a more pervasive and, in some circumstances, more powerful strategy for competitive advantage, particularly if platform technologies are easily accessible. For their part, Carnegie and Butlin (1993) point out, with a hint of exasperation, that firms engaged in organic innovation "represented more than 90% of
the innovating enterprises observed, but they tended to attract much less than 10% of the publicity...(Moreover)...they have not on the whole been the major focus of public policy aimed at encouraging strong, internationally competitive enterprises through innovation“ (p. 62).

The observations of Carnegie and Butlin (1993) regarding the relative importance of strategic leap versus organic innovation were broadly supported by the results of a 1996/97 survey of innovation behaviour in the Australian manufacturing sector, conducted by the Australian Bureau of Statistics. This survey focussed solely on ‘technological innovation’ in the narrow sense; that is, the introduction of new products or physical production techniques, as opposed to new management strategies. The survey showed that the most important sources of ‘innovation ideas’ both at the project inception and roll out stages tended to be management, customers, marketing staff, competitors and production staff; in other words, those engaged in ‘coal face’ activities as opposed to strategic research. A relatively low 12% of innovating firms cited in-house R&D staff as a key source of innovation ideas, while universities, government organisations and government research institutions were almost an insignificant source of such ideas (see Table 5). These results were echoed in a similar, more or less contemporaneous, survey of innovation behaviour in UK industry (Stockdale, 2001).

A further survey conducted by the Australian Bureau of Statistics in 2003 and released in 2005 took a broader perspective, covering the full range of industry sectors (i.e. not just manufacturing) and exploring process innovations as well as the generation of new product and service ideas. This confirmed the findings of the earlier survey, but with an even stronger reliance on ‘internal sources’ being revealed; 80% of innovating firms generated their new idea(s) from within the local business itself. This clearly overshadowed formal research institutions as a source of value adding knowledge (Table 6). Berry’s (2004) survey of digital design organisations and practitioners in Victoria, Australia, returned similar results regarding the relative importance of ‘own sources’ as opposed to formal research organisation links in the generation of innovation.

It is possible that the ideas flowing from the coal face rather than R&D sources could constitute ‘strategic leap’ innovation, but it is more likely that they will be the basis of organic forms of innovation. This is simply because the information captured by management, marketing and production staff will be generated by day to day operations; that is, observed opportunities for tactical improvements. Certainly, only a small
proportion (9%) of the innovating manufacturers in the 96/97 Australian survey saw patenting or licensing of their ideas as the way of realising the innovations in question.

Table 5  
Source of Innovation Ideas – Australian Manufacturers, 1996/97

<table>
<thead>
<tr>
<th>Source</th>
<th>Initial Idea</th>
<th>Throughout the Project</th>
<th>Technical Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal sources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>79.4</td>
<td>66.7</td>
<td>34.1</td>
</tr>
<tr>
<td>Production staff</td>
<td>23.4</td>
<td>44.4</td>
<td>19.3</td>
</tr>
<tr>
<td>Technical staff</td>
<td>17.8</td>
<td>31.4</td>
<td>22.1</td>
</tr>
<tr>
<td>R&amp;D staff</td>
<td>12.1</td>
<td>16.2</td>
<td>11</td>
</tr>
<tr>
<td>Marketing staff</td>
<td>26.7</td>
<td>22.6</td>
<td>10.9</td>
</tr>
<tr>
<td><strong>External market/commercial sources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent company in Australia</td>
<td>6.9</td>
<td>5.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Parent company overseas</td>
<td>4.7</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>Other part of business group</td>
<td>3.7</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>Competitors</td>
<td>24.5</td>
<td>6.3</td>
<td>3.8</td>
</tr>
<tr>
<td>Unrelated company</td>
<td>7.1</td>
<td>3.5</td>
<td>2.9</td>
</tr>
<tr>
<td>Clients or customers</td>
<td>31.7</td>
<td>19.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Consultants</td>
<td>10</td>
<td>13.3</td>
<td>11</td>
</tr>
<tr>
<td>Suppliers of raw materials</td>
<td>12.6</td>
<td>10.4</td>
<td>14.8</td>
</tr>
<tr>
<td>Suppliers of components or parts</td>
<td>5.1</td>
<td>10.6</td>
<td>11.3</td>
</tr>
<tr>
<td>Suppliers of equipment</td>
<td>11.7</td>
<td>10.5</td>
<td>12.8</td>
</tr>
<tr>
<td><strong>Educational/Government</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universities</td>
<td>1.7</td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Government organisations</td>
<td>0.4</td>
<td>0.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Government research organisations</td>
<td>1.3</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Generally available information</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government standards / regulations</td>
<td>2.3</td>
<td>3.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Patents, licenses</td>
<td>3.8</td>
<td>3.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Computer information systems</td>
<td>4.2</td>
<td>3.4</td>
<td>5.1</td>
</tr>
<tr>
<td>Conferences, meetings, journals</td>
<td>14.2</td>
<td>8.4</td>
<td>11.6</td>
</tr>
<tr>
<td>Fairs and exhibitions</td>
<td>24.4</td>
<td>9.6</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Some 13 years after the ground breaking work of Carnegie and Butlin, the Business Council of Australia (BCA) revisited the question of how innovation is conducted amongst Australian corporations. It commissioned Howard Partners Pty Ltd to carry out in depth case studies of 19 leading firms covering the spectrum of BCA membership (1 mining company, 7 manufacturing firms and 11 services firms). The Howard Partners research “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; workplace re-organisation; applications of new technologies; and capital investment in new plant and equipment” (BCA, 2006, p. 5).

Similarly, the expanded survey of innovation practices amongst Australian businesses carried out by the Bureau of Statistics in 2003 showed that the vast majority of business innovation spending in Australia was non-R&D expenditure (Table 7). Again, these findings align with those of similar surveys undertaken in the EU. Howells (2006) cites evidence from the OECD that “even in manufacturing, R&D generally amounts to only about half of total investment in innovation (and) in services the share is even smaller”. 

### Table 6: Sources of Ideas or Information, 2001-2003 (a), Innovating Businesses by Employment Size

<table>
<thead>
<tr>
<th>Sources</th>
<th>Employment size (b)</th>
<th>5 – 19 persons</th>
<th>20 – 99 persons</th>
<th>100 or more persons</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within this business</td>
<td></td>
<td>78.5</td>
<td>83.2</td>
<td>82.3</td>
<td>80</td>
</tr>
<tr>
<td>Other parts of a wider enterprise group to which this business belongs</td>
<td></td>
<td>29.3</td>
<td>36.1</td>
<td>52.3</td>
<td>32.7</td>
</tr>
<tr>
<td>Market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clients or customers</td>
<td></td>
<td>62.5</td>
<td>67.7</td>
<td>70.6</td>
<td>64.5</td>
</tr>
<tr>
<td>Suppliers of equipment, materials, components or software</td>
<td></td>
<td>46.5</td>
<td>47.7</td>
<td>49.5</td>
<td>47</td>
</tr>
<tr>
<td>Consultants (including paid professional advice of all kinds)</td>
<td></td>
<td>^26.9</td>
<td>40.5</td>
<td>47.9</td>
<td>32.1</td>
</tr>
<tr>
<td>Competitors and other businesses from the same industry</td>
<td></td>
<td>41.9</td>
<td>50.4</td>
<td>43.7</td>
<td>44.4</td>
</tr>
<tr>
<td>Institutional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universities or other higher education institutes</td>
<td></td>
<td>^5.6</td>
<td>^11.4</td>
<td>^11.0</td>
<td>^7.6</td>
</tr>
<tr>
<td>Government agencies (d)</td>
<td></td>
<td>^8.7</td>
<td>^15.0</td>
<td>^19.4</td>
<td>^11.2</td>
</tr>
<tr>
<td>Private non-profit research institutions</td>
<td></td>
<td>**2.2</td>
<td>*2.4</td>
<td>*6.0</td>
<td>*2.5</td>
</tr>
<tr>
<td>Commercial laboratories/research and development enterprises</td>
<td></td>
<td>*4.9</td>
<td>*5.0</td>
<td>*15.5</td>
<td>^5.6</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional conferences, meetings, fairs and exhibitions</td>
<td></td>
<td>46.7</td>
<td>57</td>
<td>61.2</td>
<td>50.5</td>
</tr>
<tr>
<td>Web sites, journals</td>
<td></td>
<td>41.7</td>
<td>42.9</td>
<td>49.3</td>
<td>42.5</td>
</tr>
<tr>
<td>Other sources of ideas or information</td>
<td></td>
<td>*3.9</td>
<td>*3.2</td>
<td>^2.1</td>
<td>^3.6</td>
</tr>
</tbody>
</table>

(a) Calendar years.  
(b) Proportions are of businesses reporting innovation in each employment size category.  
(c) Businesses could identify more than one source.  
(d) Includes all levels of government.

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He further cites the results of ‘Innobarometer’, a telephone survey of over 3,000 European firms undertaken for the European Commission in February 2002. This found that despite the attention given to R&D in the policy literature about innovation, it was generally either the least or second least likely of a range of factors to influence business decisions and strategy on new production processes and customer offerings.

The key table from Innobarometer 2002 relating to this question is reproduced at Table 8. This shows that the relatively low ranking of R&D as a self-nominated innovation strength of European firms is robust across the spectrum of survey parameters, namely industry sector, business size, age of company, export intensity and country of operation. Moreover, this table highlights the importance of interactions which are vital to organic forms of innovation, including ‘co-operation with suppliers and customers’ and ‘adaptability to market needs’. This points to the role of learning networks and clusters, which is discussed in the next sub-section of this review.

**Table 7**  
Expenditure on Innovation and Related Activities, 2002-2003 (a) (b)

<table>
<thead>
<tr>
<th>Expenditure on research and experimental development (c)(d)</th>
<th>Expenditure</th>
<th>Proportion of Total Expenditure</th>
<th>Expenditure</th>
<th>Proportion of Total Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>$800.6</td>
<td>0.7</td>
<td>$7,167.0</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>$13,123.4</td>
<td>1.7</td>
<td>$13,129.6</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Total expenditure on innovation and related activities</td>
<td>$18,923.9</td>
<td>2.4</td>
<td>$20,296.6</td>
<td>1.7</td>
</tr>
</tbody>
</table>

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution
(a) Expenditure estimates should be used with care, see Technical Notes for more detail.
(b) Data relates to the most recent financial year ended on or before 30 September 2003.
(c) See Explanatory Notes paragraph 19 on comparison with the Research and Experimental Development collection.
(d) Includes $914.2 million of expenditure on acquired research and experimental development by innovating business and $1017.8 by all businesses.

Source Australian Bureau of Statistics, 2005

Reinforcing the conclusion that organic forms of innovation play a crucial role in economic development, Innobarometer 2002 also reported that most European firms see the development (and protection) of new technology as a lower priority in terms of improving their innovation performance. The key areas for improvement appear to be in finding new and demanding markets, human resource management and financial engineering (Figure 5).
### Table 8  Self Nominated Strengths in Innovation, EU, 2002

Responses of 3014 EU firms regarding the “two most important factors that best explain the strengths of your company in innovation”

<table>
<thead>
<tr>
<th></th>
<th>Staff Qualification (%)</th>
<th>Co-operation suppl./cust. (%)</th>
<th>Adaptability to Market needs (%)</th>
<th>Efficient production Methods (%)</th>
<th>Leadership in Market trends (%)</th>
<th>Technological advance, R&amp;D (%)</th>
<th>[dk/na] (%)</th>
<th>BASE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UE 15</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ÖSTERREICH</td>
<td>61</td>
<td>38</td>
<td>43</td>
<td>10</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>DEUTSCHLAND</td>
<td>60</td>
<td>38</td>
<td>45</td>
<td>14</td>
<td>13</td>
<td>15</td>
<td>2</td>
<td>300</td>
</tr>
<tr>
<td>FINLAND</td>
<td>58</td>
<td>35</td>
<td>34</td>
<td>30</td>
<td>13</td>
<td>11</td>
<td>1</td>
<td>103</td>
</tr>
<tr>
<td>FRANCE</td>
<td>56</td>
<td>43</td>
<td>34</td>
<td>13</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>305</td>
</tr>
<tr>
<td>LUXEMBOURG</td>
<td>56</td>
<td>52</td>
<td>37</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>92</td>
</tr>
<tr>
<td>DANMARK</td>
<td>53</td>
<td>37</td>
<td>38</td>
<td>14</td>
<td>19</td>
<td>8</td>
<td>5</td>
<td>202</td>
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<tr>
<td>SWEDEN</td>
<td>52</td>
<td>35</td>
<td>28</td>
<td>14</td>
<td>15</td>
<td>17</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>ITALIA</td>
<td>46</td>
<td>33</td>
<td>41</td>
<td>19</td>
<td>7</td>
<td>18</td>
<td>0</td>
<td>301</td>
</tr>
<tr>
<td>BELGIQUE</td>
<td>44</td>
<td>52</td>
<td>38</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>4</td>
<td>207</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>44</td>
<td>37</td>
<td>32</td>
<td>17</td>
<td>13</td>
<td>11</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>ESPANA</td>
<td>43</td>
<td>36</td>
<td>35</td>
<td>20</td>
<td>9</td>
<td>16</td>
<td>5</td>
<td>300</td>
</tr>
<tr>
<td>IRELAND</td>
<td>37</td>
<td>49</td>
<td>32</td>
<td>18</td>
<td>30</td>
<td>4</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>36</td>
<td>40</td>
<td>31</td>
<td>21</td>
<td>26</td>
<td>8</td>
<td>2</td>
<td>303</td>
</tr>
<tr>
<td>ELLAS</td>
<td>35</td>
<td>30</td>
<td>32</td>
<td>28</td>
<td>26</td>
<td>28</td>
<td>0</td>
<td>101</td>
</tr>
<tr>
<td>NEDERLAND</td>
<td>26</td>
<td>51</td>
<td>44</td>
<td>27</td>
<td>9</td>
<td>17</td>
<td>4</td>
<td>200</td>
</tr>
</tbody>
</table>

#### Sectors

|                          |                          |                               |                                  |                                 |                               |                               |             |       |
|--------------------------|-------------------------|-------------------------------|                                  |                                 |                               |                               |             |       |
| Construction             | 54                      | 43                            | 37                               | 20                              | 5                             | 9                             | 2           | 376   |
| Industry                 | 35                      | 34                            | 52                               | 24                              | 10                            | 18                            | 2           | 994   |
| Trade                    | 54                      | 49                            | 27                               | 10                              | 20                            | 9                             | 2           | 767   |
| Services                 | 57                      | 35                            | 35                               | 15                              | 15                            | 15                            | 2           | 877   |

#### Business Sizes

|                          |                          |                               |                                  |                                 |                               |                               |             |       |
|--------------------------|-------------------------|-------------------------------|                                  |                                 |                               |                               |             |       |
| MAJORS 250+              | 45                      | 31                            | 33                               | 25                              | 15                            | 23                            | 3           | 420   |
| SME 20-49                | 51                      | 40                            | 37                               | 16                              | 13                            | 12                            | 2           | 1928  |
| SME 50-249               | 45                      | 36                            | 44                               | 18                              | 17                            | 15                            | 2           | 666   |

#### Active For

|                          |                          |                               |                                  |                                 |                               |                               |             |       |
|--------------------------|-------------------------|-------------------------------|                                  |                                 |                               |                               |             |       |
| More than 30 years       | 44                      | 40                            | 40                               | 18                              | 13                            | 12                            | 2           | 1539  |
| 11-30 years              | 52                      | 41                            | 36                               | 18                              | 13                            | 12                            | 2           | 945   |
| 0-10 years               | 55                      | 35                            | 39                               | 14                              | 16                            | 18                            | 2           | 518   |

#### Exports %

|                          |                          |                               |                                  |                                 |                               |                               |             |       |
|--------------------------|-------------------------|-------------------------------|                                  |                                 |                               |                               |             |       |
| Nothing                  | 53                      | 41                            | 35                               | 17                              | 13                            | 9                             | 2           | 1381  |
| Less than 50             | 46                      | 39                            | 43                               | 16                              | 13                            | 17                            | 2           | 1048  |
| 50 and above             | 37                      | 27                            | 48                               | 20                              | 17                            | 24                            | 2           | 417   |

Source, European Commission Innobarometer 2002
Howells (2006) concludes that “most firms, therefore, be they manufacturers or service firms, consider that their strengths in innovation do not rely on R&D activities”. With these observations in mind, Howells speculates that mainstream surveys of innovation behaviours and outcomes, such as the recurrent European Community Innovation Surveys (CIS) and, presumably, their equivalents in Australia (such as the Bureau of Statistics reports quoted above), are likely to under-record the level of innovation by ignoring, downplaying or inadvertently misrepresenting such factors as changes in organisational structure and changes in relationships with other businesses and customers.

The observations of Carnegie and Butlin (1993), BCA (2006) and Howells (2006) regarding the potential for innovation to flow from a variety of strategies in addition to investment in formal R&D resonate with the work of Christensen (1997), who developed the idea of ‘disruptive versus sustaining innovations’ (Berry, 2007). Established industry leaders tend to pursue ‘sustaining innovations’, that is, continuous expansion of their product and service offer to remain in the technical vanguard of their markets and to win more ‘high yield’ customers who are prepared to pay for the best. Christensen (1997) shows that these market leaders can often be ‘blind sided’ by other innovative firms which deliberately offer technically stripped back, basic or ‘no frills’ products and services to capture less discerning customers who are numerically dominant and cheaper to service. These basic offerings – termed ‘disruptive innovations’ - may involve some form
of technological break-through (for example, lap tops eroding the market dominance of desk top computers), but just as likely, they will simply rely on repackaging existing technologies in a streamlined way, teamed with a low cost model for customer delivery. As these new competitors who have attacked market leaders ‘from below’ gain greater market share and financial stability, they too will tend to engage in ‘sustaining innovations’ to improve their competitive edge and quality. This can advance to the point where the original market leaders may be pushed into a minor niche or out of the market altogether.

Unlike ‘sustaining innovations’, which rely on careful monitoring of high end customer needs and risk averse business planning, ‘disruptive innovations’ are more impulsive in nature and are typically pursued by smaller firms. Most of these ideas are highly risky and fail as a consequence, but those which succeed can fundamentally reshape the market. Established market leaders find it difficult to defend against disruptive innovations because the prospect of taking a brand down market will often seem counter-intuitive to investors (stock holders) and conservative managers alike. Defence by take over is also problematic because the disruptive ideas in question can be overwhelmed by the conservative or incompatible culture of the acquiring firm (Berry, 2007)

Before leaving this discussion, it is important to note that, notwithstanding its pervasive nature, organic innovation ought not be construed as a simple alternative to innovation which involves significant R&D and a ‘strategic leap’ in operations or customer offer. As shown by the landmark longitudinal study of business survival undertaken by Baghai, Coley and White (1999), successful enterprises generally plan to three horizons or agendas simultaneously, involving a mix of incremental improvements whilst positioning the organisation for transformational change.

The first horizon is concerned with protection of the enterprise’s existing core business. The focus here is on cost control and ensuring that the current customer base is retained by continuing to offer reliable quality.

In planning to the second horizon, the enterprise looks for ways to incrementally leverage its current core businesses to expand its customer base. This often involves diversification into related product streams, or providing value added services to existing products, such as improved after sales service. These improvements align well with the notion of organic innovations; that is, ‘building on what we know we do well’.
As the name suggests, planning to the third horizon requires the enterprise to lift its sights to contemplate new opportunities which might be quite distant from current core business, but which draw on the competencies, skills and endowments which underpin current activities. This is the horizon where the enterprise seeks to ‘reinvent itself’. This may well involve significant investment in R&D of some form (Figure 6).

**Figure 6 Three Horizons Model**

![Three Horizons Model Diagram](image)

*Source: Constructed from ideas set out in Baghai, Coley and White (1999)*

According to Baghai et al (1999), a business which is preoccupied with the first horizon is likely to become moribund and wither, as competitors inevitably devise more compelling offers for their customer base. On the other hand, businesses which are caught up in ‘blue sky’ thinking (horizon three) are likely to become vulnerable to challenge on the basics, losing the market share required to underwrite more ambitious innovation projects. Thus all three horizons must be addressed for a healthy future, and all three horizons require equal weight even though they vary considerably in emphasising pragmatism over vision and vice versa.
Another View of Innovation; Productivity Growth through Value Chain Unbundling

As noted in Figure 3 (page 15), while the literature’s conceptual frameworks for considering innovation can be differentiated by reference to the type of innovation involved – strategic leap versus organic – they also vary in terms of the way inter-firm relations are characterised. One approach, commonplace in older public policy reports on innovation, emphasises key bilateral relationships, most notably between the innovating firm and the originators of the ideas or technologies in question – often universities or other government funded research institutes (see Smith and West, 2007, BCA, 2006, The Economist, 2007a).

Another approach is to consider the innovation process in the context of dense networks of multi-lateral relationships amongst firms, where each business to business contact – however routine – may carry the potential for new ideas to incubate and migrate. The following discussion explores the innovation process from this angle. This review traverses the drivers of outsourcing, the evidence of its acceleration in modern business practice, how this process supports enterprise innovation and how these advantages can be further multiplied if the inter-firm contacts in question occur within an ‘industry cluster’ or ‘regional innovation system’ context.

The Value Chain

The core subject of the business strategy literature – perhaps best characterised by its flagship, the *Harvard Business Review* – is the creation and defence of competitive advantage at the firm level. A foundation concept to aid thinking in this direction is the ‘Value Chain’ proposed by Porter and Millar (1985).

In this model, any business can be described in terms of five ‘primary activities’. These include; ‘*inbound logistics*,’ or the process of conveying material or information inputs to the ‘production’ site – be this a factory or office; ‘*operations*,’ being the process by which inputs are combined or otherwise transformed into higher utility products and services; ‘*outbound logistics*,’ or physically delivering the services and products to customers; ‘*marketing and sales*,’ or identifying and recruiting customers; and ‘*after sales service*,’ that is, maintaining the utility of the products and services once in the hands of the customer, and retaining the loyalty of the customer.
According to Porter and Millar (1985), this five stage value adding process must be co-ordinated and controlled through various management and governance structures. They identify four 'support activities' which, once again, are applicable to any enterprise. These include; ‘firm infrastructure’, or the planning and financial management elements of the business organisation; ‘human resource management’, which is to do with marshalling, training, motivating and supervising employees and in house contractors; ‘technology development’ covering activities like formal R&D and other management efforts to either lift perceived product value or reduce production costs; and ‘procurement’, or management of the links between the five value adding phases as well as sourcing of primary inputs.

By competitive orchestration of the primary value adding steps, through astute management of the support activities, enterprises are able to generate a margin for distribution to employees and shareholders (see Figure 7).

**Figure 7**  
**The Enterprise Value Chain, after Porter and Millar, 1985**

![Figure 7: The Enterprise Value Chain](image-url)

**Competitiveness through Value Chain Unbundling**

As noted, business competitiveness can be characterised as a continuous search for greater efficiency and creativity in each of the nine elements of the generic enterprise.
While innovation at the enterprise level can be approached any number of ways, an obvious, long standing and increasingly prevalent strategy for gaining a competitive edge is to contract out certain aspects of the primary value chain to specialists, as a vast literature on outsourcing has shown (Howells, 2006). In line with Adam Smith’s great insights to the returns from the division of labour some 230 years ago\(^2\), contracted specialists are likely to enjoy economies of scale compared to continued direct performance of these tasks by the primary value adder. This could result in cost savings which are greater than the foregone margin on these activities for the primary value adder. Moreover, the contracting organisation can shed certain plant, inventory and logistical risks by outsourcing. Thus, it may make sense for a national manufacturer like Toyota to outsource road distribution functions to a specialist contractor (Allied Express), rather than carry the risks of maintaining a major fleet of trucks and diverting management effort from core business development to the efficient deployment of an army of drivers (Figure 8).

\[\text{Figure 8} \quad \text{Unbundling Celebrated as Critical to Competitiveness}\]

\(^2\) Wealth of Nations 1776
In a similar vein, the specialist organisations holding outsourcing contracts are more likely to discover better ways of performing the tasks in question compared to continued ‘in house’ operations. This may be because their higher volumes of specialised activity allow greater investment in R&D in this area. They may also be exposed to a wider range of operational settings which offer the opportunity to trial new business models. Thus, as firms seek to better manage their value chain through contracting out particular functions, they open up multiple fronts for innovation, many of which may be minor and incremental in nature but which, in aggregate, can give rise to substantial gains in productivity and value added, perhaps comparable to the commercialisation of intellectual property created through formalised research.

The use of outsourced specialists to gain or maintain a competitive position is also significantly conditioned by broad trends in government regulation. Arguably, market regulation in advanced economies has been drifting towards more European-style models where corporate stakeholders are implicitly defined to include a much larger spectrum of the community than equity holders (Kiel and Nicholson, 2003). Corporations are increasingly expected to consider the impacts of their decisions on staff, the environment and the community generally, in a movement loosely summed up in the slogan of ‘triple bottom line’ accountability. This has lifted the bar in terms of compliance costs. The regulatory ‘overhead’ of government legislation and supervision is much heavier than it once was. Importantly, this overhead is amenable to the efficiencies offered by specialists in accounting, corporate governance, legal reporting and industrial relations, to name a few. Moreover, corporations looking to create a competitive advantage in the ‘triple bottom line’ environment are likely to find that maintenance of a competent in-house public relations team is a necessary but not sufficient condition for shaping public and community perceptions of how the firm is performing against its wider accountabilities. Such companies may be drawn to specialist advice on ‘issues management’, and, as exposure to such advice becomes more intense, it can be expected that these firms will seek to embed a sophisticated ‘communications plan’ into their formal business strategies, opening up yet another requirement for specialist advice, perhaps from management consultants. Even when in-house resources are more than adequate with respect to the technical analyses required by Boards, companies often turn to specialists for ‘independent’ advice to demonstrate due diligence in case of a future legal challenge or community controversy. This can be construed as a defensive competitive strategy made necessary by Government regulation. An alternative strategy is to fund peak associations and lobbyists to engage in ‘bureaucratic capture’ with the
objective of ensuring the ‘right regulation’ occurs. This too creates fertile ground for a range of specialist advisers.

The application of contracting out in one form or another is as old as the practice of trading itself. However, while the search for strategic partners was once confined to familial or regional domains, the advent of information and communication technology (ICT) breakthroughs, new trading protocols which operate largely independently of government (e.g. the Internet) and the progressive freeing up of trade barriers within and between nations have enabled exponential growth in outsourcing, with worldwide suppliers coming into contention for even relatively minor local contracts. For example, many surviving TCF manufacturers in Australia are turning to strategies whereby the high value added or ‘thinking’ aspects of the value chain are retained domestically (design, technology development, marketing) while production and distribution aspects of the chain are outsourced to suppliers in China, Vietnam, Fiji and other low wage countries. Quoting studies carried out by the Australian Industry Group, a lobbyist representing the nation’s major manufacturers, Fels and Brenchley (2006) comment that tapping into international supply and distribution chains is the future for this sector:

“Gone are the days when manufacturers cried, ‘We must export to survive’. Now they are saying, ‘We must be global to survive’……..The trend is for manufacturers to join the global supply chain, either sourcing production overseas or importing cheap materials into their Australian operations. The (AIG) study says the pace of such globalisation is accelerating. A quarter of all manufacturing is expected to be done either overseas or to use competitive foreign inputs within three years.”

(opinion pages)

These developments constitute something of a fulfilment of insights into firm structure developed 70 years ago by Coase (1937). Coase’s seminal proposition was that firms form because there is a cost to organising the factors of production through case by case market transactions, or the ‘price mechanism’. Through the formation of firms, these costs and uncertainties can be mitigated; a multitude of external transactions can be replaced with just a handful of internal contracts, for example, employment agreements.

Coase (1937) developed this proposition into a wider theory about the factors governing the size of firms. He argued that firms will continue to grow, up to an efficiency limit imposed by wider market competition, depending on the marginal cost of organising a resource through the open market versus the marginal cost of adding the required capability to the internal resources of the organisation. In this context, the forces which
influence the size and nature of firms include any diseconomies of organisational scale, for example, increases in bureaucracy and loss of corporate focus, and the erosion, after a given point, of the price advantage which a larger firm might have in procuring inputs. Also relevant is the change in costs of orchestrating sub-contractors, as the network of these agents becomes more complex and spatially distributed.

In Coase’s words..

“As more transactions are organised by an entrepreneur, it would appear that the transactions would tend to be either different in kind or in different places. This furnishes an additional reason why efficiency will tend to decrease as the firm gets larger. Inventions which tend to bring factors of production nearer together, by lessening spatial distribution, tend to increase the size of the firm. Changes like the telephone and the telegraph which tend to reduce the cost of organising spatially will tend to increase in the size of the firm. All changes which improve managerial technique will tend to increase the size of the firm.” (Coase, 1937, p. 397)

With this analysis, Coase shone a penetrating light on the nexus between technology (in the broad sense) and firm size. It anticipated one of the great facets of ‘globalisation’ – the rise of the powerful cross-jurisdictional firm sustained by networked contracting arrangements and ‘business alliances’ which themselves are sustained by advances in communication technologies and new techniques for managing contracting risk. Building on Coase’s break-through idea that comparative transaction costs drive much of observed corporate behaviour, later writers developed a ‘new institutional economics’ (see Williamson, 1975). This further explored the human and organisational factors affecting these costs, including risks associated with bounded rationality, incomplete contracts and opportunistic behaviour on the part of employees or business partners. Arguably, much of modern management theory and practice is directed at the systematic measurement and elimination, or mitigation, of these risks, the upshot being the proliferation of specialists in these areas and the development of networked forms of production (see Simmie and Strambach, 2006).

Howard’s (2005) case studies of Australian manufacturing firms demonstrate how information and communication technologies (ICT), when harnessed by creative management strategy, can effectively reduce previously prohibitive transaction risks to enable new models of distributed or networked production. This echoes the analysis of
Hagel in Cisco Systems (2003, see below), which envisages the advent of ‘process networks’ in place of traditional manufacturing and distribution systems.

Howard (2005) examined the impact of ICT innovation, competitiveness and changing business models within the firm. His research included twenty case studies drawn from the spectrum of the manufacturing sector (Table 9).

### Table 9  Case Study Firms – Howard (2005)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Company</th>
<th>Type of business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, beverages and tobacco</td>
<td>Arnott’s Biscuits</td>
<td>Biscuit manufacture</td>
</tr>
<tr>
<td></td>
<td>Australian Meat Holdings</td>
<td>Meat packer and exporter</td>
</tr>
<tr>
<td></td>
<td>Fosters Brewing</td>
<td>Manufacture and distribution of alcoholic beverages</td>
</tr>
<tr>
<td></td>
<td>Simplot</td>
<td>Manufacture and sale of frozen and canned food products</td>
</tr>
<tr>
<td>Textiles, clothing, footwear</td>
<td>Bonds Clothing</td>
<td>Clothing manufacture and distribution</td>
</tr>
<tr>
<td>Wood and paper products</td>
<td>Amcor Australasia</td>
<td>Container and fibre packaging</td>
</tr>
<tr>
<td>Printing publishing and recorded media</td>
<td>Fairfax Business Media</td>
<td>Business publications</td>
</tr>
<tr>
<td></td>
<td>Snap Printing</td>
<td>Print production</td>
</tr>
<tr>
<td>Chemicals and petroleum products</td>
<td>Orica Mining Services</td>
<td>Initiating systems, ammonium nitrate, bulk explosives,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>packaged explosives, blasting services</td>
</tr>
<tr>
<td></td>
<td>Orica Chemicals</td>
<td>Manufacture, import and marketing of a large range of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>chemicals</td>
</tr>
<tr>
<td></td>
<td>Orica Consumer Products</td>
<td>Decorative coatings, wood care and powder coatings</td>
</tr>
<tr>
<td>Metal products</td>
<td>B&amp;D Doors</td>
<td>Manufacture of electronically operated and controlled doors</td>
</tr>
<tr>
<td></td>
<td>Bluescope Steel</td>
<td>Fully integrated steel making manufacture</td>
</tr>
<tr>
<td></td>
<td>Prowler Proof Doors</td>
<td>Manufacture of security screen doors</td>
</tr>
<tr>
<td>Machinery and Equipment</td>
<td>Boeing Hawker de Havilland</td>
<td>Manufacture of aircraft components with expertise in carbon fibre composites</td>
</tr>
<tr>
<td></td>
<td>Whittley Marine</td>
<td>Fibreglass power boat building</td>
</tr>
<tr>
<td></td>
<td>Robert Bosch Australia</td>
<td>Manufacture and distribution of a wide range of automotive and consumer products</td>
</tr>
<tr>
<td>Machinery and equipment – Medical</td>
<td>Proteome Systems</td>
<td>Technology; discovery and diagnostics</td>
</tr>
<tr>
<td></td>
<td>Vision BioSystems</td>
<td>Manufacture of invitro diagnostic equipment and reagents – mainly for export</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>Coringle Furniture</td>
<td>Furniture manufacture</td>
</tr>
<tr>
<td></td>
<td>Zuster Furniture</td>
<td>Specialised design furniture manufacture</td>
</tr>
<tr>
<td></td>
<td>Olex Cables</td>
<td>Cable Manufacture</td>
</tr>
</tbody>
</table>
Howard (2005) found that ICT has fundamentally re-shaped manufacturing activity in terms of enterprise resource planning (ERP), supply chain management (SCM), customer relationship management (CRM), product lifecycle management including computer assisted design and manufacture (CAD/CAM), control systems for programmable logic controllers (PLC’s), robots and other hardware embedded in machines and equipment and monitoring and surveillance systems used in relation to functions such as security, health and occupational safety. This is evident in Howard’s (2005) analysis of the actual or potential role of ICT in each stage of the manufacturing value adding process (Table 10).
### Table 10 ICT enabled processes

<table>
<thead>
<tr>
<th>Process Category</th>
<th>Examples of ICT enabled processes</th>
</tr>
</thead>
</table>
| Research and development | • ICT based modelling and analysis  
• ICT based field trials and data collection  
• Research coordination, development and management systems and collaboration  
• Integrated research database  
• Information distribution and dissemination |
| Design and engineering | • ICT aided design and analysis  
• ICT controlled modelling and prototyping  
• Integrated engineering and design database  
• Collaborative design  
• Design for manufacture systems  
• Integrated ICT systems coordinating design, manufacturing and sales  
• ICT–based compliance testing |
| Purchasing and logistics | • Integrated supplier ordering system  
• Inventory storage and retrieval systems  
• Third party shipment and location tracking systems |
| Operations – manufacture/production | • Linkages to sales and design systems (built to order)  
• Real time systems (custom configuration and order processing)  
• Integrated materials ordering and inventory management system  
• Robotics and cell controllers  
• Diagnostic systems (maintenance and repairs)  
• Quality and performance information  
• Health and safety systems |
| Marketing | • Customer relationship management and databases  
• Point of sale systems tied to individual customer purchases  
• Online sales and customer profiling  
• Vendor managed inventory (VMI) systems  
• Expert systems for data and trend analysis  
• Statistical modelling of dynamic market environments |
| Sales and order management | • Prospect tracking and management systems  
• Sales force management systems  
• Online/dialup product database (price, lead times, order variation)  
• Web enabled 'choosing engines' that match products and services to customer needs  
• Expert systems for configuration, shipping and pricing  
• Sales analysis systems  
• Customer, product and production databases |
| Post sale service | • Online/dialup service and fault analysis  
• Service personnel location monitoring and management  
• Service diagnostic database  
• Software upgrade |
| Product content and design | • Enhanced functionality, control and operation  
• Performance monitoring and management  
• Data collection and integration  
• Networking |

*Source, Howard (2005)*
Howard (2005) specifically identifies the tendency towards networked or ‘unbundled’ production.

“As digital networks and more powerful computing allow companies to collect, communicate, exchange and analyse data more quickly and cheaply than ever before, manufacturing businesses are able to adopt a broader range of approaches (strategies) to the management of their core functions and processes. This can lead to better informed business decisions and reduce levels of uncertainty and risk.” (Section 2.2)

“The interviews also indicated that the Internet has transformed the ways in which many firms communicate, undertake transactions and exchange information. It improves operations through the exchange of information about distant manufacturing processes, delivers information about the manufacturing process itself and facilitates project management of geographically-dispersed teams.” (ibid, Section 2.3)

“In addition, the falling cost of ICT and its expanding functionality makes it possible for small companies to compete against large companies in global markets. Connectivity through ICT enabled networks allows small companies to work as technology suppliers and/or innovators to larger manufacturing enterprises in science and technology clusters.” (ibid, Section 2.3)

He concludes with an observation that resonates strongly with the insights of Coase (1937). “ICT allows reductions in transaction and interaction costs, which make partnering and strategic alliances more cost effective, and facilitates unbundling of the vertically integrated corporation to enable it to concentrate on what it does best and acquire other capabilities from specialist suppliers” (Howard, 2005, Section 4.6). The ‘efficiency limit’ on firm size conceptualised by Coase has been raised, but firms have grown in a different fashion to what might have been the traditional trajectory in the 1930’s. The internal resources of firms have, in effect, been expanded through the creation of new partnerships and quasi-employment agreements which are qualitatively quite different to simple sub-contracting, in terms of the degree of information and risk sharing between the transactors.

In the context of technological, market and institutional advances, the primal drive for competition-exposed firms to gain advantage through formal outsourcing and other
forms of inter-firm collaboration is therefore creating a world of ‘unbundled’ value chains. It is becoming possible for enterprises to become, in one sense, entirely disengaged from the locus of production and to, instead, focus on orchestration of global sourcing and distribution contracts (Cisco Systems, 2003). But, as discussed below, it would be a mistake to conclude from these observed trends that the role of space in the economy has been diluted to the point of irrelevance.

In the world of unbundled value chains, firms enjoy an operating domain which is altogether more fertile as they continue their search for a competitive edge through whatever form of innovation, be it:

- the creation of an entirely new product or service offer (possibly generated from a research effort or partnership); and/or
- the delivery of an existing product or service at a lower price to the consumer (though the institution of improved production techniques, more efficient logistics or outsourcing); and/or
- the enhancement of an existing product through better industrial design; and/or
- the enhancement of an existing product offer through better packaging with attendant or allied services (for example, extended warranties or provision of roadside emergency services with new car sales); and/or
- the enhancement of an existing product or services through improved presentation, marketing and retailing strategies.

Recognition of these wider sources of innovation - and their potential to flourish in a milieu of flexible companies open to ‘unbundling opportunities’ - may explain the apparent paradox of Australia’s strong economic performance over the past two decades, including its relatively rapid expansion in exports of high value added manufactures and services (see Figure 9 and Figure 10), despite the nation’s stubbornly sub-average ranking in officially measured innovation infrastructure, especially in terms of business expenditure on research and development (BERD) - Table 11. Making similar observations about the nature of innovation in the Australian economy, BCA (2006) cites research from Booz Allen Hamilton which found “no direct relationship between R&D spending and significant measures of corporate success” (page 6).
Figure 9  Trends in Exports of Australian Manufactured Goods, World Exports and World Manufactured Exports, Volumes US$

Source, Donnelly (2004)

Figure 10  Australian Exports of Elaborately Transformed Manufactures (ETM) and Simply Transformed Manufactures (STM) A$b,

Source Donnelly (2004)
Some business theorists have argued that the advent of the Internet makes it possible to take the productivity (innovation) gains from unbundling to previously unimagined levels (Cisco Systems, 2003).

In Hagel’s view (discussed in Cisco Systems, 2003), corporations of the pre-internet era were forced into simultaneously running three quite different forms of business – attracting customers, developing products and overseeing operations. He further argues that these businesses featured some inherent contradictions and tensions, requiring corporations to make major trade-offs among scope, speed and scale. With Internet...
based communication pushing down the costs of co-ordinating activity across these three areas, corporations have the opportunity to radically unbundle their activities and re-fashion themselves as large customer-relationship and operations businesses on the one hand, and a series of small, nimble product-innovation companies on the other.

In an interview for the Cisco Systems web site, Hagel explains the power of highly sophisticated outsourcing or ‘process networks’ to sustain dramatic unbundling.

*Process networks are groups of highly specialized companies that are mobilized to support core business processes, typically supply-chain management, customer relationship management (including management of channel partners), or collaborative product development. Of course, businesses collaborate all the time with other companies in their operations. Process networks have two distinctive features. First, one company serves as overall orchestrator of the activities of all the participants in the process networks, making sure that the right companies are mobilized in the right sequence to generate the most value. Second, the activities span multiple levels of operations-this is not just one company coordinating the activities of its business partners; that one company also coordinates the activities of its business partners' partners.*

*Think of process networks as a more sophisticated form of outsourcing. In conventional outsourcing, the outsourcer deals directly with one outsourcing service provider. The relationship is bilateral. In process networks, many more companies are assembled and orchestrated to perform business activities.*

*Process networks are still a relatively new management approach, but there are some promising early examples of this approach in action. For example, both Nike and Li & Fung (a specialized orchestrator of apparel production services) illustrate the value of process networks in the apparel industry.*

*Process networks offer a way to access highly specialized capability across many different areas of business activity. They reduce cost by mobilizing the most efficient providers, but they also increase the quality and value of the process outputs because the most specialized providers in any particular activity can be accessed. In addition, they provide more flexibility. The business processes can be tailored to the needs of specific products or customers by configuring the appropriate providers from within the process network. This is one of the reasons*
that industries subject to rapid change like the high-technology and apparel industries have been among the pioneers of this new management approach.

Managing a process network requires a very different skill set relative to traditional business process management. Traditional business process management is "hard-wired"—that is, all the activities are spelled out and monitored in great detail. Companies tend to restrict the number of business partners involved because the complexity of coordination rises exponentially as the number of participants increases. Process networks require a much more "loosely coupled" management approach—one that focuses on specification of outputs rather than specification of activities. This significantly reduces the complexity of coordination. As a result, process networks tend to expand the number of participants to get the benefit of even more specialized capability across diverse activities. (Cisco Systems, 2003, web publication)

Hagel’s observations resonate with those of Baum et al (2007) and Simmie and Strambach (2006) who contrast post war, vertically integrated mass manufacturing with contemporary, networked models of production, which effectively separate the thinking elements of value creation from the physical elements i.e. making, distribution and selling. Baum et al (2007) write...

"In this perspective the emergent networked society is seen as superseding an outmoded industrialism based on the uni-dimensional assembly line. The geography of production is also seen as changing—from the nation state of Fordist industrialism to a contemporary globalisation. The key insight, as far as production is concerned, is that modern economic activity has moved from a primary focus on goods to more diffuse focus on process. ...Contemporary material production is not so much about making things as about analysing the process of making them". (p. 9)

This notion of vertical disintegration in value production and the consequential spatial and organisational redistribution of the drivers of innovation is also taken up by Howells (2006), a long term observer of the services sector. He succinctly captures the key trends in outsourcing and knowledge creation over the past three decades. In so doing, he alludes to the strategic role of Advanced Business Services in the generation and diffusion of innovation insights and delivery, an issue which is explored in depth later in this chapter.
"..outsourcing has particularly taken hold since the late 1980’s and, although initially much attention was focussed on cost savings associated with contracting out low skill activities, such as catering and cleaning, the focus more recently has been on much higher value added and knowledge intensive activities, such as information technology (IT), R&D and legal services. Here the factors are more about the specialist skills and competencies of service providers, although cost factors still play a part. These more recent outsourcing trends have had a powerful influence on the rise of knowledge intensive service firms in advanced economies.

Companies that decide to outsource are therefore making assessments about their own core capabilities, the internal competencies they have to do various functions and what is available externally by specialist providers. The increasing fragmentation and specialisation of service activities is an important part of this increasing division of labour. Likewise the boundaries of the firm are becoming more open and permeable and external linkages for information and knowledge are becoming important. Knowledge and innovative activities in services is therefore becoming more distributed in nature. Indeed, this is reflected in evidence from the Innobarometer survey where it was found that service firms recognise cooperation practices within their supply chain as a key strength of innovation reflecting the more cooperative model of innovation within service activity.” (p. 9, emphasis added.)

**Evidence of Unbundling**

Innovation or ‘technological progress’ through the unbundling of value chains was extensively documented by Carter in her landmark studies of production function changes in the US economy from the 1940’s through to the 1960’s. Carter (1970) compared the input – output transactions tables and Leontief matrices for the US at various points during this period. She observed an apparent paradox; the US economy was becoming more productive both in terms of capital and labour, but the production process across all sectors was becoming more complex, with each unit of output requiring a broader spread of inputs from other sectors. In short, customers were gaining better value - for example, cars were cheaper when measured by the multiple of average annual earnings - but there were many more intermediary suppliers in the production of cars than in the past. The ‘more value with more middlemen’ paradox was
resolved on the basis that the participation of more specialists in the production process brought about greater efficiency (productivity) overall.

Examination of the changing occupational structure within Australian manufacturing provides similar insights to the ‘unbundling’ process. Table 12 draws on Australian Bureau of Statistics Census data and provides a proportional break down of employment in Melbourne’s manufacturing enterprises (identified using ANZSIC) by broad category of occupation (identified using the Australian Standard Classification of Occupations – ASCO). It shows that in 1986, most workers in the manufacturing sector were ‘on the factory floor’ in process operator roles. These ‘blue collar’ employees made up 57% of the manufacturing industry work force. The situation changed quite dramatically between the 1986 and 2001 censuses. According to the 2001 count, only 40% of manufacturing workers in Melbourne were in the blue-collar category. Almost 36% of manufacturing employment was in ‘office jobs’ compared to 27% in the 80’s.

Table 12  Occupational Structure – Melbourne’s Manufacturing Sector – 2001 and 1986

<table>
<thead>
<tr>
<th>Employment in the Manufacturing Sector</th>
<th>1986</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory occupations</td>
<td>57.0%</td>
<td>40.8%</td>
</tr>
<tr>
<td>Office occupations</td>
<td>27.2%</td>
<td>35.9%</td>
</tr>
<tr>
<td>Other occupations</td>
<td>3.9%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Sales occupations</td>
<td>3.8%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Transport occupations</td>
<td>8.1%</td>
<td>15.5%</td>
</tr>
</tbody>
</table>


This trend is consistent with the replacement of generalists by specialists in the production process (Howells, 2006). As well as increases in the knowledge intensity of factory floor operations, the shifts evident in Table 12 may reflect the emergence of enterprises that are classified as part of the ‘manufacturing sector’ but which undertake a much more narrow and specialised range of production activities, for example, testing and quality control, design development and trialling, production chain management and so on. They also confirm the findings of other studies that the distinction between production and services in Australian manufacturing firms is increasingly blurred. For example, Kennedy (2002) reports that many manufacturing companies offer a range of services in conjunction with, or separately from, their product lines. Such services typically include engineering, prototyping, design and testing, maintenance, training and information/help desks. Kennedy concludes that Australian manufacturing firms are more focussed on providing ‘solutions’ rather than traditional product assembly.
Echoing these sentiments and those expressed by Fels and Brenchley (2006), Heather Ridout, the CEO of the Australian Industry Group neatly sums up the dramatic transition in Australian manufacturing over the past 20 years or so.

"We often think only of the production part in manufacturing. However, the value chain is complex and multidimensional. Production, the making bit, is only part of this. Manufacturing also includes research, design and development, logistics, marketing, after sales services, product stewardship and recycling. Manufacturing is more akin to project management these days; lines between manufacturing and services are blurring” (Australian Financial Review, 21/12/2006).

Pacific Group Technologies (PGT) presents a good example of an Australian manufacturing firm operating in a mature industry making the transition from pure production company to technology services or ‘solutions’ provider – as an outworking of the unbundled value chain. PGT started life as PBR, a traditional Australian manufacturing company providing brakes for the once highly protected automotive industry (Figure 11).

Under the pressures of global competition, PBR has been reborn as a highly specialised brake supplier where the lines between R&D and manufacturing have been all but erased (see extract from Pacifica website overleaf). It sees its future in a still greater focus on this niche within the auto industry. In a recruitment advertisement posted in Australian daily newspapers during 2004, the company described its strategy as follows:

_Pacific Group Technologies was established in early 2002 with the charter to accelerate innovation and development programs, with a particular focus on brake-by-wire technology. ….. In parallel with this, and reflecting PBR’s equally prominent position as an industry world leader in casting, machining and assembly processes, PGT is now also pioneering the development of next generation materials and processes with the objective of extending product lifetimes, increasing competitive advantage or opening up entirely new ways of manufacturing. This in turn will create revenue streams from the licensing of these manufacturing innovations in world markets. ….. PGT’s remarkable success on both these fronts – in automotive by wire development and in new materials and new process developments – has enabled the Group to secure the first of many expected international technology contracts. This has, in turn, created the_
need for a number of additional specialist design/development and technical appointments.
(Source, Pacifica Group Technologies, Recruitment Advertisement, Age Newspaper, 2004)

The advertisement went on to list a range of knowledge intensive positions within the company including for Simulation Engineers, Software Engineers and By-Wire Architects.
Pacifica listed on the Australian Stock Exchange as Pacific BBA in 1989 as a manufacturer of brake and clutch systems and components, industrial plastics and textiles. Throughout the 1990's, the company developed as a diversified manufacturer, adding specialised construction products to the range of activities. Pacifica grew organically and through acquisition, expanding its activities in Australia, Asia, North America and the UK.

When Pacifica first listed, BBA Plc, the UK-based friction materials company, held around 58% of the ordinary shares. BBA sold all its equity in the Australian business in 1993 in order to concentrate its activities in the Northern Hemisphere.

Two years ago, in order to concentrate on those areas in which the company had strategic and sustainable competitive advantage, Pacifica announced its intention to transform from a diversified industrial into an automotive technology company. As a result, almost all activities other than those based on superior automotive technology have now been divested.

The Company today

Headquartered in Melbourne, Australia, Pacifica employs around 1,800 people in 8 countries almost exclusively via its automotive subsidiary PBR.

Operations

Pacifica's automotive subsidiary, PBR, is a leading supplier of brake systems and technologies to several of the world's automotive manufacturers and is best known for lightweight calipers, park brakes, drum brakes and disc rotors. Many of PBR's products have world patents and are recognised for their innovative qualities – lightness, superior performance, durability and longevity. PBR supplies replacement product to some 45 countries and has developed performance brake upgrade products for the growing sports/performance market.

PBR is acknowledged as a world-class designer and manufacturer of brake systems and products for world markets. PBR's growth has been substantial with sales rising from $325 million in 1998 to almost $1 billion in the current year and the immediate outlook is that sales will continue at the current levels.

The business has been consistently profitable and now supplies a high proportion of braking systems on General Motors vehicles built in North America. The company also supplies Ford in North America where business will expand in 2004 along with the commencement of supply to DaimlerChrysler. This position has underpinned a strong investment program in the USA. The capability there now positions PBR as a bona fide supplier to all North American automakers. Additionally, as a result of the acquisition of AP Italia in 2003, the Group now supplies a range of automotive manufacturers in Europe and, through licence agreements, in Brazil, Turkey and Japan. In the Asian region manufacturing operations in Thailand and Malaysia are complimented by licence agreements in Japan, Korea and China providing access to vehicle manufacturers such as Mazda, Daewoo and Ssangyong.

Also within Pacifica are the Friction Materials Pacific (FMP) businesses whose main brand is Bendix. Pacifica has a 49% interest in FMP (Australia) and a 50% interest in FMP (Thailand) and FMP (Malaysia). FMP Australia is Australia's leading manufacturer of friction materials, disc brake pads, backing plates, clutch facings, truck blocks and drum brake linings.

Recent highlights

Following a significant program of restructuring in 2001 and 2002, Pacifica has taken action to ensure that:

- it is more able to react quickly and efficiently to volume adjustments, both up and down, without incurring major fixed cost penalties;
- the organisation structure is focused on functions rather than geographic borders;
- its high technology aluminium calipers, Banksia park brakes and new "brake-by-wire" technologies are gaining the utmost exposure in North America, Europe, Asia and in the Australian market; and
- appropriate capital management programs are in place to promote the improvement of shareholder value through increased earnings per share and better returns on assets.

The future

The company's strategy is to place greater focus on the design and development of products and processes to further enhance its position as a technology solution provider. Core manufacturing activities will be retained and non-core activities outsourced or divested. The drive for less capital per part manufactured, combined with an excellent manufacturing culture, will extract better earnings from revenue streams. Strategic partnerships currently being established with global manufacturers, universities and research and development organisations will help achieve these objectives.

Ultimately, Pacifica believes that the technologies being developed for the automotive industry will be applicable to a range of other industries. Where appropriate, it is possible that the company will license such intellectual property to other sectors. In the meantime, the short term focus is to extend its share of the international automotive markets with the clear objective of increasing shareholder returns.
Interestingly, the company’s future direction as declared on its website included the creation of more partnerships which avoid direct physical asset creation but make greater use of licensing and leveraging of Australia’s R&D strengths (see Figure 12). This aligns with the concept of creating advantage through unbundling and, incidentally, points to greater use of Advanced Business Services. This strategy resonates with the observations of Hagel (Cisco Systems, 2003).

**Figure 12  Pacifica Group Technologies – Business Strategy**

<table>
<thead>
<tr>
<th>FUTURE DIRECTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Migrate to industrial technology company</td>
<td>• Review capital expenditure criteria</td>
<td>• More use of licensing</td>
</tr>
<tr>
<td>• Leverage unique skills and strengths</td>
<td>• Review all manufacturing activities</td>
<td>• Use other companies infrastructure rather than build new capacity</td>
</tr>
<tr>
<td>• Build competitive advantage</td>
<td>• Concentrate on production of critical components</td>
<td>• Extend core skills to other industries</td>
</tr>
<tr>
<td>• Less asset intensity</td>
<td>• Outsource low-value added processes</td>
<td>• Leverage Australian research, development and innovation advantages</td>
</tr>
<tr>
<td>• Shorter investment lead times</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source, Pacifica Group Technologies website, sourced 2004

The experience of Pacifica is reflective of a pervasive trend in the restructuring of manufacturing industries in advanced economies into networked forms of production and governance. By reference to the work of Coase (1937) and Williamson (1975, 1985), Simmie and Strambach (2006) explain that the rise of the new ‘network paradigm’ in industry can be seen as the natural outworking of risk mitigation strategies in an environment of increasing uncertainty and instability of production and markets. In this context, Simmie and Strambach (2006) ascribe a strategic significance to Advanced Business Services.

*These problems (of uncertainty and instability of production and markets) are met by increasing specialisation by increasing the division of labour. Knowledge intensive business services represent an important part of this response. They form a key element in externalised production systems.*

*A key feature of successful networked systems of innovation is that they are interactive learning systems. Such systems are good at transferring both codified and tacit knowledge that, when combined with data and information, allows their constituent institutions to change and adapt to new combinations of external circumstances. Their adaptive capacities are high.* (Simmie and Strambach, 2006, p. 30)
The ‘Clustering’ Effect

While unbundling unlocks innovation potential through specialisation, better risk management and economies of scale, industry clustering can create complementary economies of scope and agglomeration (Cooke, 2004, 2008, OECD, 1999).

It is important to explain exactly what is meant by ‘cluster’ in the context of this thesis. The term is much used in the regional development and business strategy literature but a touchstone definition is yet to emerge, and the theoretical basis for the cluster idea remains controversial. A key area of confusion relates to the geographic scope of an industry cluster. Most writers on the subject place considerable weight on the fact that the inter-firm relationships in question must take place within a particular spatial frame, and that this spatial driver remains crucial even in the age of e-commerce and instant communication of large volumes of data internationally and inter-regionally. Thus, for example, one of the originators of the concept, Porter (1998) comments....

"In theory, location should no longer be a source of competitive advantage. Open global markets, rapid transportation, and high-speed communications should allow any company to source any thing from any place at any time. But in practice, location remains central to competition. Today’s economic map of the world is characterized by clusters: critical masses in one place of linked industries and institutions--from suppliers to universities to government agencies--that enjoy unusual competitive success in a particular field......Clusters affect competition in three broad ways: first, by increasing the productivity of companies based in the area; second, by driving the direction and pace of innovation; and third, by stimulating the formation of new businesses within the cluster. Geographic, cultural, and institutional proximity provides companies with special access, closer relationships, better information, powerful incentives, and other advantages that are difficult to tap from a distance. The more complex, knowledge-based, and dynamic the world economy becomes, the more this is true. Competitive advantage lies increasingly in local things--knowledge, relationships, and motivation--that distant rivals cannot replicate.” (p. 90)

This implies a spatial frame derived from the spontaneous regional affiliations of the participants and their capacity to maintain regular social contact. Beer and Kearins (2004) endorse this view, noting that ‘networking and cluster building strategies rely
upon a stock of social capital that can only be generated through face to face contact’ (p. 2).

But when one examines some of the clusters referred to by Porter and others of his school³ (the IT cluster in California, footwear in Northern Italy, the aerospace industry in Arizona), it is clear that the so-called ‘local’ interactions in question can take place over considerable distances, often measured in many hundreds of kilometres.

At the same time, the architects of applied cluster policy often implicitly assume that the relevant business interactions generate synergies because the firms are, in effect, co-located. Thus, for example, the City of Melbourne and the Victorian Government speak of an ‘aerospace’ cluster at Fisherman’s Bend, an industrial precinct in central Melbourne of no more than 6 square kilometres.

Such divergent applications of the cluster concept, as promoted by Porter, have provoked some vehement critiques. Martin and Sunley (2002), for example, contend that “because Porter’s definitions are so vague, in terms of geographic scale and internal socio-economic dynamics, this has allowed different analysts to use the idea in different ways to suit their own purposes. The result is conceptual and empirical confusion.” (p. 9) They go on to argue that the utility of ‘cluster theory’ in policy development is seriously limited.

Within their critique, Martin and Sunley (2002) target the lack of empirical evidence that propinquity is a driver of competitive advantage in clustered firms. Simmie (2006) takes a similar approach. He adduces evidence that the agglomeration benefits associated with clustering are just as likely to derive from complementary skills and business networking across a metropolitan (or even larger) area as they are from more localised interactions. Again, the debilitating influence of a lack of clarity regarding the geographic scope of clusters is evident.

The notion of ‘cluster’ adopted for the purposes of the current discussion regarding processes of innovation is that inspired by an early Porter (1996) treatise on competitiveness. Rather than taking a sectoral perspective on industry classification and emphasising co-location, this cluster model envisages networks of firms spread over sizeable regions which, for example, might cover substantial parts of one or more Australian States. Moreover, these firms will be from differing sectors but share a

³ For example, Howard and Waits (1996)
common goal or complementary roles in building export sales. In this view, government agencies support cluster development through infrastructure provision, the development of appropriate training and public R&D programs and the prosecution of targeted trade development strategies. A generic representation of these relationships is shown in Figure 13, while Figure 14 shows a provisional ‘map’ for Victoria’s automotive cluster.

Thus, a patent attorney specialising in bio-tech intellectual property – a member of the ‘Property and Business Services’ sector within standard industrial classifications - could well be a key agent within a pharmaceutical products cluster, led by a drugs manufacturing firm that has directly developed export markets. Similarly, a medical research institute attached to a university – sectorally classified as ‘Education’ – may be an integral component of the pharmaceuticals cluster.

Figure 13 Industry Cluster Schematic

Source, SGS Economics & Planning, 2004

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4 This, incidentally, is further evidence that traditional industry classifications do not reflect unbundling and provide rather blunt tools for analysing clusters.
Figure 14  Provisional Cluster Map – Victoria’s Automotive Cluster

Enabling Infrastructure
- Port of Melbourne
- Two curfew free, international airports
- Road & rail networks
- Competitive land, utilities and communications

Component Suppliers/ Exporters
- 1st, 2nd & 3rd Tier Suppliers (components & aftermarket)
- Automotive Components Ltd
- Air International
- Bosch
- Calsonic
- Delphi
- PBR Automotive

Key Passenger Vehicle Exporters
- Ford
- GMH
- Toyota

Other Service Providers
- FAPM, SAEIA, AAAA, FCAI, etc.

Research Institutions/ Facilities
- CSIRO
- CRCs
- Monash University (Mechatronics)
- Holden Innovation
- 3rd testing grounds, wind tunnel

Training Institutions
- Centre for Automotive Excellence (inc. Kangan Batman Tafe)
- Centre for Excellence (Digital Design)
- Various other university faculties

Other Vehicle Manufacturers
- Kenworth, Iveco, Valgren

Source, SGS Economics & Planning, 2004

While this notion of clusters can be applied to any form of inter-regional export, clusters that are engaged in international exports tend to attract greater attention in policy development. This flows from a long held and broadly bi-partisan position amongst governments in Australia that global (as opposed to inter-regional) competitiveness is the only sustainable long term source of new income for a regional community (see Australian Government, 1997).

To illustrate a typical identification of clusters using the conceptual frame outlined above, Table 13 rates a range of candidate industries in Victoria as the export anchors for these networks (SGS Economics & Planning, 2004). The relevant assessment criteria relate to significance of current exports, their growth prospects, the extent of specialisation in Victoria (indicated by location quotient), commitment to innovation (proxied by BERD) and industry structure (i.e. the presence of large and capable firms, as well as extensive local supply and distribution chains). The Table suggests that Victoria’s key potential clusters could be:

- **Clean and Green Food**, encompassing elements of the agriculture, processed food and pharmaceutical sectors;
- **Education**;
- **Automotive and industrial machinery**;
• **Advanced business services** (including elements of the finance and insurance sector);
• **Health and wellbeing** (including elements of the health and pharmaceuticals sectors); and
• **Tourism**.

Through this analysis, Victoria can also be seen to have a number of additional ‘stable clusters’. These are large at present in export terms but they may have limited growth potential or they may be trapped in commodity based competition where price, rather than product differentiation, determines the prospects of success. These clusters could include:

• **Textiles, Clothing and Footwear (TCF)**;
• **Chemicals**;
• **Mining**;
• **Metals**;
• **Building Materials**; and
• **Paper**

Both the strategic clusters and the stable clusters are ‘potential clusters’ only. The existence of networks (unbundled value chains) and anchor exporters by themselves constitute a necessary but not sufficient condition for this competitive dynamic to take hold. As discussed by Howard and Waits (1996), candidate firms can be located at a range of points along a long continuum in terms of cluster co-operation (Figure 15). Mature and effective clusters are those where a relatively large proportion of firms operate at the co-build end of the spectrum. This generally requires inspired leadership from within the cluster firms themselves, particularly the anchor exporters. Pro-active government policy can help to accelerate migration from passive forms of clustering to practices that build export competitiveness in more direct and profound ways.
### Table 13  Identifying Export Clusters for Victoria, Australia

<table>
<thead>
<tr>
<th>Core Conditions</th>
<th>Desirable conditions</th>
</tr>
</thead>
</table>
| Exports > $0.5 billion |  |%
| Export growth > 20% |  |%
| LQ > 1.25 |  |%
| Knowledge based |  |%
| Extensive Vic value chain |  |%
| % Fulfillment of core criteria |  |%
| Major corps R&D > 5% of IVA |  |%
| Leading institutions Access to key world markets |  |%
| % Fulfillment of secondary criteria |  |%

<table>
<thead>
<tr>
<th>Industry</th>
<th>Core Conditions</th>
<th>Desirable conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Processing</td>
<td>100%</td>
<td>75%</td>
</tr>
<tr>
<td>Metal Products</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Tourism</td>
<td>60%</td>
<td>25%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>80%</td>
<td>75%</td>
</tr>
<tr>
<td>Automotive</td>
<td>100%</td>
<td>75%</td>
</tr>
<tr>
<td>Transport and Distribution</td>
<td>60%</td>
<td>25%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>80%</td>
<td>50%</td>
</tr>
<tr>
<td>Electrical and Industry EM</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>Education</td>
<td>80%</td>
<td>25%</td>
</tr>
<tr>
<td>TCFL</td>
<td>40%</td>
<td>25%</td>
</tr>
<tr>
<td>Business Services</td>
<td>80%</td>
<td>25%</td>
</tr>
<tr>
<td>Photo and Scientific Equip’t</td>
<td>80%</td>
<td>50%</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>80%</td>
<td>50%</td>
</tr>
<tr>
<td>Paper</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>ICT Manufactures</td>
<td>20%</td>
<td>50%</td>
</tr>
<tr>
<td>Mining</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Building Materials</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Transport Equipment</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>ICT Services</td>
<td>40%</td>
<td>25%</td>
</tr>
<tr>
<td>Printing and Publishing</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Utilities</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Retail</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Health</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Cultural and Recreation</td>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>Construction</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Source, SGS Economics & Planning, 2004*
Effective clustering of this type can be seen as a form of antidote to ‘down sides’ of value chain unbundling as far as innovation is concerned. As discussed above, accelerated value chain unbundling represents a loosening of the Coase (1937) efficiency limit on firm size. Firms extend their reach by drawing on a variety of sub-contracting, outsourcing, partnership and quasi employment arrangements enabled by rapid innovations in both ICT and the institutional and legal frameworks for cross-jurisdictional trade. Given the power of ICT in enabling ‘aspatial’ commerce, firms may be drawn to unbundling strategies that are narrowly focussed on the dispassionate allocation of production, distribution and enterprise management contracts with a view to maximising access to economies of scale (specialisation benefits) and mitigating the risks associated with investment in fixed production plant or personnel. If contracts are solely assigned on the basis of price and quality, unbundling of this form forfeits trust or loyalty based efficiencies. These can include the unpriced flow of information between long term purchaser and provider partners regarding improvements in how these sourcing contracts might be operated, or how new markets might be tackled, or how proposed new Government regulations can best be managed. Similarly, the outsourcing ‘purist’ may forego the comfort of switching between suppliers at relatively short notice and with minor cost penalty and no threat to quality – an option that can be cultivated over time by building relationships with a stable of collaborative firms. An outsourcing approach focussed exclusively on a global supply network may ultimately limit the capacity of the outsourcer’s host region to produce the types of skills, competencies and market intelligence required for corporate sustainability. Finally, an outsourcing philosophy which is disengaged from the local region may quash business options for co-marketing and complementary production with regional firms which might otherwise be full time competitors.
Thus, clusters involve a kind of ‘rebundling’ of the value chain elements to re-instate some of the economies of scope which firms enjoyed when more of the value adding process was physically or corporately effected in-house. This is not to say that clustered firms turn their backs on wider global opportunities for outsourcing. Rather, they seek to benefit from the ‘best of both worlds’. They build strong local or regional relationships which add to the bank of ‘tacit knowledge’ regarding competitive operations while adopting a ‘value for money’ and globally oriented approach when competitive circumstances dictate.

The perspective on spatially framed inter-firm collaboration adopted by Cooke (2004) is broader than the commentary set out here in respect of vertically integrated, export driven clusters. Clusters are seen as a ‘micro variant’ (p. 6) within Cooke’s (2004) notion of ‘Regional Innovation Systems (RIS)’, which contemplates lateral networks between similar firms, and (implicitly) larger geographic areas. Nevertheless, RIS’s are shown to perform a range of collaborative learning, risk sharing and leadership development functions which resonate with the ‘unbundling mitigation’ outcomes discussed above. More specifically, these functions are cited to include ‘collective entrepreneurship, exploitation of social capital advantages where these exist and building networks where they do not, specialist, small-scale enterprise and innovation support services, regional financing and investment vehicles and labour market adjustment services’ (Cooke and Memedovic, p19). Cooke (2006) explains that these functions are largely common to all RIS’s, regardless of whether they are focussed on local or globalised markets (or somewhere in between), and whether their institutional or leadership arrangements are central/regional government driven (‘Dirigiste’), dominated by local players (‘Grassroots’) or reflect a balancing of these forces (‘Network’).

In the context of unbundled value chains, clustering therefore implies a boost to innovation capacity because agglomeration economies are meshed with scale economies. Some empirical support for this proposition is found in the European Commission’s 2006 ‘Innobarometer’. This telephone survey identified some 3,528 firms across Europe which self nominated as ‘companies working in a cluster-like environment’. This was achieved through a screening survey of almost 21,000 firms. In determining whether firms operated in a ‘cluster like environment’ for the purposes of the survey, the designers and the polled company managers took into account the strength of local linkages, whether respondents worked in close relationship with other local market players, the presence of

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5 Though, as discussed earlier, some definitions of clusters apply large geographies, which might transcend national sub-regions.
a higher industry (manufacturing) density in the region, the existence of formal clusters in the region and the respondent’s general awareness of the cluster concept. The ‘cluster-like environment’ was defined in terms of a sub-national spatial scale (see extract from Innobarometer 2006 in the text box below).

The survey found that one quarter of all firms across Europe saw themselves working in a cluster-like environment characterised by close co-operation with other local businesses and strong ties to local business infrastructure. Of these firms, about two thirds indicated that they were active participants in their local cluster. Interestingly, active participation was found to be greatest in the UK, arguably one of the most dynamic and innovative economies in Europe over the past decade (see Figure 16 and further discussion below).

The survey also found that innovative companies active in a cluster environment are more innovative than the general sample of innovative European companies interviewed during the 2004 Innobarometer survey.

"78% of the innovative companies working in a cluster recently introduced new or significantly improved products compared to the 74% of the 2004 Innobarometer. Similarly, 63% of the innovative cluster companies introduced innovative production technology, compared to the 56% Innobarometer found amongst innovative European Union enterprises two years ago.

Innovative companies in clusters are much more likely to conduct market research than innovative companies generally in 2004 (53% vs. 33%). The greatest difference is, however, a direct derivative of operating in a cluster structure: the innovative companies in clusters are more than twice as likely to source out research to other firms, universities, or public labs than were the average European innovative firms in 2004.

Trademarks and patents are important indicators of significant innovation: compared to the 2004 Innobarometer of innovative companies, the cluster companies of the EU are now much more likely to patent and trademark their innovations and new products/services: while in 2004 12% of the innovative companies applied for a patent, the proportion among similar cluster companies in

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6 A caution here is that, as discussed earlier in this Chapter, surveys which classify companies as ‘innovative’ simply because they report having introduced a new product or process in the past year are likely to underestimate the true incidence of innovation.
2006 is 29%, and similarly: in 2004 Innobarometer found 14% of innovative firms registering international trademarks, now 29% of the innovative cluster companies say they registered at least one in the previous two years.“ (p. 6)

**Innobarometer Survey 2006**

Innobarometer provided a description of company clusters with the following definition, which was read out to the interviewed managers:

“Economists often talk about so-called clusters. Clusters are geographically close groups of interconnected companies, suppliers, service providers, and associated institutions in a particular field. In a cluster all these actors are linked in several ways. These include their similar situation (e.g. same working sector, common market, common problems to face) and their complementary functions (e.g. university labs can help private firms; several firms can develop new products together, or enter new markets together). Clusters are often working in a particular region, and sometimes in a single town.”

And then the interviewer asked:

“Were you aware of this concept of cluster?”

If requested, interviewers provided the following example of a typical cluster:

“The pulp and paper technology cluster in Central Sweden is a good example of the concept of the cluster: The region of Värmland, northern Dalsland and Örebro in central Sweden is home to exceptional expert knowledge of the pulp and paper industry with the focus on packaging technology. Some 300 companies with around 13,000 employees are active in the sector. The cluster includes many big names and well-known international companies. There are also smaller businesses with extremely professional staff supplying services and products to the major players, everything from chemicals, machinery and mechanical components to high-tech systems. Local firms are closely linked to the local university of Karlstad that carries out new research and development projects with them. A large part of activities is focused on networking, co-ordinating and developing co-operation between the participants. Activities also include marketing, project development and regional growth in partnerships with schools, the university as well as with regional, national and international authorities.”
Invoking similar evidence from a decade of case studies, Cooke (2008) challenges the view put by the Economist (2007) that cluster policy in Europe has generally been misguided, as it overlooks the possibility that the main factors holding back innovation on the Continent are unnecessary red-tape, excessive delays in setting up new businesses and the dominance of mega corporations which are all too willing to work closely with Governments to perpetuate highly regulated markets. In an effective defence of the RIS concept, Cooke (2008) argues that “clusters can help counterbalance the management and research weaknesses of large firms” (p1); a proposition that, again, links to Coase’s notion of transaction costs imposing limits on firm size.

With reference to innovation in the ‘green economy’, requiring collaborations across a very wide range of disciplines and sectors (bio tech, ICT and nanotechnology, for
example), Cooke (2008) identifies the emergence of a new and more highly evolved form of cluster which he calls ‘platform regions’. He cites two examples; Greater Boston with competencies stretching across healthcare, pharmaceuticals, venture capital and software engineering; and North Jutland in Denmark, which has accumulated critical masses of expertise in wind turbines, solar energy, wireless telecommunications and biomedical instrumentation. Unlike traditional or ‘specialised’ clusters which, as discussed, focus on ‘vertically oriented innovation’, the platform regions are able to make much broader horizontal connections between ideas to create new production processes, products and business models.

Cooke (2008) notes that the efficacy of these platform regions in large part relies on a creative milieu built on informal mechanisms for creating ‘social capital’. “Putting people and facilities into these platform regions means that knowledge can be shared instantaneously by chance meetings and happy accidents, rather than being brokered through conference presentations, emails or search engines. Proximity is the means for accessing knowledge spillovers whose secrets are, to quote Alfred Marshall, ‘in the air’” (p. 4).

He speculates that innovation policy may well be shifting from supporting clusters and sectors, which are silo concepts, towards supporting innovation which crosses boundaries and involves broad collaborations. In the context of the hypothesis introduced at page 2 of this thesis, Cooke (2008) makes an important observation that ‘the trust vital to making these more collaborative projects work will best be built up by being present in the platform regions, where face-to-face contact and a confirming handshake are vital to creating the social capital that innovation across interfaces requires’ (p 5). Moreover, Cooke alludes to the hypothesised emergence of core and periphery economies...

Industrialists cannot stand alone any more. The world is spiky, not flat, and there aren’t very many of these platform regions in which knowledge flows freely among a number of world-class disciplines. R&D managers should consider whether they have the best possible environment to exploit their knowledge and that of partners if they are not attached to a relevant spike. (p. 5)

These issues of the importance of face to face contact in innovation and centralising tendencies in this process are explored in the remainder of this chapter of the thesis.
Role of Advanced Business Services in Innovation

To recap, concepts of innovation process may be distinguished in terms of whether they involve a strategic leap in product or service offer, or more incremental improvement. Moreover, the quest for productivity improvement and competitive advantage may be analysed from the perspective of business to business relationships – characterised by value chain unbundling – rather than putting the innovating firm at the centre of things. The role which Advanced Business Services might play in innovation can be seen to have different emphases, depending upon which of these conceptual lenses is applied.

From the Classical Perspective

Taking a traditional or Schumpeterian view of innovation, Advanced Business Services are of strategic significance, as they fulfil the key roles of intellectual property definition and protection. Moreover, they are crucial to the marketing and business formation process itself. Figure 17 summarises the key steps from the discovery of commercially valuable and patentable knowledge in, say, a university, to full commercialisation via an enterprise that is floated or made available to the market in a trade sale. Several Advanced Business Services, as defined in this paper, are likely to become involved in this pipeline either as critical or support players. In the early stages of commercialisation, legal recognition of the research in question is the vital issue. As the idea progresses through the pipeline, the attraction of venture capital, the brokering of partnerships with sympathetically-minded enterprises, the development of effective business models and marketing strategies and the capture of large scale investment become more important.

A similar mix of business service support is likely to be required if the break-through idea emerges from corporate research rather than publicly funded institutional research. However, in this case, the emphasis on venture capital and partnerships in the early stages of commercialisation may be less, depending on the resources of the innovating enterprise.
In the Context of Organic Innovation and Unbundled Value Chains

**Advanced Business Services and Productivity**

As value chains become ‘unbundled’ and then ‘rebundled’ in various forms of clustering reflecting the search for incremental innovation and/or the best way to exploit a new idea, Advanced Business Services would appear to become more important to enterprise competitiveness. Specialist services which are able to give manufacturing and other primary value providers an edge in the market, through better design linked to better intelligence regarding customer needs, or through more efficient engineering of the
production process, are likely to be in greater demand. Rapid unbundling, particularly under the accelerating force of ICT advances, is likely to generate demands for new skills and services focussed on supply chain management and co-ordination. Moreover, new forms of brokerage are likely to be required to optimise the partnerships between the various participants in the value chain.

Although not explicitly referring to ‘unbundling’ as a driver of growth in producer services, Sassen (1991) cites growing specialisation – which is an outworking of greater outsourcing – and the feedback effects of adopting new technologies in managing distributed supply and distribution processes, as key factors. Moreover, she sees the potency of these factors escalating in line with increasingly globalised value chains.

“Many of the advanced producer services, such as international law or management consulting, were largely seen as unimportant to the functioning of the broader economy in the post-war period, especially since the needed inputs for large corporations were often produced in house.....By the late 1970’s, the transformation in the organisation and composition of economic activity had resulted in a sharp increase in the demand for these types of services, as all kinds of organisations – whether large transnationals or small domestic firms, whether private or public sector – began to use such intermediate inputs. Increasing specialisation and increasing demand combined to induce rapid growth in the freestanding market of business service firms.” (Sassen, 1991, p. 98)....

“Producing certain highly specialised services inside the firm has become increasingly difficult because of the rising costs of employing in-house specialists full time....Specialised firms are in a position to sell their services to a diversity of firms and to continue developing their products and incorporating the latest innovations. Eventually, a large demand reduces the price of such producer services to small firms that otherwise would have been unable to buy such services. This, in turn, further expands the specialised services industry.” (ibid, p. 99)

The expansion in the use of such services as intermediate inputs is linked with the broader technical and spatial re-organisation of the economy. The introduction of computer technology and satellite transmission of data has altered the work process in both goods and service producing firms even when their products have not changed. Transferring what were once production and blue collar service jobs
into computers and attendant technical jobs has brought about a greater need for specialised servicing, from engineering design to data processing. The supply of such a wide array of intermediate, specialised services has itself contributed to the demands for them. It is now customary for firms and government agencies to use outside consultants of various sorts, even when these may replicate the work of internal staff. (ibid, p. 124).

In his citing of nine key reasons for the expansion of producer services in modern times (Table 14), Daniels (1985) also highlights the link to accelerated unbundling of value chains (or outsourcing) in knowledge-based and competition-exposed economies.

As noted, unbundling of value chains eventually creates an imperative for innovative ‘rebundling’ of production activities. Eraydun and Koroglu (2004) point out that business service growth partly reflects the tendency for ‘re-integration’ of value chains in business clusters. ‘These clusters can be expected to generate several service firms that will give service inputs to the emerging vertically disintegrated production system’ (p. 11).

There is evidence of this greater ‘service intensity’ with production unbundling in the changing input output multipliers within the Australian economy. Table 15 shows the change in the Type II output multiplier by sector for the Australian economy between 1986/87 and 96/97. Type II output multipliers are the ratio of direct, indirect and induced output changes to the direct output change generated by a unit variation in final demand. With few exceptions, Australian industries demonstrated comparatively large increases in their direct and indirect input requirements from the ‘Finance, Insurance, Property and Business Services’ per dollar of output, over the ten years in question. This both adds to the body of evidence about rapid unbundling and suggests that the competitiveness of Australian firms became more reliant on producer services.
<table>
<thead>
<tr>
<th>Factor promoting growth in producer services</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost competitiveness - the desire on the part of firms to arrive at the existing level and quality of output at lower cost</td>
<td>External services will be sought if a specific function can be performed at lower cost and with no loss of quality. Since the external labour force used in providing such a service will specialise in providing the required input, it represents a saving in terms of better productivity. These external providers benefit from their ‘continuing and diverse experience with the specialism’ and can therefore ‘offer the most up to date and comprehensive service’.</td>
</tr>
<tr>
<td>Product differentiation</td>
<td>Firms wishing to improve the quality or quantity of their output using in-house resources may find it easier to achieve this goal by engaging specialists in market research, IT and advertising.</td>
</tr>
<tr>
<td>‘Hiving off’ unpopular tasks</td>
<td>These tasks might include those ‘involving unsociable working hours or low status and repetitive work’.</td>
</tr>
<tr>
<td>Economies of scale</td>
<td>Many small and medium-sized enterprises cannot justify the cost of retaining specialised staff on a full time basis and will therefore look to outside agencies.</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Outside suppliers of services are able to respond to erratic labour requirements, both specialised and routine.</td>
</tr>
<tr>
<td>Human resource management strategy</td>
<td>Many firms believe that they should retain small, compact and relatively homogeneous labour forces. This keeps down training and retraining overheads and reduces the chances of costly labour disputes. In these circumstances, it may be easier for such firms to introduce technological and organisational innovations of the kind supplied by producer services.</td>
</tr>
<tr>
<td>Risk management</td>
<td>The need to imitate competitors and the need to cope with uncertainty, especially in relation to technological change and obsolescence, also generate demand for producer services.</td>
</tr>
<tr>
<td>Independent advice</td>
<td>Most firms require, at some time, independent guidance on their growth prospects, thus creating demand for financial auditors and consultants, management consultants, or market research firms.</td>
</tr>
<tr>
<td>Competitive advantage through mergers and acquisitions</td>
<td>These create very large and complex organisations which require specialist advice in the design and implementation of robust management models.</td>
</tr>
<tr>
<td>Change 1986/87 to 1996/97</td>
<td>Agriculture, forestry, fishing and hunting</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>1.0</td>
<td>1.16</td>
</tr>
<tr>
<td>2.0</td>
<td>1.33</td>
</tr>
<tr>
<td>3.0</td>
<td>1.51</td>
</tr>
<tr>
<td>4.0</td>
<td>1.70</td>
</tr>
<tr>
<td>5.0</td>
<td>1.89</td>
</tr>
<tr>
<td>6.0</td>
<td>2.09</td>
</tr>
</tbody>
</table>

Table 15 Change in Multiplier Effects – National Input Output Linkages – 1986/87 vs 1996/97

Talent Quest: Advanced Business Services and the Geography of Innovation

Marcus Spiller Page 67 03/02/2009
This is a theme that is explored in some detail by Cetindamar-Karaömerlioglu and Carlson (1999). In an article suggesting the decline of manufacturing in the US economy is really a matter of statistical definition (that is, non allowance for outsourcing) rather than shrinkage in production related activity, these authors argue that a healthy manufacturing sector is dependent upon and, indeed, inextricably linked with, producer services because:

- Producer services can improve productivity and (or) value added in manufacturing;
- Producer service firms play an important role in innovation, especially in small manufacturing firms, by providing information and expertise that may not be available elsewhere;
- Producer service firms are critical in providing rapid feedback from the marketplace to manufacturers; and
- Incorporation of services with physical product offerings provides manufacturers with an important way of differentiating themselves in the market. Examples in consumer markets include the provision of roadside assistance guarantees with new car sales and the provision of collateral services such as dining opportunities, tastings and tours with wine sales. In producer markets, examples include the provision of recurrent system maintenance services with sales of IT or communications equipment and the packaging of fleet maintenance with major corporate car purchases.

In his study of ICT and Australian manufacturing, Howard (2005) reflects on the blurring between product and service delivery and in so doing alludes to the key role of technical staff and Advanced Business Services in the process of repackaging value. He concludes that ... “In commoditising markets, and in order to drive home a commitment to customers, businesses are bundling complementary offerings into their products in order to compete. These complementary offerings are often marketed as product enhancements or product service packages” (Section 4.3).

Camacho and Rodriguez (2004) go further in discussing the virtual dissolution of the difference between product and service in the modern economy:
Over the last decades we have witnessed a deepening of the tertiarisation process in all advanced economies. Not only are service industries growing in their own right (and faster than the rest of the economy), but there also seems to be an increasing tendency for services to constitute the major part of the value added in most manufacturing industries (what is called 'servicisation'). This tendency is particularly marked in the case of producer services, which are becoming the prime source of sustained high value added, and occurs to such an extent that, in many cases, it is extremely difficult to distinguish where the product 'ends' and the service 'begins'. (p 2)

The specific innovation contributions of Advanced Business Services in the context of unbundled value chains can be analysed in terms of their often intertwined roles as; brokerage and control agents in supply chain management; and generators, assessors and transmitters of substantive ideas for business process and product improvement.

These roles are discussed in the following pages.

**Role of Advanced Business Services in supply chain management**

Notwithstanding the productivity benefits promised and generally delivered by unbundling as highlighted by Carter (1970), the great numbers of agents involved in taking a product or service from manufacturer or originator to end user means that there is a significant cost element in the supply chain – an element which is susceptible to strategic management.

Robertson (2003) reports estimates by KPMG that about 24% of Australian import costs for Textile, Clothing and Footwear (TCF) items is due to supply chain activities, which include distribution, warehousing, goods handling and inventory. This makes supply chain management in itself a key target for cost control and innovation (Figure 18).
Robertson (2003) also quotes a research paper from Monash University entitled “Integrated Supply Chain Management from the Wholesaler’s Perspective” (author not named) which argues that the internet will revolutionise management of the supply chain, and indeed the way business is conducted in some industries. Alluding to Porter’s industry cluster concept, and echoing the theories of Hagel noted earlier (Cisco Systems 2003), the paper suggests that “there will be a shift to groups of companies representing a new competitive force in markets with common strategic goals”.

As Lawson (2003) puts it, quoting Alan Dabbiere of US based consultancy ‘Manhattan Associates’, “the future challenges will be (co-ordinating) multiple companies across a supply chain – and often in different countries – acting seamlessly like a single company to respond to newly introduced technologies and customer demand” (p. 3).

This is not to say that the orchestration of this integrated approach is a straightforward matter. The financial press often contains commentary that the ‘B2B internet revolution’ (e-market-places) has taken longer to take hold than expected. Dissatisfaction with outsourcing of warehousing and, to a lesser extent, transport functions, also receives regular coverage, including the deliberations of companies that from time to time consider bringing these functions back in house (Australian Financial Review, 2003). Nevertheless, extensive, often globally oriented, unbundling appears to be a present and gathering force, requiring sophisticated optimisation and
brokerage skills, most of which are likely to be drawn from the Advanced Business Services sector (see Simmie and Strambach, 2006 and Howells, 2006).

Lawson (2003) provides an excellent case study of how something as mundane as delivering merchandise to a clothing and manchester retail chain (‘Best and Less’) has become more knowledge intensive requiring considerable input from Advanced Business Services (see Figure 19).

*Best and Less* operates on fine retail margins and its survival depends on maximising efficiency throughout its value chain. Prior to the innovation described by Lawson (2003) *Best and Less* operated its logistics on a traditional ‘bilateral’ basis. That is, each store made direct orders to suppliers based on local sales patterns and inventory movements. Suppliers fulfilled these orders on an as required basis, necessitating several deliveries to each *Best and Less* store per day. These arrangements were relatively labour intensive.

To contain these costs, *Best and Less* moved to a ‘Third Party Logistics’ solution. This involved the appointment of a separate contractor (Australia Post) to handle all deliveries to the chain’s stores. That is, as orders from the network of *Best and Less* outlets were placed with suppliers, these suppliers were directed to deliver the goods to a single depot, in this case the Australia Post dedicated warehouse in the Sydney suburb of Villawood. At this facility, Australia Post staff would assemble consolidated packages of supplier items for each store according to their orders in a process known as ‘cross docking’. In this way, each *Best and Less* store would have its orders fulfilled via just one delivery per day. Savings in in-store labour costs, plus the value of improved information flows regarding inventory movements across the store network, more than covered the cost of the Australia Post contract.
Prior to the switch to Australia Post as its 3rd Party Logistics Provider (3PL), Best & Less stores took several deliveries per day from a variety of suppliers who organised their own logistics.

All of Best & Less's more than 100 suppliers were directed to deliver the goods to the Australia Post dedicated warehouse at Villawood Sydney.

Australia Post uses its cross-docking facilities to consolidate deliveries for individual stores then sends them out in one consignment to each store.

Cross-docking means that warehouse staff receive a pallet of stock in one loading bay and take it directly to a dispatch dock for shipping to a customer.

This greatly reduces delays and back orders as well as inventory costs.

Each Best & Less store receives just one delivery instead of many, a much more efficient situation which enables lower staffing costs.

Australia Post expects to handle 50 to 100 inbound and outbound deliveries every day involving between 1.2 million and 1.5 million cartons per year.

To keep track of the cartons, Australia Post uses a real time bar code inventory system in which all cartons have codes that can be read by portable radio frequency (RF) units.

This information is sent through to the Best & Less network, which also places electronic orders direct with the suppliers.

Specialist lawyers to oversee bid process and contract negotiations

Optimal warehouse design (architects and engineers)

Software engineering to capture and process carton tracking data

Software R&D developing new embedded computer chip technology for tracking cartons

Prior to the switch to Australia Post as its 3rd Party Logistics Provider (3PL), Best & Less stores took several deliveries per day from a variety of suppliers who organised their own logistics.
This case study is illustrative of the widespread process of value chain unbundling made possible by improvements in technology, both of the scientific kind (ICT) and the institutional or organisational kind. Some decades ago, a retailer may have been hesitant to place its corporate faith in a third party to ensure that its shelves were stocked in a timely manner, reflecting the transaction risks emphasised by Coase (1937) and later by Williamson (1975) and others. Improvements in corporate governance and contract law, plus a deepening of risk auditing and calibration skills amongst specialist legal advisers has brought these transactions costs down within acceptable limits. Thus, in the *Best and Less* example, specialist lawyers were engaged to oversee the bid process from various third party logistics providers.

Moreover, this unbundling would not have been possible without particular technical improvements developed and delivered by Advanced Business Services. These include:

- Specialist architects and engineers required to design the central warehousing facility to enable and support efficient cross-docking;
- Software engineering to develop the bar-coding technologies required to direct and track the assignment of individual cartons of merchandise from supplier delivery trucks to the right cross-docking location, and from there into the right outbound delivery trucks; and
- Similar software engineering expertise to enable stores to place merchandise orders with suppliers electronically.

The messages from the *Best and Less* experience with respect to unbundling enabled by technology and the engagement of advanced management expertise are repeatedly affirmed in the 20 case studies of ICT in Australian manufacturing undertaken by Howard (2005). With respect to the apparel industry, for example, Howard observes that...

"Successful retailers and their apparel and textile suppliers have taken advantage of huge changes wrought by ICT and which have made traditional manufacturing practices largely ineffective. In an increasingly fashion-oriented world, companies have had to respond to the practice of lean retailing – the
effective management of inventory based on accurate and timely information. That is:

- The retail, apparel and textile sectors are increasingly linked as a channel through information and distribution relationships. Thus, the channel, rather than the firm, becomes the basis for competition.
- Supply chain management is the key to success for textile and apparel manufacturers. It enables them to use sophisticated information links, forecasting capabilities and management systems. Companies that do this well tend to be successful.
- The factory can provide competitive benefits only if other, more fundamental, changes in supply chain management have been introduced. Unless firms change their distribution practices, there is no change to the bottom line.
- As retailers and manufacturers respond more quickly to consumers’ demands, clothes will take on the characteristics of a perishable commodity. To stay successful, companies will need to adjust their manufacturing paradigm in response to these flow on effects.” (Section 4.5)

Robertson (2003a) also explains recent trends in supply chain management which are seeing much greater customisation of the production process to meet the demands of end users. He cites the example of an Australian exporter ‘Banksia Beef’ which supplies very particular ‘Asian style’ cuts of meat to key supermarket chains in Singapore and Malaysia using cattle grown to exacting (customer specified) standards. The supply strategy requires extensive planning and management, including careful control of herd diets and sophisticated contingency planning for transport of the product overseas. This requires considerable investment in data capture and management skills, suggesting an important role for business services as illustrated by the Best and Less example.

Notwithstanding the occasional failure and disappointment, the outsourcing industry has now matured to the point where cost savings are no longer the sole or major criterion by which the success of an outsourcing contract might be judged. Additional performance standards might be set relating to the extent to which the outsourcing partner can ‘add value’ to the client’s operations in other ways, for example, through greater product delivery reliability, better information about customer requirements or
development of a more engaged and motivated workforce. Accordingly, outsourcers are increasingly looking at the ‘cultural fit’ between their operations and those of prospective contractors. This can extend to conducting interviews several tiers down in the executive ranks of the tendering firm (Lawson, 2003). This resonates with the earlier discussion regarding clustering as a means of reinstating agglomeration economies in a world of unbundled value chains.

Against this background, it is not surprising that a niche has opened up for specialist advisers in the establishment of outsourcing contractors, creating yet another field of development for Advanced Business Services. Several of the major professional services firms active in Australia, including Accenture, Ernst and Young and KPMG, have specialist outsourcing and business process re-engineering teams. These are complemented by a myriad of smaller consultancies which offer outsourcing advice, either exclusively or as part of a wider suite of services. There are well over a thousand such businesses in metropolitan Melbourne alone according to telephone directory listings.

Quoting statistics generated by the UK Management Consultancies Association (MCA), whose members account for approximately 60% of the UK market, Roberts (2004) shows that ‘outsourcing related consulting’ and ‘business process re-engineering’ account for almost 40% of management consultant fees amongst UK firms (Table 16). This is a further pointer that Advanced Business Services have a key role to play in the co-ordination of ‘unbundled value chains’.
Table 16  UK Management Consultancies Association Members’ Fee Income by Service Line 2003

<table>
<thead>
<tr>
<th>Service Line</th>
<th>Fee Income (000’s)</th>
<th>% of Total Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outsourcing related consulting</td>
<td>£2,108</td>
<td>36.3</td>
</tr>
<tr>
<td>IT related consulting</td>
<td>£1,374</td>
<td>23.6</td>
</tr>
<tr>
<td>Programme/project mgt</td>
<td>£703</td>
<td>12.1</td>
</tr>
<tr>
<td>Human resources</td>
<td>£543</td>
<td>9.3</td>
</tr>
<tr>
<td>Strategy</td>
<td>£497</td>
<td>8.6</td>
</tr>
<tr>
<td>Operations</td>
<td>£155</td>
<td>2.7</td>
</tr>
<tr>
<td>Business process re-engineering</td>
<td>£120</td>
<td>2.1</td>
</tr>
<tr>
<td>Financial</td>
<td>£107</td>
<td>1.8</td>
</tr>
<tr>
<td>Change management</td>
<td>£88</td>
<td>1.5</td>
</tr>
<tr>
<td>Marketing and corporate communications</td>
<td>£79</td>
<td>1.4</td>
</tr>
<tr>
<td>E-business</td>
<td>£21</td>
<td>0.4</td>
</tr>
<tr>
<td>Economic and environmental</td>
<td>£16</td>
<td>0.3</td>
</tr>
<tr>
<td>Total</td>
<td>£5,811</td>
<td>100</td>
</tr>
</tbody>
</table>

Source, Roberts (2004)

**Advanced Business Services and Ideas Generation**

As well as co-ordinating and inventing more efficient value chains, Advanced Business Services can be seen to play a key nodal role within innovation networks. Some business theorists argue that primary innovation, that is, the rating and preliminary working up of viable ideas, is a specialist function which cannot be handled well by ‘regular’ production companies.

For example, Myer and Ruggles (2002) assert that most companies cannot afford, or are not expert at, the ‘reconnaissance’ phase of innovation, whereas they are generally strong in the subsequent evaluation and investment phases. They further claim that reconnaissance is a skill in itself which is best outsourced.

“Like many activities that involve talent and tacit learning, reconnaissance requires an inherent feel for the work and lots of practice. Not many companies can claim that inherent strength, nor can they devote much time to practicing, given their day to day work is exploitation, not exploration.” (p. 14)
Myer and Ruggles (2002) posit that one of the most fruitful sources of innovation is the recombination of perspectives from different fields – this places Advanced Business Services in a strategic position to be key agents of innovation. These authors foresee the emergence of a major class of firms specialising in ‘innovation reconnaissance’. Meanwhile, Howells (2006) argues that Advanced Business Services are uniquely placed to assist their clients to look at the world in different ways, thereby opening up fresh and continuous opportunities for innovation. He suggests that “such (knowledge intensive) service firms have grown so rapidly not only because of their specialist knowledge and bespoke generation and delivery of services to the (client) firm, but also because of their ability to articulate new wants, and reformulate existing demands, for their clients” (p.21, emphasis in the original). This accords with the view put by Simmie and Strambach (2006) that the strategic significance of Advanced Business Services stems from their ability to facilitate adaptation by client firms. Put another way, access to these services enables client firms to detect and respond to business threats and opportunities at a much faster pace. In effect, they ‘learn’ more quickly by availing themselves of the networked knowledge brought by these specialised advisers and partners.

The innovation strategy practiced by the US high tech corporation Apple, as described by the Economist newspaper (2007a), clearly exemplifies this process of learning through networking and the use of external experts. The Economist’s (2007a) analysis of why Apple routinely tops polls of the world’s most innovative companies also highlights the sharp contrast between these ‘distributed learning models’ and more traditional or ‘Schumpeterian’ strategies.

"Apple is widely assumed to be an innovator in the tradition of Thomas Edison or Bell Laboratories, locking its engineers away to cook up new ideas and basing products on their moments of inspiration. In fact, its real skill lies in stitching together its own ideas with technologies from outside and then wrapping the results in elegant software and stylish design. The idea for the iPod, for example, was originally dreamt up by a consultant whom Apple hired to run the project. It was assembled by combining off-the-shelf parts with in-house ingredients such as its distinctive, easily used system of controls. And it was designed to work closely with Apple’s iTunes jukebox software, which was also bought in and then overhauled and improved. Apple is, in short, an
orchestrator and integrator of technologies, unafraid to bring in ideas from outside but always adding its own twists. ..... This approach, known as "network innovation", is not limited to electronics. It has also been embraced by companies such as Proctor & Gamble, BT and several drug giants, all of which have realised the power of admitting that not all good ideas start at home. Making network innovation work involves cultivating contacts with start-ups and academic researchers, constantly scouting for new ideas and ensuring that engineers do not fall prey to "not invented here" syndrome, which always values in-house ideas over those from outside." (p. 11)

Further evidence of the emergence of "network innovation" is provided by Howard's (2005) study. Howard's findings are also consistent with observations made above, that the prevalence of organic and distributed models of innovation have weakened the relevance of business R&D spending as an indicator of the propensity for innovation in an economy.

"Historically, strong R&D capability in large industrial enterprises provided a barrier to entry in many manufacturing sectors. However, changes in the way R&D is performed, particularly in relation to information and communication technologies, means that internal R&D capability is no longer regarded in this way. An emerging model of open innovation is becoming apparent where companies source innovation capability externally through acquisition of technologies developed in research organisations and smaller technology-based companies.” (Howard, 2005, Section 4.1)

"This study provides some evidence to support contemporary management research which suggests that larger corporations that use ICT and other enabling technologies in taking new products and services to market are tending now to invest less in internal R&D and more in scouting and acquiring technology through licensing and investments in spin-off companies. Alternatively, they enter into meaningful strategic alliances with small and medium sized companies whose business model is to increase the value of the technology/discovery and sell it on quickly. This trend may be one of the factors that underlies decreases in the measured R&D in the manufacturing sector in recent years.” (ibid, Section 4.1)
Wolpert (2002) shares the view expressed by Myer and Ruggles (2002) that, despite the rhetoric of modern companies, pledging devotion to continuous improvement, many firms struggle to keep up their commitment to innovation. For these firms, the demands of innovation can even be a distraction from the main business model of generating revenue from existing products, and is one of the first areas to be cut when market conditions tighten. Also, many firms do not know what to do with some of their innovation discoveries when these are outside their regular fields of business, or do not fit their strategy or corporate capabilities.

Innovation of any type, even that of an incremental nature inspired by the day to day experiences of the firm, can be a highly complex endeavour requiring a rigorous approach to evaluation and implementation. Carnegie and Butlin (1993) offer the following model of innovation behaviour.

Figure 20   The Innovation Cycle for Products and Services

After Carnegie and Butlin (1993)

In time-poor, competition-exposed firms, many of these steps become obvious candidates for outsourcing to specialists.

Wolpert (2002) also highlights the need for innovation brokers to facilitate transfer of innovations between firms for mutual commercial benefit.
"What we need is to make innovation a natural element of the commerce that takes place among businesses. Finding ways for two or more companies to actively share ideas, technologies and other capabilities early and often is the best way to protect projects from the swings in interest and funding that inevitably occur in individual organisations. If we could find a way to do this without risking the unauthorised appropriation of intellectual property, businesses would be able to more quickly spot and exploit new growth opportunities. The answer lies in a practice that has long been a central element in commerce: the use of independent intermediaries to facilitate the exchange of sensitive information among companies" (p. 80)

Wolpert goes on to say that some management consulting firms (Accenture, Cap Gemini), investment bankers and specialist lawyers are well placed to perform this role. Indeed, they are already involved in this process (see, for example, BCA, 2006).

As noted earlier, both the 1996/97 survey of innovation behaviours in Australian manufacturing undertaken by the Australian Bureau of Statistics (1998) and the more recent Bureau survey of innovation patterns across all industry sectors (Australian Bureau of Statistics, 2005) confirmed much of the commentary in the literature that competitors, customers and front line workers are the primary source of innovation ideas, especially in the more widespread ‘organic’ forms of innovation. However, a somewhat different picture emerged from the surveys regarding the relative importance of internal and external agents when firms were probed regarding how they gained the capacity to follow through with innovations. Internal sources and strategies – for example, redeployment of existing skilled staff, using existing equipment in different ways and undertaking in-house research – were again prominent, but they were not dominant. Interestingly, over a third of the innovating companies surveyed in 1996/97 indicated that they used consultants to gain these capabilities (see Table 17) In the 2003 survey, an even higher proportion of innovating firms were found to use consultants, and this method of gaining the requisite capabilities was only marginally smaller than the most frequently reported strategy of hiring new staff (see Table 18).
Table 17  Implementing Innovations – Australian Manufacturing – 1996/97

<table>
<thead>
<tr>
<th>Method of acquiring innovating capability</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>From within your business group</td>
<td></td>
</tr>
<tr>
<td>Skilled staff</td>
<td>35.5</td>
</tr>
<tr>
<td>Equipment</td>
<td>42.4</td>
</tr>
<tr>
<td>Technical information</td>
<td>43.9</td>
</tr>
<tr>
<td>Research results</td>
<td>31.2</td>
</tr>
<tr>
<td>Rights or licenses of inventions</td>
<td>8.7</td>
</tr>
<tr>
<td>Results of R&amp;D (external)</td>
<td>9.2</td>
</tr>
<tr>
<td>Consultants</td>
<td>34.6</td>
</tr>
<tr>
<td>Take-over of company</td>
<td>4.6</td>
</tr>
<tr>
<td>Equipment</td>
<td>57.2</td>
</tr>
<tr>
<td>Skilled employees</td>
<td>28.1</td>
</tr>
<tr>
<td>Conferences, fairs, exhibitions, journals, publications</td>
<td>55.5</td>
</tr>
</tbody>
</table>


Table 18  Implementing Innovations – All Australian Innovating Businesses – 2003

<table>
<thead>
<tr>
<th>Methods used*</th>
<th>% of innovating firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed new staff</td>
<td>39.9</td>
</tr>
<tr>
<td>Interchange of staff with another business</td>
<td>8</td>
</tr>
<tr>
<td>Used consultants (or other paid advisors)</td>
<td>36.9</td>
</tr>
<tr>
<td>Acquired new equipment or technology for producing this business’s goods or services</td>
<td>34.3</td>
</tr>
<tr>
<td>Merger/takeover with/of another business in whole or in part</td>
<td>4.2</td>
</tr>
<tr>
<td>Other methods to acquire knowledge and abilities</td>
<td>3.2</td>
</tr>
</tbody>
</table>

* Respondents could nominate more than one source

Source: Australian Bureau of Statistics (2005)

This evidence accords with the summation by Kolehmainen (2004) that "knowledge intensive business services (KIBS) have many roles in the innovation system or in the innovation environment. They can act as carriers, facilitators, or even as sources of innovation for their customer companies. Most often KIBS companies affect indirectly their customers’ innovation processes by providing services that enable the customers to carry out their innovative activities” (p 2).

These views regarding the role of Advanced Business Services in innovation are of particular interest in the context of the now rapidly evolving theory of how clusters operate in building competitiveness at the enterprise level. As reported by Berry
(2003), not all writers agree that networking and clusters invariably support innovation. Networking and clustering can reinforce old ways of doing things, blinding firms to leap-frog or radical innovations. Berry cites the slowed performance of the so-called ‘Third Italy’ regions in this regard. These had demonstrated the power of flexible production systems, based on intricate inter-firm collaborations (or, more correctly, associations), but were now struggling to keep up with regions which had dominant mega companies capable of ‘break through’ innovation.

Those networks or clusters which are conservative tend to have relatively few players and are vulnerable to the loss of key agents. Meanwhile, those that are most supportive of innovation are likely to be more open to making fresh connections.

In this context, Advanced Business Services are, in effect, paid ‘collaborators’ or ‘cluster builders’. Their role, by definition, is to transmit innovative thinking, often garnered at the expense of, or in the service of, other firms in the same and related industries. Firms making use of such services may be engaging in networking without even knowing it.

It is noteworthy that in the European Commission (2006) survey on the role of clusters in facilitating innovation (‘Innobarometer 2006’), clustered firms had a higher propensity to engage outside agents in their innovation activities, especially those to do with researching new products and processes (Figure 21). This evidence supports the proposition that Advanced Business Services are key network players, both in terms of occupying a stable and central role in established clusters, and by rendering clusters more open to outside ideas.

Marceau, cited in Berry (2003) alludes to similar inter-enterprise dynamics in her critique that innovation policy in Australia has been too focussed on flagship research activity, rather than supporting the linkages and brokers between the key players (researchers, major corporations and innovative SME’s). Although Marceau does not directly reference Advanced Business Services, it is difficult to imagine how her call for greater emphasis on ‘collective activities’ could be put into practice without extensive involvement by marketers, lawyers, financial analysts and management specialists.
"IB2006" refers to 3,528 companies which, during the 2006 Innobarometer Survey, self identified as (1) working in a ‘cluster like environment’ and (2) introducing innovations in the previous year. This was the first Innobarometer Survey to gather data regarding the presence and effect of clusters.

"IB2004" refers to 4,534 companies which, during the 2004 Innobarometer Survey, reported introducing innovations in the previous year.

(Source European Commission, 2006)

The findings of the Department of Industry Tourism and Resources (DITR) (2006) regarding the nexus between inter-firm collaboration and the degree of novelty achieved in business innovation is noteworthy in this context. DITR analysed Australian Bureau of Statistics data on 2679 businesses that had engaged in some form of (non managerial) innovation over a three year period (2001 – 2003). These innovations were sorted into three categories, namely; frontier or creative innovation which involved products or processes that are new to the world; adaptive innovation which covered relatively minor modifications of goods and services or processes already introduced elsewhere but which are ‘new to Australia’ or ‘new to the industry’; and adoptive innovation which essentially involved copying services and processes already in place amongst competitors.

DITR (2006) found that innovating firms engaging in collaboration had a 17% chance of achieving innovations which are new to the world, whilst non-collaborative firms
carrying out innovation projects had a 10% chance of achieving ‘new to the world’ status. That is, the chances of achieving the highest degree of creativity in the innovation were improved by some 70%. The chances of success in achieving adaptive or ‘new to Australia’ innovation were also boosted by collaboration but to a lesser extent (25%). It was also found that collaboration diversity (range of networking) was significantly more important than the intensity of collaboration in boosting the probability of achieving highly creative innovation outcomes.

Again, whilst the DITR (2006) analysis does not directly comment on the contribution of Advanced Business Services, their established roles as brokerage agents and providers of specialised problem solving skills suggest that they are vital to successful collaborative networking. If so, it follows that they are important to the ‘quality’ of innovation achieved as measured by the DITR novelty scale.

Further circumstantial evidence regarding the contribution of Advanced Business Services to the effectiveness of innovation is found in the work of Houghton and Sheehan (2006). This paper revisits the pioneering Solow-Swan growth model, which showed that technological change and knowledge accumulation were likely to be much more important wealth generators than the simple expansion of the capital stock in an economy or growth in labour supply. Houghton and Sheehan (2006) introduce an R&D knowledge variable into the Solow-Swan model and, in turn, segment this variable into two attributes relating to the efficiency of research, that is, the extent to which the knowledge generated is useful in economic or social terms, and the accessibility of knowledge, or the extent to which R&D outputs are equally accessible to all firms that could make productive use of it. Their analysis shows strong recurring annual income gains from improvements in the efficiency and accessibility of knowledge, across all OECD countries. In the case of Australia, for example, if access and efficiency of R&D were to be improved by 5%, the increased social return on the nation’s US$9.6 billion (2005) investment in research would be some US$492 million per year, assuming that the base social rate of return is 50%. (The authors provide a review of the literature indicating that the social rates of return to private sector R&D range between 10% and 160%, with most of the 10 studies reviewed showing returns in the 50% to 100% range)

Houghton and Sheehan’s (2006) particular area of interest in this econometric analysis relates to the accessibility of research findings undertaken in universities and
specialised institutes. They argue that a move towards open access systems would generate significant multiplier benefits. However, the theory developed in the paper is equally applicable to the role of Advanced Business Services, which, arguably, are dedicated precisely to the task of improving the efficiency and accessibility of knowledge. If Advanced Business Services do perform this widely acknowledged role, it would follow from the Houghton and Sheehan (2006) analysis that those businesses which enjoy better access and efficiency in their acquisition of knowledge by virtue of their interaction with these Services, will similarly enjoy superior rates of growth.

Another clear indicator that Advanced Business Services play a key role in the technology diffusion process, especially within the unbundled value chain environment, rests in the dominance of SME’s within the US innovation system (Berry, 2003). The scale of these firms means they have no choice but to rely on venture capital, design, marketing and legal skills.

There is mounting evidence of a more direct nature regarding the pervasive link between interaction with these services and propensity for innovation.

Price and Blair (1989) show that by the mid 1980’s there was already an awareness of the nexus between certain producer services (principally financial brokerage), the process of business innovation and the trajectory of regional development, albeit that the focus was on ‘new economy’ enterprises. Quoting US evidence compiled by Florida and Kenny (1988), they put the case that

"...venture capital plays a critical role in technological innovation and regional prosperity by providing funds and helping to organise embryonic technology orientated industries. The active nature of venture capital investing has ensured that the industry is relatively 'fixed' spatially, although theoretically it could be footloose. Since venture capital investing is heavily dependent on information-sharing achieved through personalised, informal and localised networks there is a tendency for the firms involved to cluster. ...... There seems to be little doubt that the existence of sources of finance such as venture capital greatly accelerates the pace of technological innovation...” (pp. 198-199)
In an extensive review of the relevant literature, Eraydun and Koroglu (2004) conclude that ..“even the ‘classical services’ can be crucial to support innovative activities. Empirical analysis in the UK electronic and software sector reveals that there is a positive link between frequency of contacts with service providers, such as business consultants, advertising agencies, printing facilities, repair services etc. and innovativeness of firms defined as number of patents” (p. 13).

In their own empirical research regarding the impact of producer service usage on innovation behaviour in client firms, Eraydun and Koroglu (2004) found “a positive relationship between service linkages and innovativeness” amongst 131 firms drawn from three industry clusters in Ankara (machinery and electronics), Bursa (machinery and textiles) and Demizli (textiles) (p. 21). The surveyed firms were grouped into low, medium and high innovation categories based on their involvement in innovation events and activities over the previous 3 years. Only 31% of firms with weak services linkages were adjudged to be in the ‘high innovation’ category, while 69% of firms with extensive services linkages fell into this group. This pattern, of relatively strong innovation behaviour coinciding with relatively strong services engagement, was most pronounced in the Ankara cluster, which was seen by the researchers as operating at the higher value added end of the industrial spectrum compared to the two other clusters.

The findings of Eraydun and Koroglu (2004) align well with those of Muller and Zenker (2001), who focussed particularly on the role and impact of ‘knowledge-intensive business services’ (KIBS). They found SME’s interacting relatively frequently with KIBS had a greater propensity for innovation, other things equal. Almost 77% of SME’s interacting with KIBS introduced innovations in the study period compared to 61% of non-interacting SME’s.

In a similar study, Urbonavicius and Dikcius (2005) conducted interviews with 304 small and medium sized enterprises that had used business consulting services in Lithuania between 1995 and 2004. These services included the preparation of feasibility studies, assistance with the introduction of computerised manufacturing systems, engineering and design studies, market analysis and planning, facilitation of

——— The relative chances of success in the innovations introduced by these two groups is not known.
computerised financial information systems, development planning, business reorganisation and quality management and certification advice. The authors note that the ‘tradition of using the services of business consultants is very limited in transitional economies’ (p. 74). Nevertheless, they found that in the majority of cases there was a strongly positive relationship between receipt of consultancy advice and growth in sales and/or employment. This pattern held for both smaller enterprises (up to 50 employees) and larger businesses (50 – 249 employees). Where reductions in sales and employment occurred, these tended to be associated with feasibility studies and market analysis. Urbonavicius and Dikcius (2005) opine that this may be related to the deferral or discontinuation expansion plans contingent upon adverse findings from these studies.

Simmie and Strambach (2006) also cite input-output analyses8 which have shown a (positive) relationship between the use of KIBS as intermediate inputs and the performance of user sectors.

In its analysis of national innovation systems and how they differ from country to country owing to variations in industry specialisation, market size and institutional arrangements, the OECD (1999) makes clear (as did Carnegie and Butlin in 1993) that R&D driven innovation is but one source of firm ‘innovativeness’. Firms can ‘learn’ and apply this learning in a variety of ways other than formal research, notwithstanding the traditional pre-occupation with this in the literature and policy circles. Importantly, OECD (1999) explicitly identifies ‘knowledge intensive services’ as key innovation agents in modern economies based on unbundled value chain links.

"Innovation requires more than R&D. .....The production of goods and services is becoming more knowledge-intensive but not necessarily more R&D intensive. Many rapidly growing new service activities (e.g. software, venture capital funds etc) employ highly qualified labour and are highly intensive in immaterial investment but not in formal R&D. They belong in the most innovative activities, are based on technological progress (especially in

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In terms of policy implications, OECD (1999) presages the call of Marceau (quoted in Berry, 2003) and others that in the current phase of innovation dynamics, the connections and interactions between the various players in the innovation system should be seen to be of greatest importance, as opposed to individual elements, for example, investment in R&D. The paper bemoans the fact that governments have “used measures aimed at increasing the volume of R&D, without giving enough consideration to improving the effectiveness and efficiency of existing R&D……In practice, many science and technology policies remain piecemeal, with insufficient attention given to fostering interactions and spillovers at national and international levels” (p. 63).

A similar sentiment is expressed by BCA (2006), which argues that Australian Government policy is fixated with fostering formal R&D and its commercialisation, and is ‘missing the main game’ regarding strategies to unlock the nation’s innovation potential.

"Instead of 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 focussed on business R&D expenditure, and in particular Australia’s low 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.” (p. 4)

In this context, OECD (1999) further acknowledges the importance of business services in the innovation process...

"Technology policy has paid insufficient attention to the growth and needs of the knowledge intensive services sectors. In the OECD area, two thirds of production and 70% of jobs are in services, where the nature of innovation is..."
somewhat different than in manufacturing. It is less driven by direct R&D expenditure and more dependent on acquired technology, organisational change and the quality of human resources......(p. 65)

More specifically in respect of the role of Advanced Business Services in product innovation, OECD (1999) notes...

"Strategic research and technology development alliances among firms are multiplying as R&D costs increase and no single enterprise, no matter how large, has all the necessary knowledge and expertise in-house or within its home country. Firms rely more on their relations with suppliers, customers and even competitors for complementary competencies in the innovation process. And importantly, manufacturing firms are increasingly interacting with knowledge based services” (p65)

Since these contributions from the OECD, the call from researchers and policy commentators for a nuanced, system-wide understanding of innovation in a world of unbundled value chains or ‘networked production’, where specialist problem solving services play a strategic role, has steadily grown stronger. For example, Simmie and Strambach (2006) emphasise that “innovation is not just a technological and economic process. It is also a complex social, political and geographic process. It is highly dependent on new knowledge and the ways in which individuals and groups exchange that knowledge. Innovation is highly dependent on interactive learning systems...and...KIBS are at the heart of interactive learning systems” (p 27). Similar overarching comments on how Advanced Business Services contribute to corporate and national competitiveness are made by Howells (2006).

The literature reviewed thus far has highlighted the important and seemingly growing role of Advanced Business Services in the innovation process. The review now turns to the question of what this growing role might mean for the spatial dimensions of innovation. The starting point in this discussion is to understand the geography of Advanced Business Services in Australia.
Spatial Distribution of Advanced Business Services in Australia

The following analysis relies mainly on the Australian Bureau of Statistics Census data introduced in Chapter 1. Reference is also made to the Bureau’s Business Register to assess the size distribution and selected trading characteristics of Advanced Business Services firms. As noted in that Chapter, the caveat on the use of this Bureau of Statistics information is that it encompasses a wider group than genuinely ‘advanced’ business services.

Figure 22 provides an overview of Australia’s political geography, for reference in the discussion below.

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Figure 22  Australia – State Boundaries, Settlement Pattern and Estimated Resident Population of Capital Cities (2006\(^9\))

\(^9\) Source, Australian Bureau of Statistics 3218.0 - Regional Population Growth, Australia, 2005-06 Released 27/02/2007
Metropolitan Focus

Echoing some of the conclusions drawn by Malecki (1984) and Florida (2000, 2002), the Australian statistics show that delivery of Advanced Business Services (as defined in Chapter 1) is an overwhelmingly metropolitan function. In 2001, more than 8 in 10 jobs in this sector were found in the nation’s six State and two Territory capital cities. Moreover, this pattern appears to be well established and stable. Some 429,000 jobs were added in the sector between 1986 and 2006; eighty percent of these were created in the metropolitan areas (Table 19).

Table 19  Advanced Business Services Employment – Metropolitan and Non-Metropolitan Australia – 1986 – 2006

<table>
<thead>
<tr>
<th>Year</th>
<th>Advanced Business Services</th>
<th>Metropolitan</th>
<th>Non Metropolitan</th>
<th>Total</th>
<th>% metro</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td></td>
<td>353,217</td>
<td>83,980</td>
<td>437,197</td>
<td>80.79%</td>
</tr>
<tr>
<td></td>
<td>All Employment</td>
<td>4,285,949</td>
<td>2,217,915</td>
<td>6,503,864</td>
<td>65.90%</td>
</tr>
<tr>
<td>1991</td>
<td>Advanced Business Services</td>
<td>410,566</td>
<td>110,040</td>
<td>520,606</td>
<td>78.86%</td>
</tr>
<tr>
<td></td>
<td>All Employment</td>
<td>4,624,753</td>
<td>2,460,976</td>
<td>7,085,729</td>
<td>65.27%</td>
</tr>
<tr>
<td>1996</td>
<td>Advanced Business Services</td>
<td>537,412</td>
<td>137,528</td>
<td>674,940</td>
<td>79.62%</td>
</tr>
<tr>
<td></td>
<td>All Employment</td>
<td>4,995,952</td>
<td>2,638,787</td>
<td>7,634,739</td>
<td>65.44%</td>
</tr>
<tr>
<td>2001</td>
<td>Advanced Business Services</td>
<td>638,028</td>
<td>155,803</td>
<td>793,831</td>
<td>80.37%</td>
</tr>
<tr>
<td></td>
<td>All Employment</td>
<td>5,466,274</td>
<td>2,831,128</td>
<td>8,297,402</td>
<td>65.88%</td>
</tr>
<tr>
<td>2006</td>
<td>Advanced Business Services</td>
<td>694,254</td>
<td>171,882</td>
<td>866,136</td>
<td>80.16%</td>
</tr>
<tr>
<td></td>
<td>All Employment</td>
<td>6,000,405</td>
<td>3,103,782</td>
<td>9,104,187</td>
<td>65.91%</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census, special tabulations.

State and Territory Shares

Based on State location quotients (LQ’s) for Advanced Business Services, that is, the percentage of the State or Territory work force engaged in these services divided by the percentage of the Australian work force employed in this sector, it is evident that NSW and Victoria are the key providers of these services in the nation. They retained positive LQ’s of between 1.05 and 1.12 during the 1986 – 2006 period, and to the extent that any trend is emerging, the other States and Territories appear to be making little headway on this index (Figure 23).

The ACT, housing Canberra, the nation’s capital, maintains exceptionally high LQ’s for Advanced Business Services. This is a reflection of its specialised economy which...
demands extensive expertise in IT, public policy and management consultancy and human resources planning and recruitment. In absolute terms, however, the ACT remains a relatively small player in the national context. Its total employment in Advanced Business Services was 23,300 in 2006, compared to 306,900 for NSW and 235,300 for Victoria.

Considering the observations made above about the metropolitan bias of this sector, the importance of Sydney and Melbourne as dispensers of ‘thinking services’ to the rest of Australia begins to come into focus. A measure of this can be generated by enumerating the difference between the level of Advanced Business Services employment in a given metropolitan area with the level of employment required in this sector to give the metropolitan area in question a LQ of 1.00. The ‘surplus’ of jobs beyond the point where the proportion of workers in business services is in line with the city’s general share of Australian employment can be thought of as ‘export oriented’ jobs; that is, these ‘surplus jobs’ are notionally supported by a customer base beyond the confines of the host metropolitan area.

**Figure 23**  State Location Quotients for Advanced Business Services – Australia 1986 - 2001

Source: Australian Bureau of Statistics Census, special tabulations.
This form of analysis must be treated with caution, as it can only provide very crude indications of the strength of particular sectors across the cities in question. A city returning a LQ of less than 1.00 would be portrayed as having zero exporter firms, which is clearly not necessarily the case. By the same token, counting only ‘surplus’ jobs understates the export propensity in those cities with LQ’s greater than one, as some of the firms making up quotient ‘parity’ will also be involved in exporting. On balance, focusing on the ‘surplus’ to LQ=1 jobs may overstate somewhat the power of centres well endowed with Advanced Business Services, though detailed surveys of export activity would be needed to test this.

Bearing these limitations in mind, Table 20 suggests that Sydney has a dominant role in Advanced Business Service exports. The propensity for exporting amongst sub LQ parity firms would need to be very high indeed to dent this apparent dominance. Sydney hosts almost half the ‘export supported’ jobs in this sector, a proportion well above the city’s share of national employment (21%). Melbourne also holds an outsize share of export jobs in Advanced Business Services compared to share of all jobs (34% versus 19%), but this relationship is somewhat less pronounced than the situation indicated for the NSW capital.

<table>
<thead>
<tr>
<th>Metropolitan Area</th>
<th>Export oriented Advanced Business Service jobs</th>
<th>Share of Advanced Business Services export jobs</th>
<th>Share of all jobs nationally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>63,061</td>
<td>49.78%</td>
<td>20.91%</td>
</tr>
<tr>
<td>Melbourne</td>
<td>43,091</td>
<td>34.02%</td>
<td>18.52%</td>
</tr>
<tr>
<td>Brisbane</td>
<td>8,742</td>
<td>6.90%</td>
<td>9.64%</td>
</tr>
<tr>
<td>Canberra</td>
<td>6,505</td>
<td>5.14%</td>
<td>1.93%</td>
</tr>
<tr>
<td>Perth</td>
<td>5,277</td>
<td>4.17%</td>
<td>7.73%</td>
</tr>
<tr>
<td>Adelaide</td>
<td>net importer</td>
<td>0%</td>
<td>5.59%</td>
</tr>
<tr>
<td>Hobart</td>
<td>net importer</td>
<td>0%</td>
<td>0.98%</td>
</tr>
<tr>
<td>Darwin</td>
<td>net importer</td>
<td>0%</td>
<td>0.60%</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census, special tabulations.

Leaving aside the anomalous case of Canberra, all the other State and Territory capitals are under-represented in ‘export supported’ employment within the Advanced Business Service sector.
Comparing the estimates in Table 20 with the equivalent figures generated from 2001 Census data suggests that while Sydney retained its 50% share of estimated export jobs in Advanced Business Services, Melbourne improved its position the most over this inter-censal period, moving from 28% share of these jobs to 34%. Brisbane held its own (6.9% in 2006 versus 6.1% in 2001), but all the other capitals experienced declining shares. Indeed, Adelaide, Hobart and Darwin slipped into notional ‘net importer status’ whereas they had registered minor surpluses of Advanced Business Service jobs in 2001.

The apparently disadvantaged position of these smaller capitals may be more pronounced than what is evident in this analysis. Some national firms like KPMG, PWC and Ernst and Young, maintain local ‘representative offices’ in the smaller capitals whilst accessing key skills from their core offices on a fly in / fly out basis. All Advanced Business Service jobs counted by the Bureau of Statistics are treated ‘equal’ for the purposes of input to the foregoing LQ analysis. However, a higher proportion of the base count of these jobs for the smaller centres may well be taken up by brokerage functions rather than substantive delivery of knowledge intensive services.

The dominance of the Sydney – Melbourne axis is further underlined when the LQ based export analysis is extended to the various Advanced Business Services sub-sectors. This analysis is shown in Table 21, but with a further filter whereby only sub-sectors featuring more than 500 ‘export supported’ jobs are quoted.
<table>
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<tr>
<th>Sub-Sector</th>
<th>Export jobs &gt; 500</th>
<th>Export jobs &gt; 500</th>
<th>Export jobs &gt; 500</th>
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<td>7815 Business Management Services</td>
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<td>7821 Accounting Services</td>
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Table 22  Estimated Employment within Major Export Oriented Advanced Business Services Sub-Sectors - 2001

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Marcus Spiller  
Page 96  
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As well as reinforcing the overall picture outlined above, Table 21 points to some subtle specialisations across the network of cities. Sydney and Melbourne have much the same coverage of relevant ANZSIC codes, though Sydney appears to be stronger in terms of numbers of jobs in IT consultancy, financial analysis and brokerage, legal services and advertising. For its part, Melbourne appears to have comparative strengths in management consultancy, higher education and scientific research. This may reflect the southern capital’s deeper heritage in manufacturing and biotechnology and its current role as headquarters of Telstra, Australia’s major telecommunications provider. However, comparisons with the situation in 2001 (Table 22) suggest that any such distinctions between the two cities were sharper in the earlier period; the subsequent 5 years saw a convergence in their roles. Of particular note is that during this inter-censal period, Melbourne developed a new export strength within the ‘Financial Asset Broking Services’, perhaps on the back of major investment in that city’s ‘Docklands’ precinct which has attracted several financial institutions, especially in the funds management area. At the same time, Melbourne lost ‘Data Processing’ and ‘Consulting Engineering Services’ as export strengths, possibly because the resource rich States became more self-sufficient in these areas. Sydney also lost these two sub-sectors as Advanced Business Service exporters between 2001 and 2006, but it gained an important strength in ‘Business and Professional Service Associations’, signifying a boost to the city’s profile as an ideas agent.

A number of the other capitals are shown to be inter-regional exporters of higher education services in both Table 21 and Table 22, though this fell off the list of strengths for Brisbane in 2006. As a largely Commonwealth function, the smaller States and Territories may well enjoy a funding advantage in this area of ‘business services’ because of the fiscal equalisation principles that underpin the federation (see Garnaut and Fitzgerald, 2002).

Brisbane and Perth were major exporters of Consulting Engineering Services in 2001, significantly larger indeed than either Sydney or Melbourne. They subsequently consolidated their position. By 2006, these were the only two cities which counted
Consulting Engineering Services amongst their service exporters, reflecting, as noted, the resource base of the wider Queensland and WA economies\textsuperscript{10}.

In both 2001 and 2006, Adelaide, Hobart and Darwin did not register in terms of significant sub-sectors of Advanced Business Services, with the exception of higher education in the case of Adelaide.

It is interesting to note that the apparent dominance of Sydney and Melbourne in higher order business services coincides with the dominance of NSW and Victoria in total innovation expenditure within the manufacturing sector as estimated by the Australian Bureau of Statistics (1998). These two states accounted for over 70\% of ‘technological innovation’ effort within manufacturing during 1996/97, measured in gross outlays.

Distribution of Export Oriented Business Services Activity within Sydney and Melbourne

The pattern of strong spatial concentration of Advanced Business Services at the national level, highlighting the dominance of Sydney and Melbourne, is more than matched by the pattern of spatial concentration \textit{within} these metropolitan areas.

The distribution of export generated jobs in Advanced Business Services in these cities is shown in Figure 24 and Figure 25. The ‘export generated’ jobs in these figures have been estimated as each Statistical Local Area’s (SLA’s\textsuperscript{11}) surplus of Advanced Business Service employment compared to the stock of such jobs it would have assuming application of the metropolitan wide representation of this type of employment in the workforce. Accordingly, the cautions discussed earlier regarding the application of LQ analysis to this end must be borne in mind. This analysis does not purport to accurately map the location of Advanced Business Services within the two metropolitan areas in question; rather, it provides insights to locational

\textsuperscript{10} Western Australia and Queensland together account for approximately 55\% of Australia’s merchandise exports, dominated by mineral resources (Australian Bureau of Statistics, Catalogue # 5368.0, May 2007)

\textsuperscript{11} A Statistical Local Area is a standard geographic unit for data reporting used by the Australian Bureau of Statistics. In metropolitan areas, SLA’s broadly align with recognised ‘suburb’ boundaries. SLA’s typically have resident populations of 10,000 to 20,000.
preferences within the sector. Each dot in the maps represents 100 ‘export jobs’ in Advanced Business Services. These dots have been randomly distributed within their host SLA to provide an impression of spatial distribution. The maps are therefore schematic and are only useful when presented at a large scale.

The vast majority of export oriented Advanced Business Services jobs in metropolitan Sydney appear to be located within the CBD, North Sydney and areas within 5 kilometres of the GPO. There is also a spur of this export activity extending north and northwest of the CBD – forming part of Sydney’s so called ‘Global Arc’ (NSW Government, 2005). The Arc stretches from the international airport in the south to Macquarie Park in the North West. The main office locations outside the CBD and North Sydney are St Leonards, Chatswood and Macquarie Park in Ryde. Notably, however, there is seemingly negligible concentration of Advanced Business Services in areas beyond 10 kilometres of the city centre.

A similar, but less extreme, pattern of domination by the urban core is apparent in Melbourne’s case. The 5 kilometre radius zone again accounts for most of the business services exporting activity measured through LQ analysis, though reasonable concentrations of this activity are also found in the Kew / Hawthorn area (between 5 and 10 kilometres east from the city centre) and a radial corridor including Monash University, which extends almost 20 kilometres south east from the Melbourne CBD.
Figure 24  Export Generated Advanced Business Service Jobs – Sydney Metropolitan Area – 2001
Notwithstanding the limitations of the Australian Bureau of Statistics data and LQ analysis, the evidence discussed in the foregoing pages points to a strong tendency for Advanced Business Services to centralise into a small number of distribution points in Australia, with Sydney and Melbourne likely to hold dominant positions\(^\text{12}\). Moreover, this propensity for centralisation is reflected within the metropolitan regions themselves, with high accessibility / high amenity inner city locations attracting the greatest concentrations of Advanced Business Service firms.

\(^{12}\) There is a possibility that due to regulatory constraints, the tendency for centralisation in Advanced Business Services observed in these pages may \textit{understate} the actual situation. Some Advanced Business Services are subject to licensing and other regulatory restrictions which effectively require them to hold a local presence. The fact that some jurisdictions require local registration of barristers is a case in point. Under these circumstances, some of the smaller cities may retain a greater quota of such Services than might apply in a ‘free market.’ This said, it should also be acknowledged that the thrust of regulatory reform in Australia since the mid 1980’s, particularly under the auspices of National Competition Policy, has been on reducing the barriers to professional licensing and easing or eliminating constraints on inter-state trade.
As discussed earlier in this Chapter, Advanced Business Services play a sophisticated and highly strategic role in the innovation process, and this role appears to be gathering potency as value chains become more unbundled in a global trading environment. Yet, intuitively, many aspects of doing business in these services hark back to ‘primitive’ models of commerce, where success is dependent upon trust based relationships, social networks and mastery of place specific customs and rituals. If true, this suggests that Advanced Business Services are most comfortable in, and have their greatest impact in, the local spatial domain. The implication is that the innovation catalyst effect of these Services may be subject to rapid ‘distance deterioration’. The subsequent implication is that if Advanced Business Services are spatially concentrated, as has been observed above, the propensity for innovation will also be spatially biased to a significant degree.

Theory and evidence regarding the hypothesised ‘social’ nature of Advanced Business Services is reviewed below.

Advanced Business Services and the Geography of Innovation

The proposition that the innovation impact of Advanced Business Services might be significantly stronger when transacted through localised and face to face contacts is certainly not without controversy. Sassen (2000) concluded that high end business services can be effectively delivered to any client on the globe (see below). Tracey, Clark and Lawton Smith (2002) argue location and localism are vastly over-rated as keys to innovative regions. Their critique draws on a 3 part segmentation of individual and firm based learning behaviours; ‘single-loop’, where the affected enterprise simply reacts in a one-off fashion to external pressures; ‘double-loop’, where the enterprise progressively adapts its behaviour to these external stimuli; and ‘triple-loop’ where the enterprise understands its position within the wider system of firms, objectively analyses knowledge flows within this system and exploits this understanding for commercial gain.

According to Tracey et al (2002), reliance on tacit (localised) knowledge confines the company to double-loop learning, and this type of learning is ‘always incremental rather than developmental’. Once an organisation is able to step outside this limited learning process, it will be capable of conceptualising ‘strategic leap’ innovations, and,
moreover, see the potential for strategic alliances to bring these innovations to fruition. Tracey et al (2002) suggest that Europe trails the US in terms of these learning cultures and this explains American superiority within the Information and Knowledge Economy (IKE).

They further contend that geographic clustering itself is not the crucial factor in innovative regions like Silicon Valley, but rather the learning behaviours and institutions, which need not be geographically defined.

"...we are less convinced that the knowledge economy is essentially a geographical phenomenon than we are convinced that the knowledge economy is a distinctive form of learning utilising intellectual capital in mutually reinforcing institutional environments.....

More important than regions, we would argue, is a better understanding of cognitive capacity, decision-making, and how and why knowledge is so essential to the IKE...In this respect, we argue for a shift in focus from tacit knowledge (the presumed engine of innovation) to the ways in which knowledge is formalised, revised and adapted to changing circumstances.” (p. 30)

Tracey et al (2002) propose that the appropriate forms of learning can be developed in comparatively lagging regions by building connections to leading enterprises whether these are ‘local’ or not – by becoming part of globally elongated value chains - implying that neighbourhood or regional interactions are not as important as the majority of the literature might suggest. They say that the existence of successful clusters in Silicon Valley and Route 128/495 constitutes no evidence of the power of propinquity in innovation, because the proponents of this view have not been able to demonstrate that this cluster is the cause, as opposed to the effect, of innovative behaviour.

The arguments put forward by Tracey et al (2002) accord with the observations made by Berry (2003) that some business clusters can become inward looking and conservative, rendering constituent businesses less competitive. Nevertheless, a weakness in the Tracey et al (2002) hypothesis, especially in the context of the current thesis, is that they overlook the possibility that Advanced Business Services
play a key role in assisting client enterprises to become engaged in ‘triple loop learning’, and that such engagement is likely to be driven through social networks and the power of face-to-face communication.

While geographers and planners have long asserted the potency of face to face business interaction in locational behaviour, it is only in recent times that theoretical frameworks to explain this force have begun to crystallise.

Thrift (1997) approaches this issue by reference to the rise of ‘Soft Capitalism’. He analyses this phenomenon in terms of shifts in management theory; shifts which, more or less, can be related to two ‘iconic’ events – the demise of the Bretton Woods system of international monetary regulation, and the fall of the Berlin wall. Broadly speaking, the form of capitalism which prevailed in the minds of the managerialist class prior to these events was stable, ‘knowable’ and given to optimisation through ‘technological’ or military style strategies and tactics. Thrift (1997) refers to this period as one in which...

"...striated spaces abounded; the buttoned-down personality of the company man for one; the enclosed, hierarchical world of the multidivisional corporation, with its monolithic goals of achieving ever-greater size and scale by means of a single corporate strategy realised through a relatively static and formal bureaucratic inner core which passed information upwards from an ‘external’ environment and control slowly downwards from a closed-off headquarters for another. Then there were the rigidities that resulted from rules of nation states, like fixed exchange rates, high tariff barriers and so on. And finally, orchestrating the whole, was the idea of a management ‘science’ which would be able to produce the cognitive wherewithal to predict and thereby control the world. At least in the rhetoric of the time, then, the world was an organised place, made up of carefully closed-off spaces which could be rationally appropriated and controlled." (p. 11, draft chapter)

Subsequent movements in management thinking have focussed on notions of ‘adaptive’ and ‘learning’ enterprises which are led with ‘soft hands’ and positioned to cope with rapidly changing environments and business opportunities. Many commentators relate this thinking to the phenomenon of ‘globalisation’ and, in particular, to the uncertainties created by intensified competition. Thrift’s (1997)
Talent Quest: Advanced Business Services and the Geography of Innovation

insight is that this shift in management models owed at least as much to the greater engagement between management practitioners and epistemological academics, through the proliferation of MBA courses and the like, as it did to any apparent sea change in the competitive environment. The idea that there is no one true, 'objective' knowledge amenable to scientific exploration and documentation, but rather many, equally valid 'knowledges' which can be mediated through a variety of means, including emotional expression and social networks, came straight from the philosophy class.

In terms of management practice, this once revolutionary but now widely accepted view, pointed to vast new sources of productivity improvement. It was understood that intuitive and instinctive business initiatives could often be more effective than carefully considered plans, simply because the corporation could move faster, readjust if necessary and learn in the process, while the lumbering, bureaucracy-bound organisation became a sitting target for the competition. Similarly, managers learnt that the creative talent of staff is a potentially limitless font of innovation that can only be tapped if the emotional, social and political (values) conditions in an organisation are right.

This nexus between diverse cognitive capabilities in the workforce and the market place generally underpins the prominence of 'tacit knowledge' in contemporary management theory, notwithstanding the critique of Tracey et al (2002). Thrift (1997) defines 'tacit knowledge' by reference to Polanyi’s (1967) elegant words; "we can know more than we can tell”\(^\text{13}\). Baum et al (2007) highlight the difference between 'codified' and 'tacit' knowledge, in particular, that the former can be readily transmitted (and learnt) over large distances through modern information and communication technologies, whereas the latter can only really be learnt 'in place'.

A crucial facet of tacit knowledge in the context of this thesis is that it tends to be spatially rooted and localised, largely because it is driven by personal interaction and community structure. As Thrift (1997) puts it, "soft capital, though global in character, will be strongly oriented to the local” (p. 18, draft chapter).

One might expect that the more an enterprise is dependent on intellectual insight, the more it will crave the streams and networks of tacit knowledge. This is a powerful concept in explaining the apparently relentless concentration of Advanced Business Services in relatively few places, notwithstanding astonishing falls in the cost and price of transporting goods and codified knowledge (see below). Moreover, if tacit knowledge is a crucial determinant of productivity for such firms and therefore an important agent binding them to particular places, it would follow that the clients of these services will similarly enjoy a superior productivity outcome if they are in the same geographic space; that is, a space that sustains the relevant personal networks and social encounters, as opposed to a space that is accessed electronically or through the occasional flying visit.

In their analysis of the persistence and, indeed, gathering strength of agglomeration economies in the face of rapid declines in transportation costs for people, goods and ideas, Storper and Venables (2002) develop a formal theory to explain why face to face (‘F2F’ to use their summary term) contact provides agglomerating firms with major competitive advantages. They argue that F2F is a highly efficient ‘technology of communication’, allowing forms of ideas transmission and receipt which are simply not possible through electronic and other means of remote communication.

Storper and Venables (2002) further argue that F2F contact is a virtually non-substitutable means by which potential partners in a knowledge project (e.g. a business plan, a new investment etc) can overcome co-ordination problems in the presence of informational and risk uncertainty, and by which they can control for ‘free-riders’ in such joint ventures. That is, F2F dealings can, in some circumstances, overcome Coase’s (1937) and Williamson’s (1975) potentially prohibitive transactional costs relating to incomplete contracting and opportunistic behaviours.

Finally, Storper and Venables (2002) hold that F2F interaction is a key element in the socialisation process by which economic agents can screen potential partners and form co-operative groups which will exchange commercially valuable tacit knowledge at relatively low cost.

These advantages of F2F contact “make possible joint projects that otherwise would not take place or that would be hampered in important ways” (p. 29).
This is a vital insight because it suggests that the quality of the contact between an Advanced Business Service and a client will suffer in terms of knowledge exchange and innovation if the contact is primarily transacted remotely rather than F2F. It accords with the observation by Howells (2006) that “consultancy inputs were most likely to exert an innovative effect when there is close and continuous interactions of client and consultant expertise” (p. 12). These contributions point to a significant distance deterioration effect in the innovation boosting role of Advanced Business Services.

Storper and Venables (2002) further argue that in some cities and in some sectors (for example, fashion, design, culture, science and technology based industries, banking and finance) the advantages of F2F communication can be multiplied or intensified through both informal and planned networks so that, in their words, a ‘buzz’ develops.

“Buzz is more than the circulation of information in F2F networks. It results from the externalities of organised F2F processes. Buzz allows people in and around networks to know what is happening; it socializes individuals to allow them to signal so that others will admit them to intentional face-to-face contacts; and it attracts able individuals to places where they are likely to pick up on signals that allow them to get into unplanned but valuable contacts by ‘rubbing elbows’. Thus, buzz is a superadditive form of information circulation, generating increasing returns to people who are in the buzz, and for the agglomerations in which they work.” (p 31)

Interestingly, Storper and Venables (2002) claim that the ‘Buzz Cities’ are not necessarily large, as suggested by university towns and industrial clusters found in many European small and medium sized cities. While this observation may hold some encouragement for the smaller centres in Australia to achieve a degree of self-sufficiency in at least some forms of Advanced Business Services, the vastly different settlement pattern in Australia versus Europe needs to be borne in mind. Much of Europe can be thought of as a ‘networked metropolis’, featuring a ‘carpet of nodes’, whereas space continues to be more of an inhibitor of F2F contact in Australia (see Hall and Pain, 2006).
Storper and Venables (2002) also restate the traditional theories explaining agglomeration. These are arranged under three categories. The first relates to capturing improved efficiencies in the operation of backward and forward linkages of firms, including access to markets. The second concerns the clustering of workers making it easier for both employees and firms to generate optimal labour contracts. Finally, agglomeration is driven by the localised interactions that promote technological innovation (the ‘Marshallian’ or ‘Jacobsian’ notion of innovation being ‘in the air’ – see Berry, 2003).

According to Storper and Venables (2002) many of these factors may be prone to technological solutions (transactions of the Internet, cheaper travel etc), but the power of F2F contact in agglomeration is becoming stronger.

At least one influential business commentator concurs with the Storper and Venables (2002) analysis. MasterCard Worldwide (2007) opine that:

> "As a result, global firms and global markets increasingly demand (and increasingly outsource) specialised legal, accounting, consulting and other related capabilities. These service firms in turn thrive in cities which offer complex and diverse environments that function as knowledge centres, with dense networks linking other specialised firms and highly skilled professionals with worldwide experience…[Market intelligence to execute major international deals] cannot be gotten from any existing databases. Instead it requires the social information loop and the associated expert interpretations and inferences that come with engaging and circulating information among talented, informed people." (p. 11)

Based on evidence reported by Clark (2005), it would seem that the greater the call for customised problem solving and risk assessment in business service delivery, the greater the influence of F2F interaction and social networks in resolving commercial transactions. This, in turn, has significant implications for the spatial dimension of innovation.

Clark is interested in the geography of the finance sector and, in particular, the ways in which this industry manages risk. The research undertaken by Clark and his
collaborators focusses on two segments of the financial sector; currency trading and venture capital, using Boston and London as the principal case study locations.

According to Clark and his collaborators, time zones essentially dictate the geography of currency trading activity. There are three ‘hub’ cities in the world, Tokyo, London and New York. These dominate their respective time zones so that at any given hour, traders around the world have access to a major currency market. There are very few private or small business traders in currency. The vast bulk of transactions are effected by banks and other institutions. The volume of transactions far exceeds the practical requirements of commodities, merchandise and services trade in a phenomenon which Clark asserts “has defied rational economic analysis”14. Money is made by moving large quantities of currency, via a series of small ‘bite size’ trades around the world to exploit marginal differences in daily or hourly comparative value. The risks in this process are considerable, relating to the volatility of particular currencies and the reading of market trends, as the multiplicity of trades leads to ever changing ‘equilibria’ in exchange rates.

The Clark team studied how CS First Boston managed these risks. They found that this is essentially achieved through bureaucratic surveillance and reporting procedures. There is very little ‘trust’ involved. Individual traders are organised into teams with rewards being determined on the basis of group performance rather than efforts of individual members. This is supposed to act as a check on rogue elements or excessive risk taking. CS First Boston has invested heavily in real time IT surveillance so that deals made by individual traders or teams can be monitored independently as they occur. Within the CS First Boston trading strategy, ‘abstract’ techniques, that is, maths and modelling, play an important part in calibrating and managing risks.

The venture capital sector confronts significantly different risks relating to the business cases of the fledgling enterprises or technologies under consideration. For start ups or early stage deals, the areas of uncertainty include the reliability of the technology, the scope and size of the potential market, the behaviour of competitors, the business acumen of the innovators in question, the availability of a reliable distribution network for the product or service and the ability to find additional equity

14 Oral presentation, University of Melbourne, August 16, 2005
partners, to name just a few. These risks are generally difficult to quantify; ‘evidence based pricing’ rarely occurs. Clark’s investigations indicate that the venture capital sector manages such risks through social networks, relationships and trust. Participants gauge risk by consulting the experience of trusted advisers. They take on risk but only if it can be diffused amongst a large number of co-venturers (whose stake might be offered in cash or in-kind). Through networks, a sort of ‘collective intelligence’ is brought to bear on the prospects offered by a particular deal. With each successive deal, this intelligence is sharpened and refined, though not in a documented or codified sense. Different members of the network develop ‘a nose’ for the merits of different aspects of the deal, be it to do with technology, business development or financial packaging.

In Clark’s terms, this approach to managing risks in the venture capital sector gives rise to a ‘club’ like approach to organising collaborative evaluation of deals. Entry to such clubs can be highly restrictive (as in the London network, according to Clark) or more open, as typically occurs in North America. Entry rules will never be explicitly stated but will nonetheless be put into effect with consistency and vigour. For example, Clark recounts that it is difficult for women and for people of particular religious beliefs to break into the ‘London club’. The rules of entry also relate to the established traditions and social mores of the location in question. Thus, geography and social capital play a significant part in shaping the character of the venture capital network and how it goes about managing risk. There is a ‘certain way of doing things’ in the City or in Boston which aspirant entrants need to understand and practice. If they are from out of town and their credentials in terms of these norms cannot be readily assessed, their prospects of entry are likely to diminish considerably, perhaps fatally.

Clark’s work supports the proposition that the concentration of knowledge driven business services (which include venture capital and its galaxy of engineering, legal and commercial advisers) in a particular city will greatly improve the potential for sustainable prosperity in that city compared to those cities which are forced to import these services from relatively remote suppliers. In Clark’s analysis, the social network approach to risk management extends all the way backwards in the innovation chain to the originator of the new technology or new business proposition. That is, the merits of the technology and the merits of the proponents are assessed through the same process of F2F contacts and informal, social ‘interrogation’. In
delivering his paper to a Melbourne University audience in 2005, Clark was presented with a hypothetical scenario in which a small engineering company in Inverness, the most northern city of significant size in Scotland, develops a new technology for rust proofing iron at the roughly the same time as an Oxford-based firm makes a similar discovery. In his response, Clark confirmed that the geographically conditioned social network approach to risk management will mean that the Oxford-based firm is much more likely to attract equity and debt capital, even if its essential technology is inferior to that of its Scottish counterpart. He went on to provide an anecdote about London based merchant bankers, venture capitalists and other ‘club members’ not being willing to drive more than an hour out of London (except when on holiday), because, in their view, “it’s difficult to assess deals in these remote locations and in any case ‘there’s nothing to invest in up north anyway’.

Distance deterioration is also relevant from a ‘client side’ perspective. That is, as well as the question of whether Advanced Business Service providers are (as) interested in servicing ‘remote clients’ as opposed to locals, there is also the issue of whether more distant clients would be as receptive to an innovation infusion if they have not had the opportunity to develop the required trust relationships through regular contact. Howard (2005) noted the tendency for national and global ICT companies to expand their capacity to provide business improvement services to manufacturing firms on a contract and consultancy basis, recognising the close and symbiotic relationship between business processes and ICT systems. Moreover, he observes that increasingly, these “companies are seeking to provide services on a partnership basis where consultants are closely involved in the work of a client’s business in an endeavour to achieve productivity and efficiency gains through ICT enabled process, product and supply chain innovation” (Section 3.1). Howard notes, however, that some of the manufacturing client firms interviewed as part of his study were reluctant to give up control (or concede proprietary knowledge) of some of their production systems and business strategies to outsiders under these partnership proposals. Recalling Coase’s (1937) analysis, other things equal, distance and infrequency of contact are likely to dampen the client’s capacity to overcome their reluctance to share vital ‘inside knowledge’ with the business service provider. This remains true even in the context of ICT and management technologies enabling the unprecedented expansion of network production models.
The weight of evidence in the literature aligns with the idea that, in conducting their catalytic role in the innovation process, Advanced Business Services retain a bias in favour of local as opposed to distant clients because of the social nature of their business models. On this basis, the apparent tendency for spatial concentration of high end business services implies a lop-sided pattern of innovation and long-run competitiveness in Australia.

At first sight, this conclusion seems to be at odds with the findings of the 2003 Australian Bureau of Statistics innovation survey, which notes that South Australian firms display a relatively high rate of engagement in innovation (Australian Bureau of Statistics, 2005), notwithstanding the observation made earlier that South Australia is under-represented in Advanced Business Services firms. However, care must be exercised in interpreting the Bureau’s figures. Firstly, as noted by Howells (2006), and remarked upon by Howard (2005), official surveys may not provide a reliable guide to the extent and distribution of innovation activity. They are likely to ignore or under-rate a range of innovation strategies, especially incremental process improvements, management reform and network collaboration, which tend to prevail in the services and manufacturing sectors alike.

Further evidence in this direction is provided by IBM (2006). For the purposes of its global survey of 750 CEO’s, IBM (2006) defined 3 types of innovation, including: ‘business model’ – innovation in the structure and/or financial model of the business; ‘operational’ – innovation that improves the effectiveness and efficiency of core processes and functions; and ‘products/services/markets’ – innovation applied to products or services or “go-to-market” activities (p 11).

IBM (2006) concluded that ‘underperformer’ enterprises tended to give greater priority to innovation in product/services/markets and operations compared to the CEO’s of ‘outperformers’, who had a stronger focus on business model development (Figure 26). As discussed, the latter traditionally escapes measurement in innovation surveys.
More recently, Smith et al (2008) investigated the accuracy of Australian Bureau of Statistics innovation surveys in Tasmania. Typically these surveys have reported that only about one third of firms engage in innovation. However, when Smith et al (2008) carried out a telephone census of all Tasmanian firms employing more than 5 people, they found that two thirds of respondents were innovative when a broader and more appropriate definition of this activity was applied, namely the introduction of any significant change in products, services and business processes.

Secondly, a greater tendency to attempt innovation may be a reflection of structural competitive imperatives rather than successful innovation systems as such. To display innovative behaviour is one thing; to convert these initiatives into competitive advantage through successful partnering and garnering of the delivery resources is another. It is starkly evident from the Howard (2005) study, in particular, that embracing an innovation idea within an enterprise is but one, and in a sense, relatively minor act, in the overall innovation process. A host of supplementary expertise and connections need to be brought to bear if the innovation idea is to yield significant financial rewards.

According to Australian Bureau of Statistics (2005) New Zealand firms have a greater tendency to attempt innovations (42% of enterprises in selected sectors) than their Australian counterparts (40%). Meanwhile, Australia tends to outrank most EU countries on this score (Table 23). These figures are encouraging to an extent, but they do not necessarily point to superior living standards underpinned by leading
innovation performance. It is interesting to observe GDP per capita trends in the UK, Australia and New Zealand benchmarked against the USA. New Zealand appears to be clearly losing ground, while the UK has maintained the margin in per capita income it opened up against Australia during the early 90’s (Figure 27). Similarly, while the UK, Australia and New Zealand were tightly clustered in global rankings of GDP per capita in 1980, New Zealand’s ranking has tended to decline since that period and Australia’s has been more or less static while that of the UK has tended to climb steadily (Table 24). This is so despite the fact that official surveys show Australian firms have 1.5 times the propensity to ‘innovate’ compared to their UK counterparts, and New Zealand firms are supposedly even more innovative. Certainly, there are likely to be many other factors at play in the changing rankings of these three nations. For example, New Zealand’s structural dependence on commodity exports and its relatively small population will have acted as a drag on GDP growth.

Nevertheless, bearing in mind that innovation and technological change are likely to be the main drivers of productivity in advanced economies, the analysis in Figure 27 and Table 24 represents a further caution in accepting official surveys as accurately measuring the incidence and effectiveness of business innovation.

Table 23 Australia, 2001-2003, and European Union, 1998-2001(a)(b), Businesses Innovating, by Selected Industries

<table>
<thead>
<tr>
<th>Country</th>
<th>Total proportion of businesses innovating</th>
<th>Proportion of businesses innovating in industry sector(c)</th>
<th>Proportion of businesses innovating in services sector(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>54</td>
<td>Germany 60</td>
<td>Iceland 53</td>
</tr>
<tr>
<td>Iceland</td>
<td>51</td>
<td>Belgium 59</td>
<td>Portugal 49</td>
</tr>
<tr>
<td>Belgium</td>
<td>50</td>
<td>Netherlands 51</td>
<td>Germany 46</td>
</tr>
<tr>
<td>Ireland</td>
<td>45</td>
<td>Iceland 50</td>
<td>Luxembourg 44</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>48</td>
<td>Denmark 49</td>
<td>Belgium 42</td>
</tr>
<tr>
<td>Portugal</td>
<td>44</td>
<td>Luxembourg 47</td>
<td>Austria 42</td>
</tr>
<tr>
<td>Austria</td>
<td>43</td>
<td>Total EU 44</td>
<td>Ireland 39</td>
</tr>
<tr>
<td>Denmark</td>
<td>42</td>
<td>Austria 44</td>
<td>Australia 39</td>
</tr>
<tr>
<td>Netherlands</td>
<td>42</td>
<td>Finland 43</td>
<td>Finland 37</td>
</tr>
<tr>
<td>Total EU</td>
<td>41</td>
<td>Portugal 42</td>
<td>Netherlands 36</td>
</tr>
<tr>
<td>Finland</td>
<td>40</td>
<td>Sweden 40</td>
<td>Total EU 36</td>
</tr>
<tr>
<td>Sweden</td>
<td>40</td>
<td>France 40</td>
<td>Denmark 34</td>
</tr>
<tr>
<td>France</td>
<td>38</td>
<td>Italy 38</td>
<td>Greece 32</td>
</tr>
<tr>
<td>Italy</td>
<td>35</td>
<td>Spain 37</td>
<td>Norway 30</td>
</tr>
<tr>
<td>Norway</td>
<td>33</td>
<td>Norway 35</td>
<td>France 29</td>
</tr>
<tr>
<td>Spain</td>
<td>32</td>
<td>United Kingdom 32</td>
<td>United Kingdom 26</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>29</td>
<td>Greece 26</td>
<td>Italy 24</td>
</tr>
<tr>
<td>Greece</td>
<td>27</td>
<td>Ireland na</td>
<td>Spain 23</td>
</tr>
<tr>
<td>na not available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Eurostat data refers to the three calendar years ended 2000, except Norway where the data refers to the three calendar years ended 2001.
(c) The industry sector is defined as Statistical Classification of Economic Activities in the European Community (NACE) Sections C to E—see paragraph 15 of the Explanatory Notes.
(d) The services sector is defined as NACE Division 51, Sections I and J, Divisions 72 and 73 and Groups 74.2 and 74.3—see paragraph 15 of the Explanatory Notes.
Figure 27  GDP per Capita Trends – Australia, New Zealand and UK

Source: Stockholm School of Economics (2007) Economic and Social Data Rankings http://dataranking.com
## Table 24  GDP Per Capita at Purchasing Power Parity ($US)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>$3,924</td>
<td>$3,974</td>
<td>$4,236</td>
<td>$4,419</td>
<td>$4,585</td>
<td>$4,719</td>
</tr>
<tr>
<td>Australia</td>
<td>$1,239</td>
<td>$1,272</td>
<td>$1,322</td>
<td>$1,376</td>
<td>$1,438</td>
<td>$1,468</td>
</tr>
<tr>
<td>Israel</td>
<td>$9,196</td>
<td>$12,101</td>
<td>$13,100</td>
<td>$13,900</td>
<td>$14,600</td>
<td>$15,300</td>
</tr>
<tr>
<td>Japan</td>
<td>$1,406</td>
<td>$1,456</td>
<td>$1,506</td>
<td>$1,556</td>
<td>$1,606</td>
<td>$1,656</td>
</tr>
<tr>
<td>Greece</td>
<td>$1,906</td>
<td>$2,376</td>
<td>$2,456</td>
<td>$2,536</td>
<td>$2,616</td>
<td>$2,716</td>
</tr>
<tr>
<td>Cyprus</td>
<td>$2,006</td>
<td>$2,206</td>
<td>$2,406</td>
<td>$2,456</td>
<td>$2,606</td>
<td>$2,706</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$1,206</td>
<td>$1,256</td>
<td>$1,306</td>
<td>$1,356</td>
<td>$1,406</td>
<td>$1,456</td>
</tr>
<tr>
<td>Iceland</td>
<td>$2,006</td>
<td>$2,106</td>
<td>$2,206</td>
<td>$2,306</td>
<td>$2,406</td>
<td>$2,506</td>
</tr>
<tr>
<td>Ireland</td>
<td>$2,006</td>
<td>$2,106</td>
<td>$2,206</td>
<td>$2,306</td>
<td>$2,406</td>
<td>$2,506</td>
</tr>
</tbody>
</table>

Intervening to Re-shape the Geography of Innovation

Assuming for the moment that those regions lacking a significant body of Advanced Business Services may suffer long term inferiority in their competitiveness, what scope is there for public intervention in the geographic distribution of these activities? The literature appears to be divided on this issue. On the one hand there are those writers who broadly support the Sassen (1991) theory of skills agglomeration which would see the ‘inevitable’ concentration of Advanced Business Services into a small number of ‘command and control’ cities. Other analysts contend that matters of urban quality and livability are important in the locational choices of such enterprises and their workers.

Resolution of this issue is of great policy interest. Should lifestyle, liveability and urban amenity be significant drivers of locational behaviours for these strategic services, proactive policies to enliven lagging cities, build up their social and physical infrastructure to support knowledge based activity and clean up the environment – a la the regeneration policies and ‘structural adjustment’ assistance employed in parts of the EU - may well deserve high priority in terms of optimising national economic performance. If, on the other hand, the location of Advanced Business Services is characterised by a kind of inertia, such policies may still be justified but with an entirely different rationale, namely, the institution of redistributive measures to avoid excessive divergence in living standards between leading and lagging regions.

The two schools in the literature are reviewed in the following pages.

Creative Talent – Footloose Maker and Breaker of Regions?

There is a significant body of research and commentary on the strategic importance of ‘creative talent’ in the knowledge economy. In this thesis, the term ‘creative talent’ is broadly aligned with the scope of Advanced Business Services in a labour market sense. More than 4 in 10 workers employed in Advanced Business Services in Australia have Bachelor degrees or higher. Of greater significance is the fact that Advanced Business Services account for one fifth of all employed Australians whose highest qualification is a Bachelor Degree, 30% of all workers holding a Masters
Degree as their highest qualification and over half of all workers with a PhD\textsuperscript{15}. In scoping 'creative talent' in this way, the thesis applies a somewhat more narrow definition of this segment of the labour force than those discussed by Florida (2002) and Berry (2003). Nevertheless, the arguments developed by Florida (2002) and others in respect of the rise of the creative class, its footloose nature and its impact on firm competitiveness can be taken to apply equally, if not more emphatically, to the Advanced Business Services sector which, arguably, houses the most sought after problem solving and design skills in the labour market.

A focus on the links between access to creative talent and regional development began to develop in the 1980’s with growing recognition amongst business analysts that markets for growth exports (services and elaborately transformed manufactures) are not solely driven by cost containment and price advantage. In these writings, the crucial ingredient is product \textit{differentiation}, which is seen to flow from knowledge, design, quality and packaging. These factors, in turn, were seen to be inextricably linked to the creative potential of the workforce (Spiller 1992).

Lucas (1988) arrived at similar conclusions, but having approached the issue from an abstract macroeconomic perspective. In a quest to better explain income level and growth rate differentials across nations, Lucas (1988) revisited neo-classical growth theory as developed by Robert Solow\textsuperscript{16} and others including Edward Denison\textsuperscript{17}. This theory suggests that capital and/or labour will tend to migrate until marginal productivity is equalised, that is, until capital labour ratios are broadly equal and, with them, factor prices. Lucas extended the original Solow/Dennison modelling to allow for what he termed the \textit{‘external effects of human capital’} (p.8). These external effects relate to the fact that human capital can be augmented, without a trade off of current utility, simply as a result of ‘learning by doing’. In developing this theme,
Lucas (1988) may well have been one of the first macro-economic theorists to allude to a strategic role for the 'creative professions' in national GDP performance.

"... we know from ordinary experience that there are group interactions that are central to individual productivity... Most of what we know we learn from other people. We pay tuition to a few of these teachers, either directly or indirectly by accepting lower pay so we can hang around them, but most of it we get for free, and often in ways that are mutual – without a distinction between student and teacher. ... We know this kind of external effect is common to all arts and sciences – the 'creative professions'. All of intellectual history is the history of such effects." (p. 38)

As well as making such observations, Lucas (1988) highlighted the prospect that if the external effects of human capital are powerful enough, capital and labour (and wealth outcomes) may be subject to increasing returns to scale and a centripetal dynamic, in some contrast to the outcomes of the basic neo classical model. Lucas was clearly inspired by the work of Jane Jacobs in coming to this view.

"(Jacob's) emphasis on the role of cities in economic growth stems from the observation that a city, economically, is like the nucleus of an atom: If we postulate only the usual list of economic forces, cities should fly apart. The theory of production contains nothing to hold a city together. A city is simply a collection of factors of production – capital, people and land – and land is always far cheaper outside cities than inside. Why don’t capital and people move outside, combining themselves with cheaper land and thereby increasing profits? Of course, people like to live near shopping and shops need to be located near their customers, but circular considerations of this kind explain only shopping centres, not cities. Cities are centered on wholesale trade and primary producers, and a theory that accounts for their existence has to explain why these producers are apparently choosing high rather than low cost modes of operation.

It seems to me that the ‘force’ we need to postulate to account for the central role of cities in economic life is of exactly the same character as the ‘external human capital’ I have postulated as a force to account for certain features of aggregative development.” (Lucas, 1988 pp 38-39)
Perhaps partly inspired by the work of Lucas, Paul Romer and others of the ‘New Growth Theory’ school, references to what Thrift (1997) subsequently characterised as ‘Soft Capitalism’ began to proliferate in both the formal research literature and the popular press. The decisive competitive factors in this type of economics were development of employee skills, bolstering engineering and research capabilities, upgrading planning and development divisions within corporations, introducing flexible organisational and business systems, and tapping outside talent (Kennedy, 1991).

In parallel with Reich’s (1991) conclusions that workforces were rapidly moving onto a knowledge driven footing as a result of these competitive pressures, Blakely (1991) predicted that knowledge based employment in the US would reach 50% of all jobs by the end of the 20th century, compared to around 2% in 1920. According to Baum et al (2007), management guru Peter Drucker made similar predictions in a 1993 paper.

Writing in a visual arts journal, Gilmour (1990) made the highly insightful observation that ...

*If we are, in fact, moving towards a situation in which value derives from the knowledge embedded in a product rather than the materials it is made of, then creativity and innovation become the primary form of capital. (p 17)*

Commenting on the literature of the 1990’s, Berry (2003) noted the continuation of this regional development theme and its then confident conclusion that ‘two economies’ had emerged within leading market-based nations. One economy, sometimes referred to as ‘old economy’ industries dealt essentially in ‘congealed resources’ plus relatively small quantities of knowledge and behaved in ways generally consistent with the principles and propositions of the neo-classical school of economic theory, that is, price based competition and diminishing returns to scale. These industries could include agriculture, mining, basic (commodified) manufacturing, retailing and other personal services. Alongside this economy, a second world was seen to operate in line with the predictions of the new growth

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theorists. This economy traded in ‘congealed knowledge’ plus small quantities of physical resources, implying industries like telecommunications, information technology and biotechnology.

The idea of a ‘dual economy’ has less resonance with observed market behaviour today, compared to the heady days that preceded the crash of technology stocks in 2001. Indeed, more recent commentators are at pains to emphasise that there is “no such thing as old economy industries, only old economy firms” (p.8, BCA 2006). Rather than seeing innovation and the creation of ‘congealed knowledge’ as the primary province of technology or science based industries, there is now a greater recognition that the application of knowledge and commercial insight is relevant and, indeed, essential across the spectrum of industries. For example, the production of shoes, textiles and garments, once written off as low technology and/or commodified industries that are at the mercy of low wage behemoths like China, continue to generate significant income for some of the wealthiest regions on the globe, including, as cited by Porter (1998), Northern Italy. The reasons reside in the application of concentrated knowledge and experience in design, marketing, enterprise management and orchestration of the unbundled value chain, as well as overtly ‘technological’ advances in fabric development and production methods. As BCA (2006) puts it, innovation is about the “the inspired application of knowledge (old or new) to create additional value” (p. 6, emphasis added).

Thus, the notion that access to creative skills is crucial to corporate and regional competitiveness has continued to gather strength. Richard Florida is the most recent and, perhaps, the most forceful advocate of this proposition. Expanding on themes pioneered by McNulty (1985), Kennedy (1991) and Blakely (1991), Florida (2000) contrasts the types of strategies needed for regional success in the past with those required in the globally competitive economy.

"The key to success in the old economy was simple – costs. In the mass production era, regions established competitive advantage via advantages in natural resource endowments, transportation access, the cost and productivity of physical labour, and by reducing the overall costs of doing business. Driven to reduce costs, firms selected locations that provided low-cost land, cheap or highly productive physical labour, and a cost-conscious business climate. Regional development strategies typically emphasized the use of so-called
business incentives, designed to win over businesses by pushing their costs even lower. The environment and natural amenities were seen as sources of raw materials or as places to dispose wastes. In the new economy, regional advantage comes to places that can quickly mobilize the best people, resources, and capabilities required to turn innovations into new business ideas and commercial products. Leading regions establish competitive advantage through their capabilities. .... For these reasons, the nexus of competitive advantage shifts to those regions that can generate, retain and attract the best talent. This is particularly so since knowledge workers are extremely mobile and the distribution of talent is highly skewed” (p.8).

Accompanying recognition of the paramount importance of talent and creative skills in economic prosperity has been scholarly enquiry into what motivates the creative class and what corporations and regions need to do to capture this advantage. One important issue in this regard is the continuing importance of face to face transactions undertaken in central or strategic locations. It has been known for some time that new communication technologies do not provide a complete answer to accessing creative talent (Moss 1991, Daniels 1991 and O'Connor 1990). Not surprisingly, while rapid suburbanisation of routine or direct client contact functions in Australian, British and American cities occurred during most of the post WWII period, many corporations continued to insist that senior, strategic and key problem solving staff remain in central business areas. Moreover, these corporations were prepared to pay the premium rentals involved to tap the ‘buzz’ remarked upon by Storper and Venables (2002). In their assessment of the strengths and weaknesses of London as a world city in the early 1990’s, Coopers and Lybrand (Kennedy, 1991) recommended active decanting of less vital functions from the central area to make room for activities which can add to, and benefit from, downtown agglomeration economies. Subsequent property market trends in central London confirmed the prescience of the recommendations from Coopers and Lybrand.

As well as a capacity to transact business on a face to face basis, it was recognised that modern ‘talent based’ business required a certain scale in the local labour market. This was a natural outworking of the need to draw inputs from a variety of specialised sources and to develop individual skills. Only relatively large and sophisticated cities, together with their commuting fields, were likely to support the required pool of diverse skills. As evidence of this, Daniels (1991) observed that
‘productivity (value added per worker) for services rose 10% as city size doubled’. As noted, Lucas (1988) also emphasizes the role of urban externalities in building labour productivity, in his seminal treatise on the mechanics of economic development.

While scale is a necessary condition for the attraction and retention of talent, it is not sufficient. A persistent theme from the initiation of this literature has been the need for quality and vibrancy in the living environments on offer. Some 25 years ago, Malecki (1984) observed that;

> An urban environment of some threshold size seems most critical... Generally, an urban milieu with excellent universities, abundant social and cultural activities, and a job market that allows individuals (and spouses) to switch jobs without relocating is the type of place where high tech activities are found. (p. 266)

Blakely (1991) extended such observations to conclude that quite radical shifts are required in planning and urban design practice if regions are to fully capitalise on the move towards knowledge based economies.

> “…lifestyle and creative atmosphere are major locational factors. While lifestyle means different things to different people, there are several important co-incidental ingredients in communities ranging from Seattle to Los Angeles. These factors include relatively easy access to preferred recreational areas, good housing and school choices, cultural diversity and an active community social life. In essence, the community presents a milieu that is attractive for a lifelong experience and not merely for work. The new city will merge those things that modern life has split apart – work, play, shopping, education and leisure. In essence, the physical zoning of the past and the current regulatory systems will be rethought to provide a more homogeneous environment that allows functional rather than territorial discrimination....(However), the notion of planning a city as a social experience rather than to accommodate business activity is not well developed in the professional planning literature.” (p. 232)

As alluded to earlier, Florida (2002) has taken these themes further to a more general theory of regional development based on the attraction and retention of knowledge workers. He argues that workers in this segment of the labour market are footloose
and highly particular about where, and with whom, they are prepared to work. Businesses must either follow the creative talent, or actively transform the local urban environment to appeal to this dominant ‘creative class’. Based on focus group discussions and literature searches Florida (2000) concluded that knowledge workers

"... prefer places with a diverse range of outdoor recreational activities (e.g., rowing, sailing, cycling, rock climbing) and associated lifestyle amenities. Access to water and water-based recreation is of particular importance to these workers. Knowledge workers prefer regions where amenities and activities are easy to get to and available on a 'just in time' basis. Due to the long hours, fast pace, and tight deadlines associated with in high technology industries, knowledge workers require amenities that blend seamlessly with work and can be accessed on demand. They favour cities and regions that offer a wide range of experiences, and are somewhat less concerned with 'big ticket' amenities such as 'high' arts and culture or professional sports. Knowledge workers also express a strong preference for progressive regions that are youth-oriented and supportive of demographic diversity” (p. 6).

Florida, Cushing and Gates (2002) stress demographic diversity as a key feature of regions which are proven talent magnets. Indeed, they make a case that regions which are over-endowed in ‘social capital’, in the sense of homogeneous values and widely shared expectations of community activism in service clubs, churches and so on, may suffer a dampened creative potential. Tolerance and openness to new ideas – often associated with larger, ‘cosmopolitan’ cities – must be present if a place is to register on the radar of the Creative Class.

While Florida (2000) fervently prosecutes the case for talent as the pre-eminent driver of regional economic prosperity, he stresses that a region must also have a ‘thick labour market’ for knowledge workers; that is, an abundance of employment opportunities in high technology sectors. His prescription for sustained regional prosperity includes:

- Making quality of place a central feature of economic development strategies;
- Integrating amenities and natural assets into all aspects of regional economic development, talent attraction, and marketing efforts;
• Investing in outdoor, recreational and lifestyle amenities as a component of regional economic development and talent attraction efforts;
• Developing a comprehensive amenity strategy for university districts and integrating them into economic development strategies;
• Encouraging ‘smart growth’ (the American term for ‘urban consolidation’); and
• Creating mechanisms for harnessing the knowledge and ideas of all citizens at neighbourhood, local, and regional levels, for improving the quality of place around the environment and amenities.

One of the collaborators in the Florida project – Gary Gates (2000) – has proposed that successful application of such ‘place based’ economic development strategies can set up a virtuous circle as shown in Figure 28.

Florida (2000) warns against excessively defensive regional strategies – for example campaigns to retain home grown talent and attract back ‘expat’ knowledge workers. Such strategies fail to understand the dynamism of the new economy and the almost inevitable desire of knowledge workers to move through a range of industries and environments. Rather, local economic planners should accept that there will be substantial ‘churn’ in the high end of the labour market and concentrate on keeping the inflows of skilled labour ahead of the outflows.

**Figure 28  The Virtuous Cycle of Talent Based Regional Development (after Gates, 2000)**
With an Australian policy context in mind, Baum et al (2007) echo this idea that precincts and, indeed, whole cities can be transformed, through deliberate planning and inspired urban design, into places that not only attract creative people but enable them to express this creativity as product and service value. They confidently set out their own ‘recipe’ for the creation of a knowledge precinct.

"The knowledge precinct is recreation intensive – in space and time. It is a space of cafés, bookshops, cinema, nightclubs, restaurants, bars, art galleries, libraries, etc etc. There is no concept of enough. This vibrant culture of stimulation lives day and night. It is 24/7. .....Nature is an integral part of the knowledge precinct. The ideal knowledge precinct has a generous provision of green space and green pathways. Bodies of water (e.g. rivers, streams and lakes) are natural opportunities of particular value. The prime objective of precinct natural place(s) is to provide islands of tranquillity in a space of intense activity. .....Within the knowledge precinct conventional transport is reversed. The model is precinct is well served by a network of pedestrian and cycle paths. It has reliable public transport options. It is, also, however proximate to higher order transport routes (e.g. motorways) that connect it to the wider urban region and, in particular, the metropolitan/city centre. .....The ideal ’look’ of the knowledge precinct is post-modern. By post-modern is understood a style of eclecticism, ready borrowing, and pastiche, all executed with a certain machined or technological exactitude. As one leaves the ’New York’ bookshop and its own coffee bar, passes the Turkish restaurant and hurries up the village high street on the way to the 21st Century technology park, the knowledge precinct offers the stimulus of an array of difference – that is nevertheless familiar” (pp. 4-5)

Baum et al (2007) go on to detail two case studies where long term policy around such themes has successfully delivered a knowledge city (Austin, Texas) or promises to create key precincts in the knowledge economy (One-North, Singapore).

Bound by Golden Chains?

There is, thus, a strong theme in the contemporary regional economics literature that the prime challenge in securing sustained prosperity is the attraction and retention of a substantial corps of creative talent. In Florida’s 2005 book, the 'Flight of the
*Creative Class*, which alludes to the demise of the US as a dominant economic force because of an increasingly negative attitude to immigration and a deteriorating urban lifestyle offer, the mobility factor in creative talent is given even more emphasis. Policy makers and city managers are warned that there is precious little investment inertia in the modern economy and historic sources of competitive advantage cannot be relied upon. “The key factor of the global economy is no longer goods, services, or flows of capital, but competition for people. The ability to attract people is a dynamic and sensitive process. New centres of the global creative economy can emerge quickly; established players can lose position. It’s a wide open game, and the playing field is levelling every day.” (Florida, 2005, p. 16)

But, as noted, the idea of a footloose ‘creative class’ which can determine the rise or fall of regions based on their lifestyle preferences falls well short of consensus in the literature. So does the implied proposition that Advanced Business Services are highly mobile.

Referring to Florida’s *Rise of the Creative Class*, Shea (2004) cites a number of pundits who argue that fundamentals like business costs and regulation are likely to be just as important in driving regional prosperity as urban quality. Some critics take issue with the metrics produced by Florida, claiming that he has confused the outworkings of successful regional economies with the determinants of growth. Other critics - for example, Edward Glaeser, one of the architects of new growth theory - argue that Florida is out of touch with many key workers who, by and large, ‘actually like the suburbs’ (Shea, 2004, paragraph 17). To match Florida’s virtuous trilogy of Technology, Talent and Tolerance, Glaeser contributes ‘Skills, Sun and Sprawl’ as a more accurate framework for explaining regional development.

Rather than focussing on amenity as the principal factor explaining the behaviour and location of producer services, Sassen (1991) sees ‘distributed production systems’ in global trade (unbundling by another name) as driving an overwhelming trend for centralisation of such services into a relatively small number of major cities. According to her thesis, ICT and global trade have enabled decentralisation of manufacturing production sites, but this has strengthened the need for strong command and control functions in corporations, which tend to concentrate in bigger cities. It is these command and control functions that create the greatest demand for advanced services so, these too, tend to concentrate in central locations. The
Talent Quest: Advanced Business Services and the Geography of Innovation

suburban, regional and off-shore production sites are not as big a source of demand for advanced services. As physical production becomes more decentralised, the feasibility of advanced services following these clients becomes more problematic, adding impetus to the default strategy of concentrating into a key centre.

Another important factor according to Sassen is that producer services gain agglomeration benefits by centralising into established ‘command and control’ cities. These benefits obtain mainly from a labour market perspective, and the potential for inter-firm collaborations – something which is critical when services are so specialised. Sassen (2000) writes ...

‘the commonly heard explanation that high level professionals require face to face interactions needs to be refined ...Producer services, unlike other types of services, are not necessarily dependent on spatial proximity to buyers – that is, firms served. Rather, economies occur in such specialised firms when they locate close to others that produce key inputs or whose proximity makes possible joint production of certain service offerings. The accounting firm can service its clients at a distance, but the nature of its service depends on proximity to specialists, lawyers, and programmers. ..... Frequently, what is thought of as face to face communication is actually a production process that requires multiple simultaneous inputs and feedbacks. At the current stage of technical development, having immediate and simultaneous access to the pertinent experts is still the most effective way to operate, especially when dealing with a highly complex product.’ (p. 72)

Baum and O’Connor (2004) also adduce evidence about the tendency of advanced business services to agglomerate in established cities with the required infrastructure and skills, notwithstanding wider trends towards decentralisation or faster population growth in more desirable ‘sunbelt’ locations. They show that Melbourne and Sydney in particular continued to attract a disproportionate share of employment growth in ‘Property and Business Services and Communications’ in the decade to 2001, even though they experienced a fall (in Melbourne’s case) or modest increase (in Sydney’s case) with respect to share of population growth over this period.

Certainly, agglomeration economies in the producer services sector can be very long lived. They can dictate the geography of this economic activity for generations if not
centuries. For example, Price and Blair (1989) reflect on the fact that the City of London built up a complex network of financial, insurance and brokerage institutions as part of its central role in organising nineteenth century world trade. The City emerged as the world’s first ‘truly international centre of finance’, a role which has ‘survived the decline of the empire’.

Such evidence and arguments challenge the idea that a region can redress a creative talent deficiency, or Advanced Business Services shortfall, simply through appropriate investment in urban quality. In fact, far from portraying the ‘creative class’ as footloose and attracted to places with Florida’s ‘three T’s’ (Technology, Tolerance and Talent), Sassen (1991) describes knowledge workers almost as victims, tied to their cities not by lifestyle preference but by the golden chains of their high incomes and their commitment to an international business culture. These cities are characterised by a cosmopolitan vibrancy and, ostensibly, a high quality of life, but, according to Sassen, these features of the urban fabric are merely the outworking of the superior spending power of knowledge workers as opposed to the magnet which attracts and holds such workers. In other words, she sees a different flow of causality to that which motivated writers like Makecki (1984), Blakely (1991) and Florida (2000, 2001).

“They are really not part of the ‘power elite’. They are ultimately a stratum of extremely hard-working people whose alliance to the system leads them to produce far more profit than they get back in their admittedly very high salaries and bonuses. In some ways it could be argued that they engage in self exploitation insofar as they work extremely hard, put in very long hours and ultimately make significantly less money than the stratum of top–level managers and executives...”

“The conjunction of excess earnings and the new cosmopolitan work culture creates a compelling space for new lifestyles and new kinds of economic activities. It is against this background that we need to examine the expansion of the art market and of luxury consumption on a scale that has made them qualitatively different from what they were even fifteen years ago – a privilege of elites. The growth of a stratum of very high income workers has produced not only a physical upgrading of expanding portions of global cities, but also a re-organisation of the consumption structure”.
What is notable is the extent to which a numerically small class of workers imposed such a visible transformation – of the nature of commerce and consumption – on strategic areas of these extremely large cities. This is, I argue, connected to questions of the social reproduction of a strategic but powerless class of workers” (Sassen, 1991, pp 334 – 336)

The tension between the two schools of thought reviewed above may be largely resolved by reference to the degree of specialisation in the business services under consideration. Sassen’s analysis focusses on ‘global city services’, particularly high end financial brokerage and attendant legal advice relevant to mergers and acquisitions amongst true multi-national corporations. As Sassen shows, ready access to sub-contractors is a key factor explaining the concentration and anchoring of these high end services into relatively few centres. She also shows that the dictates of simple central place theory come into play. That is, the global market for these highly specialised services is limited and will only support a small number of service points, which, subsequently, will form on the basis of supply side efficiency (that is, agglomeration economies).

However, the vast bulk of Advanced Business Services lie outside this elite class. These ‘second tier’ services are likely to do the great majority of the innovation diffusion work in local and regional economies, discussed earlier in this Chapter. Whilst ‘command and control’ functions may centralise into a handful of cities, there is no shortage of expressed and latent demand in the suburbs and regions of developed economies for the HR, IT, business consulting, marketing and other knowledge intensive services required for competitiveness in the contemporary environment of greatly unbundled value chains. Arguably, this class of business services is likely to be more footloose and susceptible to the ‘livability’ solutions proposed by Florida and others.

But, even with this ‘sub-elite’ class, the idea that a city or region can boost its capacity for innovation simply by improving its offer of ‘urban quality’ needs to be treated with caution in Australia. These theories are most persuasive in a US context. North America can be thought of as a collection of small nations commanding roughly a quarter of global income and enjoying free trade amongst themselves. In this context, it is conceivable that all but the most remote and poorly endowed towns
might re-position themselves in the race for ‘talent’ and reap the consequential investment multipliers.

Also, as already noted, the free trade and the dense geography of networked cities which characterise the European Union make it plausible that sub-regions in the Union might turn around their economic fortunes by transforming themselves into ‘talent magnets’ through investment in Florida’s ‘three T’s’.

The challenge is likely to be considerably greater outside the big regional economic blocs, particularly in countries like Australia which must overcome the legal, cultural and political facets of ‘distance friction’, as well as extensive travel and freighting times, in reaching potential markets. In this scenario, urban livability is likely to be a necessary but by no means sufficient condition for attracting and maintaining a healthy body of Advanced Business Services.
3 Synthesis and Research Design

This Chapter distils the literature review to establish what is known or broadly agreed about how Advanced Business Services influence innovation outcomes in modern economies. Some key areas where the base of theory and evidence appears to be deficient are also identified. Against this background the Chapter restates the research question underpinning this thesis and explains why its resolution would constitute a significant advance on current knowledge. Finally, a research strategy to address this question is proposed.

Established Directions in the Literature

Three aspects about the behaviour and impact of Advanced Business Services in the innovation process seem clear from research conducted to date. Firstly, these Services appear to be crucial to successful innovation and this role is likely to gather further momentum as value chains become increasingly unbundled. Secondly, Advanced Business Services demonstrate a distinct tendency to concentrate in relatively few urban centres within national economies. Thirdly, these firms represent the archetypical enterprise of ‘soft capitalism’ (Thrift, 1997) where social networks and face to face contact are vital factors in business development. Each of these key findings from the literature is elaborated below.

Advanced Business Services Improve Prospects for Successful Innovation

The notion that effective innovation cannot occur in modern economies without the support of Advanced Business Services emerges from an understanding of how the innovation literature has evolved, rather than from some definitive piece of theory building or research. Accordingly, it is useful to recap and synthesise the literature review set out in Chapter 2.

As discussed, much of the classical literature on business innovation implicitly if not explicitly reflects the (latter day) Schumpeter perspective characterised by the notion of ‘creative destruction’ (see Berry 2003). That is, innovation in market economies
revolves around the periodic introduction of new products or production processes which, more often than not, are derived from fresh knowledge created through scientific enquiry and formal research. These new products and approaches to production ultimately overwhelm competitors and establish a new platform for further innovation.

Business innovation featuring distinctively new products involves a ‘strategic leap’ in the market place, a leap that is readily measurable and open to study. As recorded by Berry (2003), many commentators have examined what it takes to maintain a healthy flow of new knowledge and, perhaps more importantly, to harness this flow and turn it to commercial advantage. Even amongst those writers who recognise that innovation systems vary with cultural and governance characteristics across nations, there are many who focus on the crystallisation of new knowledge in new product offerings.

Recent commentary on the Australian innovation system, and more particularly, the performance and prospects of the Australian manufacturing sector, breaks with this tradition. For example, the Australian Expert Group (cited in Kennedy, 2002) has documented the subtle but highly significant shift in Australian manufacturing since the dismantling of generic protection in the early 80’s. Many of these firms, especially those in the industrial machinery, transport and scientific instruments segments of the sector which have enjoyed relatively strong growth in export markets over the past 20 years, see themselves as providers of ‘solutions’ to customer needs, rather than simply operating as designers, builders and shippers of discrete products. Thus, for example, a manufacturer of specialised industrial equipment is also likely to provide consultancy services on how best to capitalise on this investment, how to train operatives in the use of this machinery and how to monitor performance with a view to improving the next round of equipment purchases. This establishes a mutually beneficial relationship between manufacturer and customer which supports continuous product and service improvement.

These observations regarding the re-invention of Australian manufacturing bring into focus the prospect that a great deal of the innovation occurring in competitive economies is of an ‘organic’ nature, as distinct from the ‘strategic leap’ phenomenon that has historically captivated commentators on the knowledge economy.
Organic innovation is nurtured and supported by business networks. These are expanding as value chains ‘un-bundle’ rapidly under the influence of improved communication technologies, and as they ‘re-bundle’ in regional clusters.

Meanwhile, analysts and policy commentators have revisited the ‘strategic leap’ phenomenon itself. Contemporary interpretations of this process emphasise that it requires much more than quality R&D and an efficient venture capital market. Firms need to be part of ‘learning networks’ that will often stretch out to include a multiplicity of suppliers and customers, and key advisers from within the business services sector. In these interpretations, ‘strategic leap’ innovation is not as sharply differentiated from organic innovations as it might have been in classic texts. For example, Kolehmainen’s (2004) notion of ‘recursive’ innovation is closely aligned with that referred to here as ‘organic’ when he explains...

‘Today innovation is increasingly seen as a ‘circular’ or ‘recursive’ process instead of the old view of innovation merely as ‘commercialised invention based on technological or scientific knowledge’….(This old view)…represents linear innovation thinking, whereas the ‘recursive’ innovation model stresses the versatile feedback mechanisms and interactive relationships involving producers (companies), product users, scientific and technical research, development activities and supporting infrastructure. It is also a model of continuous learning, in which the actors in different arenas learn from each other in interactive innovation processes. This means that many actors are involved in a single innovation process, and it can be triggered by many causes. Therefore both explicit inter-organisational innovation networks and social linkages have become crucially important.’ (p 2)

A similar re-conceptualisation of innovation as a networked and recursive process underpins an analysis by the Economist newspaper (2007b) of the rise and fall of corporate R&D, particularly in the US. The article in question relates an anecdote featuring John Seely Brown, a former director of Xerox’s Palo Alto Research Centre (PARC), once an icon of the American innovation economy, renowned for creating knowledge and patents that would drive several ‘strategic leaps’ in the parent company’s product and service offerings. Brown is quoted as saying.. “When I started out running PARC, I thought 99% of the work was creating the innovation, and then throwing it over the transom for dumb marketers to figure out how to
market it....and now I realise that there is at least as much creativity in finding ways to take the idea to market as coming up with the idea in the first place. I would have spent my time differently had I figured this out early on” (p 71).

The Economist (2007b) also reports that modern technology firms are much less vertically integrated. They approach innovation through quite different strategies to those applied in the first four decades after World War 2. They now use “networks of outsourced suppliers and assemblers, which has led to the splintering of research divisions” (p. 69). American firms spend around $200 billion on R&D annually19, with most of the money going into “making small incremental improvements and getting new ideas to market fast” (p. 70). In short, “old fashioned R&D is losing its ampersand” (p. 69).

Approaching the issue from a broader regional development as opposed to business innovation perspective, Baum et al (2007) identify that contemporary innovation (‘knowledge creation’ in their terms) is now much more likely to be of an organic and networked nature.

“It is customary to think of knowledge as being inspired; in the individual, in an instant, in one place – Eureka! As contemporary knowledge has become more specialised, however, the role of the individual has diminished and the production of knowledge has taken on a more co-operative, social dimension.” (p. 16)

Thus, based on the literature review, three constructs for thinking about innovation can be discerned. These include ‘organic innovation’, ‘Schumpeterian strategic leap’ and ‘contemporary strategic leap’.

Schumpeterian strategic leap and contemporary strategic leap are distinguished, firstly, in terms of the core drivers of innovation. In contemporary accounts, innovation is closely geared toward proven market opportunities. For example, in the Howard Partners case studies of innovating firms, including several engaged in a ‘strategic leap’, it was found that “....developments in technologies are viewed as enablers, but not drivers, of business innovation, whose successful application to

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19 Economist (2007b) p. 70
business production systems is aimed at delivering enhanced value to business customers” (BCA, 2006, p 12). This contrasts with the classical accounts where the technology break-through in question is what sparks the innovation process, creating product possibilities in search of a market (the challenge of ‘commercialising’ research). Secondly, these two notions differ in terms of the scope of the supporting business relationships required to successfully deliver the innovation. Classical analyses focus on a narrow group of transactions, as opposed to the wider opportunities to garner strategic knowledge.

Organic innovation differs from both the strategic leap forms in that it need not involve discrete, patentable knowledge.

Table 25 elaborates on the distinguishing features of these three notions of innovation. They are not mutually exclusive; in the process of organic innovation a firm may stumble across a sufficiently distinctive idea that warrants patent protection and a research and development strategy to capitalise on this intellectual property. Nevertheless, the nature and culture of innovation in the three modes can be seen to be quite different.

Organic and contemporary strategic leap innovation are seen to prosper in a business cluster environment, where firms readily learn from each other through sub contracting and, occasionally, co-marketing initiatives. That is, ‘tacit knowledge’ on new and effective ways of conducting business is gradually built up to the point where a region acquires a robust competitive advantage.

In organic innovation and even contemporary strategic leap innovation, formal links to universities and research institutes are not likely to be of critical importance, at least not in the sense of forming relationships to commercialise intellectual property held within these institutions. However, continuous access to ‘smart’ workers is vital and the ‘old school tie’ networks sourced to particular universities may also be crucial from time to time. In this context, the preoccupation in Australian cluster policy with the creation of highly structured industry and university collaborations may be misplaced. Surveys repeatedly show that linkages between dynamic businesses and universities are weak in Australia (Marceau and Davison 2003, Econsult 1988, BCA 2006). As discussed, this need not signify an innovation ‘deficit’, rather that innovation may be taking a different form; one where policy may be better directed at
facilitating business to business links, and less formal interactions between ‘town and gown’\textsuperscript{20}.

Table 25  
Typology of Innovation Processes

<table>
<thead>
<tr>
<th>Business model / competitive advantage</th>
<th>Organic Innovation</th>
<th>Schumpeterian Strategic Leap Innovation</th>
<th>Contemporary Strategic Leap Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commercial advantage gained from marginal changes to product design, service packaging or value chain management. Innovation may not be a conscious strategy, but rather a culture of business process improvement. Individual initiatives may not warrant the label ‘innovation’, but collectively they signify a business which over a relatively short period ‘reinvents’ itself.</td>
<td>Characterised by the introduction of distinctively new products or production management processes, which either create new markets or substantially shift shares in an existing market. Introduction of these products and processes occurs as a business initiative in its own right, while the host organisations (other than start ups) continue to generate cash flows from current, ‘standard’ products. This form of innovation can be a high risk / high return business strategy. There may be long lead times and considerable risk capital invested between conceptualisation of the innovation and its launch into the market place. This form of innovation is often placed in the hands of specialist management teams, or businesses within businesses.</td>
<td>As per the classical (Schumpeter) formulation</td>
</tr>
</tbody>
</table>

\textsuperscript{20} Certainly, Lambooy (2004) is in no doubt that strategic information can travel in vastly different ways through networks that include universities, depending on the type of innovation being pursued and, indeed, the nature of the inter-personal relationships between the enterprises and institutions involved. After an extended review of these issues, he concludes that ‘how information, tacit and codified knowledge are actually transmitted is not well known’ and calls for much greater research effort into the ‘cognitive’ aspects of technology diffusion.
### Knowledge / Technology Platform

The knowledge base for innovation is likely to be tacit rather than documented and commercially protected. The source of innovation may be observation and replication of best practice in similar or allied businesses. The knowledge platform is ‘open’. ‘Real time’ experimentation with business process improvement likely to be used to hone innovations rather than formal R&D.

The knowledge base for step change innovation is likely to be patented technology. Legal recognition and protection of this knowledge base is vital to induce the heavy up-front investment required for commercialisation. This knowledge base is corporately as well as legally defended. The platform is closed even to firms that are otherwise heavily involved in collaborative networks with the host. A long-term commitment to formal R&D is a key to success.

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### Driver for Innovation

Innovation often undertaken as a low risk / moderate return strategy to keep up with competitors rather than seize outright market superiority. Competitive advantage may be fleeting / short-lived. Businesses must maintain a constant flow of organic innovation to remain competitive.

Opportunity to create a market for products and services enabled by new technology

Opportunity to better respond to demonstrated market demands

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### Inter-Firm Links

Links to universities and research institutes unlikely to be important in fuelling organic innovation. But security of supply of well-trained and experienced knowledge workers likely to be critical. Observation of product design and value chain management ideas through formal and informal collaborative networks between firms will be an important portal for organic innovation. This form of innovation is more likely to be important to SME’s (other than technology based start-ups). Their open, non-bureaucratic structures and their need to forge alliances to gain significant contracts sustain a higher propensity to engage in organic innovation. Advanced Business Services provide a key linkage role to the best practice elsewhere in the industry and allied sectors. Organic innovation is well aligned with ‘cluster models’ of regional development

Ongoing links to universities and research institutes will be vital. Physical proximity to these facilities may be helpful but is not essential. Relevant research may be syndicated to a range of providers distributed globally as well as regionally. Business cluster relationships not likely to be a key factor supporting strategic leap innovation. SME’s unlikely to play a major role, unless they are the inventors of the technology in question. Even then, their lifespan in the innovation process may be limited.

Advanced Business Services likely to play an important but different role. This will be focussed on high level legal and commercial protections for the intellectual property in question. Marketing strategies, involving premium specialists, often play a crucial role in strategic leap innovation.

Links to universities and research institutes are important but are likely to be developed simply on an opportunistic, ‘as required’ basis. Cluster relationships can be important by providing better knowledge of market opportunities. SME’s can be strategic partners, especially in market research and financial / technology brokerage.
While the three notions of innovation differ in many respects, they share one important characteristic; Advanced Business Services are vital to their success. Innovation based on formally protected intellectual property under both the classical and contemporary notions of 'strategic leap', requires extensive involvement by patent attorneys, research institutes, business strategy consultants, financial brokers and design engineers or scientists. Later in the innovation cycle, marketing and business development consultants play a major part as the host firm seeks to maximise the commercial advantage from its break-through product or service offering.

In the case of organic and contemporary strategic leap innovation, Advanced Business Services play a different and/or complementary role. As distinct from devising strategies to trap and optimise the monopoly rent attaching to a new discovery, they become carriers of new ideas between businesses. For example, specialist business analysts engaged to assist a small manufacturing firm with its cost accounting system will, if successful, both deliver this service and put themselves in a position to replicate the strategy, perhaps in a significantly improved way, for the next client.

Camacho and Rodriguez (2004) sum up this strategic role of Advanced Business Services (or KIBS in their preferred terminology) as follows:

'They are innovative in their own right, but unlike high-innovative manufacturing activities, they also facilitate innovation in other industries.....They function as holders of proprietary 'quasi-generic' knowledge, from interactions with customers and the scientific community, and operate as an interface between such knowledge and its tacit counterpart, located in the daily practices of the firm.

..... In short, what the recent theories about service innovation put forward is that KIBS are ever more knowledge-intensive and more innovative. Moreover, as a consequence of the inherent co-production that takes place in their provision, KIBS act as 'bridges' for innovation and knowledge in their client firms, and, in general, as key agents within the innovation systems’ (p. 5)
Thus, the innovation process may be viewed from many angles, but in each of these the literature points to a prominent role for Advanced Business Service firms. As Roberts (2004) declares, “business services have become increasingly recognised as of considerable significance to the competitiveness of enterprises generally and an important factor driving long term growth” (p. 1).

Advanced Business Services are Prone to Spatial Concentration

The location quotient and mapping analyses set out in Chapter 2 provide clear evidence that Sydney and, to a lesser extent, Melbourne dominate as sources of Advanced Business Services for the Australian economy.

The tendency to spatial concentration observed in Australia is highly consistent with trends observed in other advanced economies. For example, in a comprehensive analysis of the distribution of employment in knowledge intensive business services across Europe, Simmie and Strambach (2006) observe strong and persistent patterns of spatial concentration, despite significant differences in the social and economic profiles of the countries in question.

There appears to be a broad consensus in the literature that this tendency towards concentration is driven by supply side agglomeration economies (see Gatrell, 2002). Specialised business services benefit if they operate in a milieu which supports rapid formation of multi-disciplinary teams to meet diverse and unpredictable client needs. They also gain valuable commercial information from such collaborations. As Simmie and Strambach (2006) note..

"One common trend (in the distribution of knowledge intensive business services) is the large interregional disparities and the strong concentration of KIBS in core metropolitan regions. Although European countries have different economic structures and different institutional contexts, the KIBS sector has this same kind of spatial organisation pattern. For knowledge intensive firms that operate in competitive markets, spatial concentration offers significant advantages that are connected with the production and diffusion of knowledge and with individual and collective learning processes. Spatial and socio-cultural proximity make access to information and knowledge easier. The
exchange of implicit knowledge is fostered by the numerous opportunities for personal communication and knowledge spillovers are furthered by spatial proximity.” (p. 33)

In investigating the link between productivity and agglomeration for UK industries, Graham (2006) generates further compelling evidence of powerful production externalities driving the spatial concentration of higher order services. Graham’s analysis relates productivity at the firm level to the ‘relative density’ of the firm’s host ward (of which there are some 10,780 in the UK). The ‘relative density’ index captures both employment concentration within the host ward plus the ward’s access, measured in travel distance or generalised travel cost, to employment in all other wards in the country. Thus agglomeration is appropriately defined in terms of an area’s accessibility to services, labour and other businesses. Graham (2006) found that elasticities with respect to agglomeration measured using simple travel distance were strongest for knowledge intensive forms of services and manufacturing (see Table 26). When travel time and operating costs were taken into account in the agglomeration index, this pattern of relatively strong productivity elasticities for Advanced Business Services was accentuated (Figure 29).
### Table 26  Estimated Elasticities of Productivity with respect to Agglomeration (Graham, 2007)

<table>
<thead>
<tr>
<th>Industry</th>
<th>SIC codes</th>
<th>Elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>SIC 01 to 14</td>
<td>-0.042</td>
</tr>
<tr>
<td>Food manufacturers</td>
<td>SIC 15</td>
<td>0.084**</td>
</tr>
<tr>
<td>Manufacturer of textiles</td>
<td>SIC 17 &amp; 18</td>
<td>0.121</td>
</tr>
<tr>
<td>Manufacturer of wood &amp; wood products</td>
<td>SIC 20</td>
<td>0.069*</td>
</tr>
<tr>
<td>Manufacturer of paper &amp; paper products</td>
<td>SIC 21</td>
<td>0.121</td>
</tr>
<tr>
<td>Publishing &amp; printing</td>
<td>SIC 22</td>
<td>0.105</td>
</tr>
<tr>
<td>Manufacturer of chemicals</td>
<td>SIC 24</td>
<td>-0.008</td>
</tr>
<tr>
<td>Manufacturer of rubber &amp; plastics</td>
<td>SIC 25</td>
<td>-0.155</td>
</tr>
<tr>
<td>Manufacturer of metals &amp; metal products</td>
<td>SIC 27 &amp; 28</td>
<td>0.030</td>
</tr>
<tr>
<td>Manufacturer of office machinery &amp; equipment</td>
<td>SIC 30</td>
<td>0.168</td>
</tr>
<tr>
<td>Manufacturer of radio, TV &amp; communications</td>
<td>SIC 32</td>
<td>0.382**</td>
</tr>
<tr>
<td>Manufacturer of medical &amp; precision equipment</td>
<td>SIC 33</td>
<td>-0.191**</td>
</tr>
<tr>
<td>Manufacturer of motor vehicles</td>
<td>SIC 34 &amp; 35</td>
<td>0.121</td>
</tr>
<tr>
<td>Electricity, gas &amp; water</td>
<td>SIC 40 &amp; 41</td>
<td>0.090</td>
</tr>
<tr>
<td>Construction</td>
<td>SIC 45</td>
<td>0.191**</td>
</tr>
<tr>
<td>Wholesale &amp; retail</td>
<td>SIC 50 to 52</td>
<td>0.041**</td>
</tr>
<tr>
<td>Hotels &amp; restaurants</td>
<td>SIC 55</td>
<td>0.224**</td>
</tr>
<tr>
<td>Transport services</td>
<td>SIC 60 to 63</td>
<td>0.325**</td>
</tr>
<tr>
<td>Post &amp; telecommunication</td>
<td>SIC 64</td>
<td>-0.008</td>
</tr>
<tr>
<td>Finance &amp; insurance</td>
<td>SIC 65 to 67</td>
<td>0.251**</td>
</tr>
<tr>
<td>Real estate</td>
<td>SIC 70</td>
<td>0.084**</td>
</tr>
<tr>
<td>IT services</td>
<td>SIC 72</td>
<td>0.034*</td>
</tr>
<tr>
<td>Business &amp; management consultancy</td>
<td>SIC 7414</td>
<td>0.298**</td>
</tr>
<tr>
<td>Architecture &amp; engineering</td>
<td>SIC 742</td>
<td>0.066**</td>
</tr>
<tr>
<td>Advertising</td>
<td>SIC 744</td>
<td>0.137**</td>
</tr>
<tr>
<td>Labour recruitment / personnel</td>
<td>SIC 745</td>
<td>0.023</td>
</tr>
<tr>
<td>Public admin., education &amp; health</td>
<td>SIC 75 to 90</td>
<td>0.292**</td>
</tr>
<tr>
<td>Media services</td>
<td>SIC 912 &amp; 922</td>
<td>0.222**</td>
</tr>
</tbody>
</table>

** significant at 0.01
* significant at 0.05
Figure 29  Comparison of Effective Density Elasticities Based on Distance (β\text{Ued}) and Generalised Cost (β\text{Ugc}) – Graham, 2007

1. SICs 01 to 14 – Primary industries - agriculture, hunting, forestry, fishing, mining, and extraction
2. SIC 15 - Manufacture of food products and beverages
3. SICs 17 & 18 – Manufacture of textiles, wearing apparel, dyeing and dressing of fur
4. SIC 20 - Manufacture of wood and wood products
5. SIC 21 - Manufacture of pulp, paper and paper products
6. SIC 22 - Publishing, printing and reproduction of recorded media)
7. SIC 24 - Manufacture of chemical and chemical products
8. SIC 25 - Manufacture of rubber and plastic products
9. SICs 27 & 28 - Manufacture of basic metals and fabricated metal products
10. SIC 30 - Manufacture of office machinery and computers
11. SIC 32 - Manufacture of radio, television and communication equipment
12. SIC 33 - Manufacture of medical, precision & optical instruments, watches & clocks
13. SICs 34 & 35 - Manufacture of motor vehicles and transport equipment
14. SICs 40 & 41 - Electricity, gas and water
15. SIC 45 – construction
16. SICs 50, 51 & 52 – Wholesale and retail trades
17. SIC 55 – Hotels and restaurants
18. SICs 60, 61, 62 & 63 – Land, water, air transport and supporting services
19. SIC 64 – Post and telecommunications
20. SICs 65, 66, 67 - Finance & insurance
21. SIC 70 - Real estate activities
22. SIC 72 - Computer and related activities (IT services)
23. SIC 7414 - Business and management consultancy activities
24. SIC 742 - Architecture and engineering activities
25. SIC 744 - Advertising
26. SIC 745 - Labour recruitment and provision of personnel
27. SICs 75 to 90 – Public administration, education, health, & social work
28. SICs 921 & 922 - Motion picture and video activities, radio and television
Advanced Business Services are Driven by ‘Social’ Models of Commerce

In terms of the Porter and Millar value chain (see page 30), Advanced Business Service firms are typically engaged in the more commercially sensitive aspects of production, including hiring key staff, brokering finance and introducing equity partners, creating new marketing campaigns and points of difference versus competitors, designing, packaging or developing new products, auditing business cases for new ventures or acquisitions, assessing legal and other risks, devising cost reduction plans and preparing corporate strategy. Transactions of this nature are inherently difficult to conclude in the absence of trust; that is, trust based on prior contact or recommendation from trusted sources.

In their development of theory to explain the continuing importance of face to face contact in modern business, ICT advances notwithstanding, Storper and Venables (2002) make clear that being part of social networks of the real as opposed to ‘virtual’ kind is a critical risk management tool, both in identifying new business opportunities and in appraising potential partners. This theory is well borne out by Clark’s (2005) case studies of risk management in venture capital sector in Boston and London21.

Warranted Research

While the three propositions outlined above would appear to be broadly supported in the literature, they have largely been developed independently of each other. There is little direct exploration within the existing research of how these characteristics of Advanced Business Services might play out in terms of the ‘spatiality’ of innovation. As noted throughout the discussion of the literature in Chapter 2, the expectation arising from the acknowledged pivotal role of Advanced Business Services in the innovation process and the socially driven modes of conducting commerce in these services, is that their positive influence on local economic development will be subject to a significant distance decay effect. That is to say, effective delivery of these services will weaken with increasing distance from the locus of (service) production simply because it becomes harder, with increasing distance, to maintain the requisite face to face contact and trust based relationships. Bearing such a distance decay

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21 See discussion at pp 102-117)
dynamic in mind, the forces driving the typically observed concentration of Advanced Business Services into relatively few centres within national economies can also be seen to be shaping the geography of innovation. Other things equal, an enterprise which enjoys high quality interaction with Advanced Business Services by virtue of its proximity to those Services will be advantaged in terms of innovation capacity compared to a more remotely located enterprise where the tyranny of distance effectively precludes or dilutes participation in the social networks, customs and protocols required to fully capitalise on the ‘thinking power’ of these Services. This does not mean that the remote enterprise is denied access to the Advanced Business Services. Clearly, in a world of unbundled value chains and low cost data and personnel transfer, extensive access to Services regardless of location can and does occur. However, the volume and quality of access can be expected to be inferior compared to an otherwise similar firm which is located within the innovation milieu held together by Advanced Business Services.

Ultimately, then, the concentration of Advanced Business Services implies a broad ‘bifurcation’ of economies into super-innovative cores, enjoying generally higher incomes and more secure economic prospects, and peripheral or ‘client’ economies which are more vulnerable to shifts in domestic and global market conditions. Considering the pattern of concentration of Advanced Business Services in Chapter 2, the incipient conclusion is that the Sydney-Canberra-Melbourne region potentially represents the super-innovative core of the Australian economy which is better able to sustain high living standards over the long term, notwithstanding that near term cycles and shifts in global trading conditions (for example the recent mineral resources boom) may advantage peripheral or ‘client’ State/Territory economies from time to time.

Regional Variations in the Propensity for Innovation

Whilst an emergent core and periphery in the innovative economy might seem to be the natural outworking of three well established propositions in the literature, it has not been fully tested as a proposition in its own right. Indeed, the general silence on this issue can be seen to give succour to an alternative, and perhaps more conventionally accepted, proposition; that, firstly, the geography of innovating firms is formed independently of the geography of Advanced Business Services and, secondly, Advanced Business Service firms simply travel to where the work is, and
their impact in terms of successful conversion of innovation initiative into competitive
advantage for clients is much the same regardless of location. This default or
alternative position has very different implications for development trajectories of the
constituent regions in a national economy.

There is therefore an important research question to be addressed:

Is the tendency for Advanced Business Services to concentrate in relatively few
centres in advanced economies likely to skew the propensity for innovation in
favour of these host regions?

The foregoing discussion is not to say that the issue of distance deterioration in the
delivery of effective business services has gone unnoticed in the literature. In his
examination of industrial design as a key producer service, O’Connor (1996) notes,
amongst other things, both the increasing trend towards outsourcing of this activity
and its tendency to concentrate in relatively large cities where Sassen-style
agglomeration economies and a creative environment can be enjoyed. Importantly,
O’Connor (1996) also notes the warnings of a number of researchers that the
separation of industrial design from production through outsourcing might actually be
damaging corporate competitiveness and innovation, because of the reduced benefits
that flow from production problem solving and learning by doing. He further
speculates that the outworking of these pressures could be that production firms
(clients) will be induced to move closer to the concentrations of outsourced industrial
design services, presumably to avoid the competitive disadvantage which ongoing
separation would entail. O’Connor (1996) writes:

"The industrial design community could be another element in the creative
environment of the city, contributing to the milieu that is central to the vitality
of these larger centres. If that is so, the potential for service development in
smaller, slower growth or mature industrial regions could be limited. In fact, if
industrial design really needs to be close to its clients, it may be the clients
who locate close to clusters of designers, rather than the other way about.
Looked at another way the service sector could shape the vitality of the
manufacturing sector. .......Knowledge of this link will be important in shaping
of policy to address industrial and regional restructuring needs; the big city
This amounts to a restatement of the hypothesis in the research question set out above. While the issue has been identified in the literature and O’Connor, for one, has proposed a research agenda to gain better resolution of the forces at play, distance decay in service delivery appears to have evaded direct investigation in its own right. Gatrell (2002) comes tantalisingly close to putting this question under the microscope. He investigated the relationship between business services and productivity within the manufacturing sector (and in industry generally) in metropolitan versus non-metropolitan counties in Michigan, using data relating to 1977 – 1997. The prospect of core and periphery economies emerging as a result of variations in business services endowment is raised more pointedly in Gatrell’s work; he concludes that...

"The statewide analysis indicates that the trajectory of urban and rural counties in Michigan differ empirically. The findings support the conclusion that urban areas accrue more localised benefits (increased productivity and wages) from producer services relative to nonurban counties. While it is certainly the case that not all regions can be equally engaged in all economic activities, the findings are important because they indicate that the expanded and deepened spatial division of labor may be widening the gap between metropolitan (core) and nonmetropolitan (periphery) counties. Despite the promise of new technologies, lone eagles, and high fliers and the tendency for industries to decentralise over time, the business-services industry in urban areas continues to benefit from the centripetal forces of agglomeration.” (p. 376)

This finding further highlights the relevance of the above research question. However, Gatrell’s study does not focus on the role of business services in innovation as developed in this thesis. Indeed, his analysis of the relationship between business services and productivity does not distinguish between the contributions of advanced problem solving skills and more routine back office or low value added services such as equipment leasing and building maintenance. Even though it might be inferred from Gatrell’s analysis that non-metropolitan counties face barriers in importing the higher order advisory skills required to boost firm and industry productivity, the study
does not raise the distance decay issue per se, focusing instead on differences in how regional firms use local business services versus their city counterparts.

In their examination of the role of KIBS in innovation within regions in Germany and Great Britain, Simmie and Strambach (2006) reach a similar conclusion to Gatrell, but with their own cautions that the patterns in evidence are not particularly well understood.

"What we can say at the moment is that fast growing city regions are characterised by their high shares in KIBS employment. What makes these cities stand out are their very different economic structures and specialisations. Included among these are cities with a primarily service based economy like London or Hamburg and others like Munich, Stuttgart, Bristol or Manchester for whose urban economy structures manufacturing industry is still important. Economically less successful regions in both countries have relatively small shares in KIBS employment. Among these are Liverpool, Sheffield, Saarbrucken and the east German cities of Chemnitz and Leipzig” (p. 37)

Again the prospect of core and periphery regions governed by relative endowments in Advanced Business Services is raised, implying that those regions lacking a strong capability in these problem solving and ‘learning skills’ suffer structural disadvantage in importing them from regions which have a comparative advantage in these services. However, as noted, Simmie and Strambach (2006) urge more empirical research “to unpack the precise nature of the relationships between KIBS and innovation in specific cities” (p. 37).

As noted earlier, in his more recent writings, Cooke (2008) contemplates the potential for a major shift in the geography of innovation, which would see relatively few ‘platform regions’ across nations and, indeed, the globe. These would dominate new value creation within suites of markets as distinct from the single industry focus of cluster theory as developed through the 80’s and 90’s. This too resonates with the proposition in this thesis that, left to their own devices, post-industrial strategies for value creation and enterprise competitiveness will tend to produce a core and periphery pattern of innovation and regional living standards. However, unlike the hypothesis presented here, Cooke does not directly identify the centralisation
tendencies amongst Advanced Business Services as a key, if not the pre-eminent, force behind this latent bifurcation of advanced economies.

**Intra-metropolitan Issues**

Whilst the research question is primarily of interest because of the implications for the economic development prospects of different regions across the nation, the implications for intra-metropolitan structure are also relevant. Arguably, the unbundling of value chains and the apparently tight concentration of Advanced Business Services into inner city regions of the major Australian metropolises is creating urban economies with sharply differentiated core and suburban economies. Table 27 embodies a series of hypotheses regarding how the different phases of contemporary manufacturing manifest themselves in occupational and metropolitan structure. Under this view, the familiar ‘production’ aspects of manufacturing remain anchored in the suburbs, but this aspect of the value chain is characterised by lower skill jobs and is more vulnerable to out-sourcing to low wage competitor regions.
Table 27  Intra-Metropolitan Implications of Value Chain Unbundling in the Manufacturing Sector

<table>
<thead>
<tr>
<th>Value Adding Stage in Manufacturing</th>
<th>R&amp;D</th>
<th>Marketing &amp; Market Development</th>
<th>Business Development Strategy</th>
<th>Production</th>
<th>Logistics &amp; Distribution</th>
<th>Sales &amp; Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Adding Functions</td>
<td>Developing product designs; undertaking laboratory / scientific research; lobbying Government; negotiating &amp; establishing research partners</td>
<td>Undertaking research on customer needs, perceptions &amp; trends; analysing the market and competitor environment; designing &amp; implementing advertising &amp; product promotion campaigns</td>
<td>Preparing corporate wide business plans; resolving financial strategies including mergers &amp; acquisitions; negotiating &amp; consolidating strategic alliances; planning &amp; negotiating material sourcing and distribution networks and pathways; aligning corporate H/R &amp; recruitment policies with overall business strategy</td>
<td>Product assembly &amp; packaging; implementing quality assurance systems; trade &amp; production skills development; developing partnerships with component and material suppliers; maintaining statutory workplace compliance; managing industrial relations &amp; workplace agreements; optimising production inventories</td>
<td>Warehousing products; optimising transportation and distribution inventories; product recovery &amp; post sales stewardship of product materials.</td>
<td>Providing after sales service; gathering customer intelligence; administering warranty &amp; loyalty programs</td>
</tr>
<tr>
<td>Dominant Occupations in the Value Adding Function</td>
<td>Management consultants; scientists &amp; technicians; engineers (various); industrial designers; policy consultants</td>
<td>Marketing consultants; advertising agents; management consultants; PR consultants; policy consultants</td>
<td>General managers and financial controllers; accountants / financial analysts; merchant bankers / financial brokers; management consultants; patent attorneys; other lawyers; business economists; policy consultants</td>
<td>Production control engineers; plant managers; process / assembly line workers; machinery maintenance technicians; H/R and training specialists</td>
<td>Logistics engineers; drivers; vehicle / machinery maintenance workers; store workers / forklift drivers; fleet managers</td>
<td>Shop / showroom staff; call centre operatives; ICT support technicians</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupational Income (weighted average)</th>
<th>Moderate to high</th>
<th>High</th>
<th>High</th>
<th>Low to moderate</th>
<th>Low to moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Job Location – Australian Metropolitan Areas</td>
<td>CBD &amp; Inner Urban Region</td>
<td>CBD &amp; Inner Urban Region</td>
<td>CBD</td>
<td>Suburban / non-metro regional</td>
<td>Suburban</td>
<td>Suburban</td>
</tr>
<tr>
<td>Vulnerability to Off-shore Outsourcing &amp; Technology Shifts</td>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Moderate to Low</td>
</tr>
<tr>
<td>Scope for inter-regional and International Export of Value Adding Function</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

The higher income jobs generated by the production economy tend to concentrate in the CBD or the inner urban regions of the major cities. They are less exposed to outsourcing and technology shifts. More importantly, they have greater potential for expansion by winning services contracts with interstate and international clients. They are no longer tightly tied to the local production base; they can tap into manufacturing production chains all over the world.

This is a scenario of ‘two tone’ metropolitan economies emerging in Australia, featuring globally connected and ‘permanently’ prosperous cores, surrounded by
'client' suburban economies which may be enjoy a consumption driven prosperity from time to time, but which are inherently more fragile.

In the context of this plausible scenario, it is important to understand the behavioural characteristics of Advanced Business Services and just how steep any distance deterioration function might be in respect of their positive impact on innovation. Depending on such characteristics, significant policy issues may be raised, particularly with respect to the imperative (or otherwise) to transplant some of the inner urban dynamic to suburban economies by way of concentrated redevelopment and regeneration of a small number of metropolitan sub-regional centres, as called for by most contemporary planning strategies across Australia’s major cities (Randolph, 2006).

Research Strategy

To resolve the research question, evidence is required regarding whether (or not) beneficial contact with Advanced Business Services diminishes, other things equal, with increasing distance from the providers of these Services.

This task can be viewed from a ‘supply side’ perspective; that is, by examining how the providers of Advanced Business Services secure and service their clients. If the distance decay effect outlined above holds, this should be evident in the billing patterns of Advanced Business Service firms. Billings can be taken as a reasonable proxy for time with clients. To reject the distance decay hypothesis it would need to be shown that the distribution of aggregate Advanced Business Service time (billings) across geographic space is more or less in line with the geography of potential clients of all types (which might be proxied by employment), that is, without undue bias to clients located in the host region.

A key element of the research strategy employed in this thesis is a random sample, self enumerated survey of Advanced Business Service firms currently operating in Melbourne, designed to gather data on the geographic distribution of billings. The survey is also used to gather information on the behavioural aspects of Advanced Business Service firms, including marketing, recruitment and business development practices, relevant to the hypothesised bias in operations towards local as opposed to remote clients.
Any distance decay effect should also be evident when taking a ‘demand side’ perspective. That is, the incidence of successful innovation in client firms should diminish (or not) with increasing distance from key supply points for Advanced Business Services. This perspective is explored in this thesis through cross-sectional analysis of manufacturing worker incomes (as a crude proxy for comparative enterprise productivity and therefore propensity for innovation) versus distance from the nearest metropolitan area weighted by that metropolitan area’s degree of specialisation in Advanced Business Services.

To shed further light on the distance decay hypothesis from a demand side perspective, in depth interviews were carried out with senior management from two broadly comparable panels of firms. One of these was drawn from a strategically located district in the Melbourne metropolitan area, while the other came from a substantial provincial centre located some 2 hours drive from central Melbourne. The innovation experiences and outcomes for the total of 12 participating firms were explored using a structured pre-briefing and discussion facilitation procedure.

Details of the research methods applied for both the supply side and demand side analyses are provided in the following pages.

‘Supply Side’ Analysis

To test propositions arising from the literature regarding the importance of face to face transactions and the ‘social’ nature of work in Advanced Business Services, a random sample survey of these firms was conducted in Melbourne during the Spring of 2005. Within the three pronged strategy to address the research question set out in this thesis, the specific purpose of the random sample survey was to measure, in a statistically reliable way, whether the suppliers of Advanced Business Services have a significant bias towards working with local and nearby clients as opposed to more distantly located companies. It was also designed to generate statistically robust evidence as to whether ‘social modes’ of operation are as important as they are hypothesised to be amongst providers of knowledge intensive services. It would appear that there has been no previous attempt in Australia to gather evidence of this type.
Statistical robustness was the imperative with this element of the three pronged research strategy. To minimise non-response error and facilitate recruitment of survey participants, the survey was kept as simple and easy to administer as possible within the limits allowed by the research objectives. The questionnaire was narrowly focussed on the facts of what respondent did by way of finding clients and managing the geographic distribution of their billings. This recognised that other elements of the research strategy, namely the case studies of Advanced Business Service use, would provide further evidence on qualitative aspects of these transactions.

The sample frame for the random sample survey was the ‘Yellow Pages’ phone book listing of firms located in the Melbourne metropolitan area describing themselves (or categorised by Sensis\(^2\)) as ‘Management Consultants’. This listing covered the following business activities (described in the words of the respondents):

- Accounting & business services
- Advanced demand & inventory optimisation services
- Adventure training
- Board performance assessment
- Board reviews, executive coaching, organisational development
- Business change management/productivity improvement
- Business consulting: employee engagement & retention
- Change management consultancy in the community services, education and arts sectors.
- Consultancy focussing on "the interface between government and business"
- Consultancy services - water and environment projects
- Consultancy services re. Profitability of road transport & associated businesses
- Consultant/ adviser primarily to electricity and gas utilities and oil and gas producers
- Consulting services in the retail sector
- Contract management
- Contract marketing, sales, consulting, software development
- Corporate development, rescues & reconstruction
- Debt Collection, Credit/Business reports, fraud investigations, probity investigations
- Employee Opinion Surveys & Linkage research
- Executive search
- Finance/share trading
- Hospitality industry consulting
- Human resource management, industrial relations, organisation development, leadership
- Industrial business brokerage/ commercial real estate
- International commerce/industrial marketing
- International trade and environmental policy
- Investment banking – specialising in M&A, capital raising and corporate advice

\(^2\) Sensis is the proprietor of the Yellow Pages data base, a listing of all business names, addresses and contact numbers, segmented by industry category or product/service type.
• IT consulting and software development
• Management consulting in the health sector
• Management consulting predominantly to the public library sector
• Management consulting services to the forestry and timber processing industry
• Management consulting; specialised recruitment; assessment of government programs
• Marketing & technology transfer
• Marketing and communications
• New business start-ups, international trade, customs & international freight, technology commercialisation
• Outsourcing
• People management and salary packaging
• Project management for advanced technology projects
• Quality management
• Reliability improvement in capital intensive industries
• Remuneration consulting
• Secretarial services
• Software for management systems for the mining industry
• Software solutions and e-consulting for P&C insurance industry
• Strategic business Analysis
• Strategic briefing, workplace change and communication, city strategy, building appraisal
• Strategic design, operational and indirect productivity improvement
• Strategic sales& marketing/leadership consulting/training
• Strategic thinking and research
• Supply chain management
• Taxation, financial & management accounting, business advice
• Tourism management and marketing
• Trade and environment consulting
• Training
• Travel solutions
• Waterway management – civil engineering

While some of the ANZSIC categories included as part of the definition of Advanced Business Services in Chapter 1 are not obviously represented in this sample frame - for example, ‘Technical and Further Education’, ‘Legal Services’ and ‘Architectural Services’ - the activities captured by the survey epitomise the business characteristics cited in that definition, particularly the focus on customised solutions involving significant intellectual effort and creativity.

For those respondent firms where the Melbourne office was part of a wider national or international network of offices within the same enterprise, the local office was effectively treated as a separate business for the purposes of the survey. That is, information on billings patterns, recruitment strategies and business development practices were sought from the perspective of the Melbourne office only. Applying this convention was a relatively straightforward procedure in most cases. One question which required careful wording (as detected via the pilot survey – see below)
related to the geographic spread of billings. For some multi-office firms, a head office located in another State may have responsibility for invoicing clients for work carried out by all 'branch' offices. Alternatively, the Melbourne office itself may operate as the principal billings office for the nation or region. Respondents in these situations were asked to describe the geographic distribution of fees earned in terms of the distribution of the billable time of directors and staff in the Melbourne office only.

A Yellow Pages listed firm was deemed to be ‘Advanced’ and eligible for participation in the survey if it generated at least 10% of its billings (or billable time) from interstate or international sales. This was taken as a signifier of relatively specialised consulting capabilities. Collectively, the respondent firms earned almost 30% of their fees from clients outside Victoria and Australia.

The survey questionnaire was pilot tested with 5 firms and refined before the substantive survey was commissioned. A two-stage procedure was employed. Initially, a screening survey was conducted by telephone to confirm the eligibility of firms to participate based on the 10% interstate/international sales rule. Eligible firms were then invited to complete a questionnaire by return email. To minimise non-response bias, firms not returning questionnaires within the agreed time period were followed up three times before they were abandoned from the prospective data set. More detail on the research strategy, questionnaire and survey administration is provided in Appendix 2.

In the time available for the survey, 213 eligible firms were detected through the screening interviews. Of these, 34 declined to participate and 73 failed to respond after receiving the questionnaire. This left a total of 106 firms providing fully or partially completed questionnaires. As shown in Table 28 partial completion of the questionnaire was rare amongst respondents. Question 13 had the lowest response rate, but over 97% of those participating in the survey still provided an answer. The sample size was therefore satisfactory for each question.
Table 28  Response Rate by Question

<table>
<thead>
<tr>
<th>Question</th>
<th>Topic</th>
<th>Number of respondents</th>
<th>% of all participants responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location of business</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Field of specialisation</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Number of employees</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>4</td>
<td>Employment mix</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>5</td>
<td>Method of staff recruitment</td>
<td>105</td>
<td>99.1%</td>
</tr>
<tr>
<td>6</td>
<td>Source of billable work</td>
<td>104</td>
<td>98.1%</td>
</tr>
<tr>
<td>7</td>
<td>Business development practices</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>8</td>
<td>Billings by geography</td>
<td>105</td>
<td>99.1%</td>
</tr>
<tr>
<td>9</td>
<td>Sub-contracting</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>10</td>
<td>Sub-contracting billings by geography</td>
<td>106</td>
<td>100%</td>
</tr>
<tr>
<td>11</td>
<td>Location of Victorian clients</td>
<td>105</td>
<td>99.1%</td>
</tr>
<tr>
<td>12</td>
<td>Location of regular clients</td>
<td>104</td>
<td>98.1%</td>
</tr>
<tr>
<td>13</td>
<td>Billable time spent on client premises</td>
<td>103</td>
<td>97.2%</td>
</tr>
</tbody>
</table>

The sample set was dominated by small and medium sized enterprises (SME’s), as shown in Table 29. Checks on whether this distribution of firms by size accords with the population of target firms are difficult because of limitations in official data sets and because the survey did not seek explicit data on turnover, as this was considered to be a potential deterrent to otherwise willing respondents23.

Table 29  Respondent Firms by Number of Employees

<table>
<thead>
<tr>
<th>Number of (EFT) employees in respondent firm</th>
<th>Number of firms in sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3 to 19</td>
<td>69</td>
</tr>
<tr>
<td>20 to 400</td>
<td>5</td>
</tr>
<tr>
<td>400+</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>106</td>
</tr>
</tbody>
</table>

The Australian Bureau of Statistics does not make available data on Advanced Business Service firms by number of employees. However, it does provide

23 Instead, turnover or aggregate billings were imputed based on the number of employees.
information from its Business Register for nominated ANZSIC groups disaggregated by turnover. The utility of this data is limited in two ways. Firstly, multi-location businesses with a presence in more than one State or Territory are excluded. Secondly, the relatively small data sets pertaining to the Advanced Business Services sub categories mean that frequencies for some turnover categories cannot be published due to privacy constraints applying to the Australian Bureau of Statistics.

Bearing these limitations in mind, Figure 30 compares the size by turnover distribution of Advanced Business Service firms with that of Australian industry generally. In this chart, the firms for which turnover was not reported for confidentiality reasons, or because this information was simply not provided by the respondent, have been proportionately distributed across the categories which registered 'not published' cells in the data.

If it can be assumed that the representation of multi-location firms is much the same amongst Advanced Business Service firms as it is for industry generally, Figure 30 suggests that the broad distribution of firms by turnover for Advanced Business Services is not markedly differentiated from the rest of the economy. However, there does appear to be a relative over-representation amongst SME’s – though not so for the smallest firms – and a relative under-representation amongst large scale enterprises.

This would appear to be consistent with the general thesis that Advanced Business Service firms tend to trade in ideas and problem solving where scale of operation does not necessarily confer a major competitive advantage.
If, simply for the purposes of comparing population mix, a working assumption is made that each equivalent full time employee in the survey group translates to $50,000\textsuperscript{24} in turnover, the sample firms can be compared with this Australian Bureau of Statistics data as per Table 30. Bearing in mind that the Australian Bureau of Statistics figures span a broader group of firms than the survey population, this table can only be taken as a very approximate guide to the adequacy of the sample mix. Having said this, it does appear that the spread of firms captured by the survey is broadly in line with the mix in the wider population.

\textsuperscript{24} 2001 prices, covers both support and production staff.
The intra-metropolitan distribution of respondents to the Melbourne survey echoes that shown for Advanced Business Services generally in Figure 25. Table 31 highlights the dominance of inner city locations amongst the Management Consulting firms participating in the survey. Over eighty percent of the employment represented by these firms was transacted through offices located in the CBD (postcode 3000). More than ninety percent of this employment was located within the City of Melbourne and the ringing municipalities.

Table 31 Distribution of Employment in Respondent Firms, Melbourne Advanced Business Services, November / December 2005

<table>
<thead>
<tr>
<th>Postcode</th>
<th>Location</th>
<th>Total employment in respondent firms</th>
<th>Cumulative % of total employment in sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>Melbourne</td>
<td>1185.5</td>
<td>80.5%</td>
</tr>
<tr>
<td>3205</td>
<td>South Melbourne</td>
<td>47</td>
<td>83.6%</td>
</tr>
<tr>
<td>3124</td>
<td>Camberwell</td>
<td>37.5</td>
<td>86.2%</td>
</tr>
<tr>
<td>3182</td>
<td>St Kilda</td>
<td>28</td>
<td>88.1%</td>
</tr>
<tr>
<td>3131</td>
<td>Forest Hill</td>
<td>20</td>
<td>89.4%</td>
</tr>
<tr>
<td>3004</td>
<td>St Kilda Rd</td>
<td>18.5</td>
<td>90.7%</td>
</tr>
<tr>
<td>3053</td>
<td>Carlton</td>
<td>13</td>
<td>91.6%</td>
</tr>
<tr>
<td>3018</td>
<td>Altona</td>
<td>11</td>
<td>92.3%</td>
</tr>
<tr>
<td>3143</td>
<td>Armadale</td>
<td>10</td>
<td>93.0%</td>
</tr>
<tr>
<td>3149</td>
<td>Mt Waverley</td>
<td>9</td>
<td>93.6%</td>
</tr>
<tr>
<td>3104</td>
<td>Bayswater</td>
<td>8.5</td>
<td>94.2%</td>
</tr>
<tr>
<td>3930</td>
<td>Mt Eliza</td>
<td>7</td>
<td>94.7%</td>
</tr>
<tr>
<td>3146</td>
<td>Glen Iris</td>
<td>6</td>
<td>95.1%</td>
</tr>
<tr>
<td>3141</td>
<td>South Yarra</td>
<td>5</td>
<td>95.4%</td>
</tr>
<tr>
<td>3172</td>
<td>Dingley</td>
<td>5</td>
<td>95.8%</td>
</tr>
<tr>
<td>3142</td>
<td>Toorak</td>
<td>4.5</td>
<td>96.1%</td>
</tr>
<tr>
<td>3016</td>
<td>Williamstown</td>
<td>4</td>
<td>96.3%</td>
</tr>
<tr>
<td>3056</td>
<td>Brunswick</td>
<td>4</td>
<td>96.6%</td>
</tr>
<tr>
<td>3108</td>
<td>Doncaster</td>
<td>4</td>
<td>96.9%</td>
</tr>
<tr>
<td>3147</td>
<td>Ashburton</td>
<td>4</td>
<td>97.1%</td>
</tr>
<tr>
<td>3188</td>
<td>Hampton</td>
<td>4</td>
<td>97.4%</td>
</tr>
<tr>
<td>3070</td>
<td>Northcote</td>
<td>3.5</td>
<td>97.7%</td>
</tr>
<tr>
<td>3134</td>
<td>Ringwood</td>
<td>2.5</td>
<td>97.8%</td>
</tr>
</tbody>
</table>

25 It is interesting to note in passing that in a major 1993 survey of higher order producer service firms in Montreal, Canada about 80% of these enterprises were found to operate from premises in the inner city, including the CBD (Coffey, Drolet and Polese, 1996)
‘Demand Side’ Analysis

Rationale

Supposing the findings of the Melbourne survey of Advanced Business Service firms are broadly consistent with the hypothesis of ‘spatial bifurcation’ in Advanced Business Services led innovation, it would be useful to compare and contrast any such results with the spatial pattern of innovation outcomes. That is, a supplementary demand side analysis could be applied, examining successful client engagement with the business services in question. Two considerations underpin the case for investigating the innovation impacts of Advanced Business Services as experienced by purchasing firms, as distinct from the supply behaviours of these Services.

Firstly, any observed ‘bias’ toward local clients in the Melbourne survey may partly reflect agglomeration driven production efficiencies in the highly unbundled services sector. Arguably, many service firms in key locations like Melbourne may be simply selling to each other, ultimately feeding into an end-user services stream which is just as effective for remote clients as it is for intra-metropolitan clients. As will be detailed in the next Chapter, this argument does not appear to be well supported by the Melbourne survey findings; respondent firms were found to generate a relatively small
proportion of their consulting fees from sub-contracting. However, in providing services to other Advanced Business Service firms, there is the possibility that some respondent firms saw themselves as being in a primary client relationship rather than a sub-contracting relationship. Therefore, the issue of joint production as a potential explanation for local client bias cannot be entirely discounted.

Secondly, any observed spatial bias in delivery of Advanced Business Services may simply be an outworking of the ‘command and control’ functions which, as Sassen (1991, 2000) reminds us, concentrate in the larger centres and are the biggest users of sophisticated services. If this is a major factor, it is possible that the skewing of consulting time in favour of key centres like Melbourne does not signify different innovation outcomes over space, but rather different ways of using Advanced Business Services over space.

A Quantitative Appraisal of Innovation Outcomes versus Distance from Advanced Business Services

As noted above, the 2003 Australian Bureau of Statistics Innovation Survey provides some evidence of a tendency for innovating firms to use ‘local’ support services. Beyond this, information regarding the geography of innovation outcomes versus the geography of Advanced Business Services is scarce. For the purposes of this thesis, an exploratory quantitative investigation was made regarding the diminution of successful innovation with increasing distance from Advanced Business Service supply points, using small area data on manufacturing worker incomes.

A regression analysis was undertaken which sought to relate innovation outcomes in local areas across Australia to ready access to a deep pool of Advanced Business Services. The analysis was confronted with severe data limitations. In principle, successful innovation will be reflected in higher income or turnover per worker, other things equal. Data on income or turnover variations across space would potentially have great utility in illuminating the hypothesised distance decay in innovation outcomes. However, unlike the situation in the UK, where Graham (2006), for example, was able to source verified official data on productivity broken down by location and industry type, no such information is published in Australia.
The Australian Bureau of Statistics has issued reports on worker numbers by sector and by postcode as well as on turnover by postcode, all broken down by high level industry type. However, the data in these reports is banded, with an open ended upper band, so that it is not possible to derive a reliable turnover per worker statistic. When requests were made to the Bureau for data to be released in a form which would permit this estimation of turnover per worker, or, alternatively, for the release of the Bureau’s own estimate of turnover per worker by postcode by industry, these were officially declined on the basis that the data itself was ‘experimental’ and prone to many measurement errors.

A different indicator of innovation variations across space therefore had to be found. Against this background, the dependent variable in the analysis became the median annual income of manufacturing workers resident in each Statistical Local Area (SLA) in 2001 as reported by the Australian Bureau of Statistics in the national Census. Manufacturing generally is severely competition exposed in Australia and is therefore likely to be relatively open to innovation based market advantage. If access to Advanced Business Services indeed facilitates more successful innovation, these outcomes should be readily observable in this sector compared to other industries which face a lesser imperative to improve products and services because of various forms of market protection.

Manufacturing worker incomes were therefore used as a proxy for enterprise productivity which, in turn, was assumed to be positively related to successful innovation (‘I’). In other words, the better the firm is at innovation, the higher its worker salaries will be, other things equal.

This assumption that manufacturing worker wages in innovating firms are likely to be higher than in non-innovating firms relies, in the first instance, on the basic theory that in a competitive market, and other things equal, workers will be paid the value of their marginal product (Hutchens, 1989, Becker, 1992). The second strand to the proposition is that labour productivity will tend to be higher within manufacturing enterprises which are more heavily engaged in innovation. There is significant empirical evidence, sourced within an Australian context, to support this link.

Laplagne and Bensted (1999) examined the relationship between training and innovation and labour productivity using the 1990 and 1995 Australian Workplace
Industrial Relations Survey (AWIRS). This (now discontinued) data source enabled analysis of productivity at the level of the individual firm. A broad definition of innovation was adopted in the analysis, covering the introduction of major new office technology, the introduction of major new plant, machinery or equipment, changes in the products or services produced, restructuring of how work is done and reorganisation of management structures. Laplagne and Bensted (1999) found that firms that were more active in these initiatives were able to achieve higher labour productivity compared to less innovative firms. This was particularly true for those forms of innovation which focussed on how work is done, as distinct from the introduction of new services and products. The positive impact on labour productivity was enhanced when innovation was pursued in tandem with employee training programs.

Laplagne and Bensted’s (1999) analysis followed a similar investigation undertaken by Loundes (1999). This latter study found that the incidence of a major ‘organisational change’ over the past 2 years, which can be taken as a proxy for innovation, was the single most important predictor of labour productivity growth amongst some 30 explanatory variables covering industrial relations, workplace characteristics, economic incentives to workers and industry classification.

Rogers (1998) also examined the drivers of labour productivity. His analysis used firm level data from the 1995 Australian Bureau of Statistics Growth and Performance Survey. This work confirmed that innovating firms were associated with higher productivity. On average, firms which had engaged in the introduction of new products, processes or services within the nominated survey period enjoyed a 16% labour productivity premium by comparison with the non-innovating group of firms within the sample.

Returning to the structure of the regression analysis, it was further assumed that the distribution of manufacturing firms across Australia reflects the spatial distribution of manufacturing workers resident in each SLA. This broad assumption is, again, forced on the analysis by data limitations, but is defensible. Based on the work of O’Connor and Healy (2004) regarding metropolitan labour markets, resident workers in Australian cities may well travel to places of employment outside their home SLA, but they are far less likely to travel long distances to different sub regions.
Access to a quality pool of Advanced Business Services was proxied by the distance between the centroid of each SLA and the CBD (D) of the nearest metropolitan area divided by an index (LQI) of the extent to which that metropolitan area specializes in Advanced Business Services. This index was based on the location quotient for Advanced Business Services in each host State or Territory, with the highest LQ fixed at 100, the lowest at 1 and the intervening city indices being calibrated on a proportional basis as per the following table. This approach accentuates the difference between SLA’s in terms of access to Advanced Business Services.

Table 32 Establishment of Location Quotient Index for Metropolitan Areas

<table>
<thead>
<tr>
<th>State / Territory</th>
<th>LQ for Advanced Business Services</th>
<th>Metro Area</th>
<th>LQI</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>1.12</td>
<td>Sydney</td>
<td>100.0</td>
</tr>
<tr>
<td>Victoria</td>
<td>1.07</td>
<td>Melbourne</td>
<td>88.8</td>
</tr>
<tr>
<td>Queensland</td>
<td>0.82</td>
<td>Brisbane</td>
<td>32.5</td>
</tr>
<tr>
<td>South Australia</td>
<td>0.81</td>
<td>Adelaide</td>
<td>30.3</td>
</tr>
<tr>
<td>Western Australia</td>
<td>0.92</td>
<td>Perth</td>
<td>55.0</td>
</tr>
<tr>
<td>Tasmania</td>
<td>0.72</td>
<td>Hobart</td>
<td>10.0</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>0.68</td>
<td>Darwin</td>
<td>1.0</td>
</tr>
<tr>
<td>ACT</td>
<td>1.52</td>
<td>Canberra</td>
<td>190.0</td>
</tr>
</tbody>
</table>

LQI = 225*LQ-152

The adopted research strategy was arrived at following a series of passes, initially involving multiple regression analysis. Other variables which might explain spatial variations in manufacturing wage outcomes were incorporated into the analysis, including; enjoyment of agglomeration economies when located within larger and more complex regional economies; the sectoral composition of manufacturing employment (that is, some SLA’s will host more firms engaged in higher value added manufacturing); the general cost structure in the region; the tightness or otherwise in the labour market; and the availability of higher quality skills. These factors were proxied by the following variables:

<table>
<thead>
<tr>
<th>Agglomeration economies</th>
<th>Distance between the SLA and the CBD of the nearest metropolitan area (D) divided by the population of that metropolitan area (P).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sectoral composition</td>
<td>Proportion of SLA manufacturing workers employed in the following ANZSIC groups (C) (241 Printing and Services to Printing; 242 Publishing; 243 Recorded</td>
</tr>
</tbody>
</table>

Marcus Spiller
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Media Manufacturing and Publishing; 254 Other Chemical Product Manufacturing; 281 Motor Vehicle and Part Manufacturing; 282 Other Transport Equipment Manufacturing; 283 Photographic and Scientific Equipment Manufacturing; 284 Electronic Equipment Manufacturing; 285 Electrical Equipment and Appliance Manufacturing; 286 Industrial Machinery and Equipment Manufacturing; 293 Other Manufacturing

General cost structure of the region | Median rent paid for a 3 bedroom dwelling in the SLA (R)

Labour market conditions | Level of unemployment in the SLA (U)

Availability of higher quality skills | % of resident labour force holding Postgraduate Degree Level and/or Graduate Diploma or Graduate Certificate Level and/or Bachelor Degree Level and/or Advanced Diploma or Diploma Level and/or Certificate Level qualification. (S)

The broad form of the regression equation was as follows:

\[ I_{SLA} = a \left( D_{SLA}/LQI \right) + b \left( D_{SLA}/P \right) + c C_{SLA} + d R_{SLA} + e U_{SLA} + f S_{SLA} + y \]

The analysis tested various functional forms on an iterative basis.

The tested equations were generally low in overall explanatory power with unstable results in terms of the expected signs of nominated variables. This is likely to be a natural outworking of the great diversity of factors that might drive manufacturing wage outcomes, including relative unionisation and the ‘transitional’ nature of modern Australian manufacturing, comprising both high value added ‘phoenix’ enterprises and old and inefficient vestiges of the protectionist era which held sway until the early 1980’s.

In view of these complexities and data limitations, the preferred approach was to accept the likelihood of relatively low explanatory power in a much simpler two variable formulation (innovation versus distance from major urban centres) and to systematically probe the sensitivity of the R^2 when distance is weighted for the strength of Advanced Business Services within the major centres in question.
As alluded to above, it might be expected that \( I \) will inversely be related to \( D \), as proximity to the centre of any metropolitan area (regardless of that city’s specialisation) will offer a range of agglomeration and accessibility benefits. In this context, if access to Advanced Business Services positively affects the propensity for innovation, one would expect that there will be an inverse relationship between \( I \) and \( D/LQI \), but with greater explanatory power, as proximity to the centre of a metropolis which is strongly specialised in Advanced Business Services is deemed to be of greater advantage (in terms of innovation, profitability and worker incomes) than the equivalent distance for another metropolis with a lesser endowment of these Services.

In conducting this analysis, a number of modifications to the data were warranted. SLA’s which are remote from metropolitan areas often feature an income premium to compensate workers for the isolation and (often) harsh working conditions involved. For this reason, SLA’s located more than 300 klm’s from the nearest metropolitan area were excluded from the analysis. At the other end of the spectrum, premium residential SLA’s which are often located quite close to the centre of metropolitan areas feature very high manufacturing worker incomes, reflecting the fact that the workers involved are likely to be in the managerial or elite technical ranks. For these reasons, those SLA’s featuring manufacturing worker salaries in the top two percentiles of this income distribution were excluded from the analysis. A small number of SLA’s were reported as having zero manufacturing worker incomes or other improbably low incomes. These were also excluded from the analysis. This left 894 eligible SLA’s throughout Australia.

Simple linear regression was applied in assessing the comparative power of \( D/LQI \) versus \( D \) in explaining variations in \( I \).

A Qualitative Appraisal of the Distance Decay Hypothesis

To further investigate any potential distance decay effect, case studies of the innovation process at client firm level were undertaken, exploring the use made of Advanced Business Services and how this varies over space. The case studies were effected by interviews with senior management of selected firms and were mostly conducted face to face. These interviews were convened following the provision of an
advance questionnaire which directed the respondent to reflect on how a recent, self nominated, ‘innovation episode’ developed in their company.

The objective of the case studies was to assess the extent to which the innovation experience might be different (and potentially less effective) in non-metropolitan areas because of the relative lack of access to knowledge intensive business services. A three step research procedure was deployed to this end.

The first step was to identify suitable case study firms in regional and metropolitan locations. Six Central Victoria based firms were identified with the assistance of local economic development agencies and interest groups, namely the City of Greater Bendigo and the Bendigo Chamber of Commerce. These firms were selected having regard to three criteria. Firstly, they were generally required to have employment levels in the range of 100 to 500, as this size is most likely to support flexible decision making, whilst offering sufficient resources to deliver significant innovation initiatives. A number of Australian studies have shown that the propensity for innovation is positively related to employment size, at least up to a point (see Rogers, 1999).

The employment size criterion was varied for one case study firm in each of the Central Victoria and metropolitan panels, to allow for community health organizations. These tend to be smaller organizations, albeit administered under the auspices of relatively large State bureaucracies. It was considered important to have representation from the not-for-dividend health services sector, as this is a key employer in regional centres.

Secondly, the firms in question were to have a local reputation as ‘leading’ or ‘progressive’ businesses, as the case studies were focussed on what is possible given a motivated and well equipped firm, rather than businesses which are hampered by other competitive deficiencies.

Finally, participating firms were to be drawn from a variety of sectors to mitigate bias in the research relating to industry structure differences between regional and metropolitan areas.

A matched grouping of six metropolitan firms based in and around the municipality of Monash in South East Melbourne was identified with the assistance of the local
Council. The same selection criteria were applied to these firms. Monash was chosen for this purpose because of its superior potential for urban agglomeration economies. Its centroid is located approximately 17 kilometres south east of central Melbourne. All parts of this municipality have more than a quarter of a million graduate and post-graduate workers within a half hour’s drive in the morning peak. Moreover, all parts can access more than 1.1 million jobs within a half hour’s drive, including those in the inner urban region. As many workplaces are production and delivery points for various consumer and producer utilities, access to jobs can be taken as a proxy for access to service providers (see Figure 31 and Figure 32).

In the second step of the research, telephone contact was made with the selected firms. As well as introducing the nature of the research, these contacts were used to invite the participants to peruse a questionnaire designed to provide a lifecycle ‘map’ or history for a significant self selected innovation undertaken by the firm in the last 2 years. Specifically, this questionnaire urged the respondent to consider:

- The nature of the innovation (incremental versus step change versus strategic leap);
- Whether the innovation related to product, process or organisational attributes of value creation;
- How the selected innovation episode unfolded, with respect to the following phases; ‘conception’; ‘development’; ‘delivery’; and ‘post delivery refinement and learning’;
- With reference to these phases as appropriate:
  - The degree of novelty in the innovation (new to the firm, new to the region, new to Australia, new to the world);
  - The officers of the firm or other agents who were responsible for the key innovation roles (identifying the idea, co-ordinating its development, preparing business cases etc); and
  - The extent to which business advisory services and other external assistance (e.g. strategic alliances with other businesses) were involved and the impact / value of these;
- The overall impact of the innovation in terms of turnover, profitability and business robustness;
- How the same issue might be approached today, given the lessons from the innovation episode; and
• How the innovation experience might have differed had the firm in question been located in a regional rather than metropolitan setting, and vice versa.

**Figure 31  Access to Knowledge Workers - 2006**

*Graduate and Post Graduate Population Accessible within 30 Minutes Drive*

*Source: SGS Economics & Planning Pty Ltd (2008), based 2006 Census data*
This prior contemplation of the principal features of a self selected innovation episode via the questionnaire provided the opportunity for participants to develop an appreciation of the concepts and issues of interest before the in-depth interview. To this end, the questionnaire included some introductory material on the ‘nature of innovation’ as defined for the purposes of this thesis (see Appendix 3).
In the third step, the one-on-one interviews were convened with an appropriate senior manager in the identified firms. Generally this was the CEO, the Chief Operating Officer (or equivalent) or the Plant or Enterprise Manager. Participants were taken through the questions previously advised. Within this overarching agenda, the interviewees were encouraged to comment on challenges faced at different points in the lifecycle of the innovation episodes and how these were overcome. Towards the end of the interview, respondents were asked to reflect on differences, if any, in the innovation experience owing to regional versus metropolitan location and vice versa.

The composition of the two case study panels is summarised in Table 33. Details of the respondents are provided in Appendix 4.
### Table 33  
Case Study Panels

<table>
<thead>
<tr>
<th>Industry Type</th>
<th>Bendigo Case Studies</th>
<th>Melbourne Case Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced manufacturing and associated engineering services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm</td>
<td>Main Business Activity</td>
<td>Firm</td>
</tr>
<tr>
<td>Industrial Conveying (Australia)</td>
<td>Design and manufacture of materials handling systems</td>
<td>A. E. Smith Pty Ltd</td>
</tr>
<tr>
<td>Hazeldene’s Chicken Farm Pty Ltd</td>
<td>Poultry growing and processing</td>
<td>Nestlé Australia (Mulgrave plant)</td>
</tr>
<tr>
<td>Jimmy Possum Furniture</td>
<td>Design, manufacture and retailing of domestic furniture</td>
<td>John Sands Pty Ltd</td>
</tr>
<tr>
<td>Bendigo Community Health</td>
<td>Community health services</td>
<td>Monashlink</td>
</tr>
<tr>
<td>Coliban Water</td>
<td>Water supply and sewerage services</td>
<td>Jemena</td>
</tr>
<tr>
<td>Bendigo Bank</td>
<td>Full range of retail banking services</td>
<td>mecu ltd</td>
</tr>
<tr>
<td><strong>Health Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Utilities / Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Retail banking</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4 Research Findings

Survey of Melbourne Advanced Business Service Firms

The evidence provided by the survey of Melbourne Advanced Business Service firms generally supports the suggestions arising from the work of Thrift (1997) and Storper and Venables (2002) that the innovation boosting role of Advanced Business Services, as detailed in Chapter 2, is indeed subject to a significant distance deterioration effect.

Aside from gathering profiling data on location, number of employees and field of business, the survey targeted four aspects of commercial operations amongst the respondent firms. These related directly to the hypotheses arising from the literature survey and theoretical analyses described in Chapters 2 and 3, namely that Advanced Business Services are driven by social modes of production which incline them to interact more closely and fruitfully with local as opposed to more distant clients. The four operational areas in question included; how these firms recruit staff; the methods used to secure fee paying work; the promotional or marketing strategies used to build the business and the spatial distribution of billings (or billable time). These are discussed in turn below.

Recruitment

Some 40% of the employees across the whole respondent group of firms were recruited through 'informal' means, including unsolicited approaches from prospective employees, direct recruitment by the firm’s principals via their industry contacts, transfers from other offices within the enterprise and employee ‘churn’; that is, staff returning from various forms of leave or stints with other businesses.

Underscoring the broader theme of this thesis regarding the growing importance of outsourced (unbundled) services, the single most important means of securing staff was found to be ‘external recruitment services’, accounting for more than a third of
the employees in the survey group (Table 34). Nevertheless, the sourcing of staff through social networks and established business contacts remains a key strategy, especially among the smaller enterprises. Removing the larger firms from the sample (i.e. those with 30 or more employees), some 58% of current employees were located and hired by means other than formal advertisement and external recruitment services.

Table 34  Method by which Current Employees were Recruited, Melbourne Advanced Business Service Firms, November / December 2005 (Responses weighted by number of employees)

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>External recruitment services</td>
<td>34.3%</td>
</tr>
<tr>
<td>Formal advertisement and in house assessment of candidates</td>
<td>22.9%</td>
</tr>
<tr>
<td>Unsolicited approaches from prospective employees</td>
<td>9.1%</td>
</tr>
<tr>
<td>Head hunting / referrals by the firm’s principals and employees</td>
<td>18.7%</td>
</tr>
<tr>
<td>Transfers from other offices of the firm</td>
<td>3.9%</td>
</tr>
<tr>
<td>Past employees returning from travel, maternity leave, study etc</td>
<td>4.4%</td>
</tr>
<tr>
<td>Other</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Securing Fee Paying Work

The channels through which orders might be secured by Advanced Business Services firms range from open, generally advertised tender at one end of the spectrum, through to repeat business from existing clients involving no competitive tender. Between these extremes are ‘select tenders’, where a limited number of firms are invited to bid for a contract, and new clients gained not through tender but through the direct contacts of the firm’s principals or referrals from existing clients.

Figure 33 again highlights the importance of social networks in the operation of these Advanced Business Services in that close to half the work conducted by the respondent firms over the survey period was secured through ‘repeat business’. If the other two work sourcing channels which have a strong ‘personal contacts’ dimension are included with ‘repeat business’, they account for 79.5% of work completed.
The survey also found that a particularly high proportion (65%) of work carried out by the respondent firms was conducted on the client’s premises (as opposed to the respondent’s offices). This is likely to be conducive to relationship building and would also have implications for where Advanced Business Service firms would prefer to locate clients; if frequent or extended visits to the clients offices are necessary, there are significant advantages – other things equal – if these clients are located close to the service firm (see further discussion below).

**Business Development Practices**

The socially driven nature of business operations in this sector is further reflected in the strategies used by respondents to promote their practices to prospective clients. Respondents were asked to rate a range of individual marketing strategies or mechanisms for effectiveness, with a score of 1 indicating little importance and 5 great importance. Figure 16 shows these ratings, weighted by the number of employees in the participating firms. This approach highlights which marketing methods are most effective in winning work by value across the sector.

As shown in Figure 34, cultivation of ‘personal contacts’ was clearly regarded as the most important marketing device scoring a weighted average rating of more than 4.5. Clearly ‘sub-par’ strategies (i.e. those with a weighted average rating of less than 3) included mass media marketing campaigns, sponsorship of industry events,
printed promotional material like newsletters and brochures and promotion via the company website.

**Figure 34** Rating of Marketing Strategies / Business Development Practices, Melbourne Advanced Business Service Firms, November / December 2005 (Responses weighted by number of employees)

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### Source / Spatial Distribution of Billings

As noted, the amount of fees earned from various classes of client was taken as a proxy for the extent of interaction between a client class and the Advanced Business Service in question. This is a reasonable approach given that charging according to time spent in delivering a service is the norm in the industry.

It is also noteworthy that while some 40.6% of respondents reported involvement in sub-contracting to other consulting firms, less than 5% of all consulting fees (weighted by employment) was generated from this source. This implies that co-production activities within the Melbourne Advanced Business Services sector are multi-faceted (that is, they take a variety of forms other than sub-contracting) and/or that consultants working to other consultants perceive of their relationship as one of primary service provision, as opposed to being ‘sub-contractors’ as such.

Figure 35 shows that the surveyed Advanced Business Service firms generated some 47% of their fees from within the metropolitan area. Notwithstanding their strong
inter-regional and international export sales, firms in this sector appear to be heavily preoccupied with their local patch.

**Figure 35** Source of Fees Earned, Melbourne Advanced Business Service Firms, November / December 2005 (Responses weighted by number of employees)

![Bar chart showing geographic source of fees earned.]

This focus on the local market becomes even more pronounced when consideration turns to the geographic distribution of 'regular clients', described in the survey as 'those (clients) with whom you enjoy significant repeat business'. Again, whilst they collectively have a healthy export business, the respondent firms found fifty seven percent of their regular clients in the local region (Figure 36).

**Figure 36** Distribution of Key Clients, Melbourne Advanced Business Service Firms, November / December 2005 (Responses weighted by number of employees)

![Bar chart showing location of key clients.]

The ‘localism’ which appears to characterise the operation of these Advanced Business Service firms is further highlighted by the finding that 78% of the Victorian clients of the surveyed firms were located no further than 20 kilometres from the respondent’s office. Indeed, 37% of Victorian clients were located within a mere 5 kilometres of the service provider’s site.

In overview, the survey results are consistent with the view that provision of effective advice in Advanced Business Services requires good relations with the client and a high degree of mutual trust. That is, delivery of these services is, in essence, a social as well as commercial process. Accordingly these firms are drawn into much closer relationships with a local and readily accessible clientele.

This picture is corroborated by evidence from the 2003 Australian Bureau of Statistics Innovation Survey. Whereas the Melbourne survey explored the question of distance deterioration in the effectiveness of Advanced Business Services from a supply side perspective, the Australian Bureau of Statistics survey provides an insight to this issue from a service user’s perspective. As observed in Chapter 2, a relatively large proportion of innovating firms (36.9%) in the Australian Bureau of Statistics survey were found to draw on consultants when translating their ideas into deliverable competitive advantage. For those firms making use of consultants, ‘local’ sources of this advice, defined as suppliers situated within 100 klm of the respondent’s site, were clearly the most important (Table 35).
Table 35  Methods Used to Acquire Knowledge or Abilities during 2003 (a), Innovating Businesses by Method Used and Location of Source

<table>
<thead>
<tr>
<th>Methods used (d)</th>
<th>From within 100km</th>
<th>From elsewhere in same state or territory</th>
<th>From elsewhere in Australia</th>
<th>From overseas</th>
<th>From any location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed new skilled staff</td>
<td>35</td>
<td>^5.6</td>
<td>^5.3</td>
<td>^2.9</td>
<td>39.9</td>
</tr>
<tr>
<td>Interchange of staff with another business</td>
<td>^4.4</td>
<td>*1.2</td>
<td>*2.1</td>
<td>^1.6</td>
<td>^8.0</td>
</tr>
<tr>
<td>Used consultants (or other paid advisors)</td>
<td>27.4</td>
<td>^8.0</td>
<td>^5.7</td>
<td>*1.7</td>
<td>36.9</td>
</tr>
<tr>
<td>Acquired new equipment or technology for producing this business’s goods/services</td>
<td>18.7</td>
<td>^6.1</td>
<td>^8.6</td>
<td>^7.9</td>
<td>34.3</td>
</tr>
<tr>
<td>Merger/takeover with/of another business (in whole or part)</td>
<td>^3.2</td>
<td>^0.4</td>
<td>*0.7</td>
<td>^0.1</td>
<td>^4.2</td>
</tr>
<tr>
<td>Other methods to acquire knowledge and abilities</td>
<td>*1.8</td>
<td>*0.6</td>
<td>*0.4</td>
<td>**0.7</td>
<td>*3.2</td>
</tr>
</tbody>
</table>

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution
* estimate has a relative standard error of 25% to 50% and should be used with caution
** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Calendar years.
(b) Proportions are of businesses reporting innovation.
(c) Businesses could identify more than one location.
(d) Businesses could identify more than one method.

Source: Australian Bureau of Statistics (2005)
Implications for the Geography of Innovation

These findings may not be surprising and are of limited policy interest in themselves. The evidence of distance deterioration in Advanced Business Services contact and therefore innovation impact only becomes important in the context of other evidence, alluded to earlier, that Advanced Business Services – proxied by exporter firms in these fields – have a tendency to concentrate in relatively few urban centres within modern economies. To restate the hypothesis outlined in Chapter 3, if there is a strong spatial bias in the geographic distribution of these Services and there is strong distance deterioration in their capacity to galvanise innovation, the geography of innovation will similarly be skewed in favour of those (relatively few) regions hosting strong concentrations of these services.

This line of argument can be illustrated using data from the Yellow Pages. Table 36 shows ‘Management Consultancy’ listings for all metropolitan areas in Australia. These are the same listings as those used for the screening survey to find candidates for participation in the Melbourne study reported above. Bearing in mind that there will be erroneous self-classifications and some duplication of phone number entries across the various metropolitan areas, this provides only an approximate indication of the national distribution of management consultancy firms. Nevertheless, if the average size of firm by employment is assumed to be the same in all cities, this indicator enables a scaling of the quantum of management consultancy services delivered out of each metropolitan area. Thus, with 32.5% of all listed Management Consultancy firms, Sydney might deliver about 6 times the volume of such services compared to Adelaide, which has only 5.8% of listings.
If the distance deterioration characteristics in billings observed for the surveyed Melbourne firms were to be applied across all the metropolitan areas, and if it is further assumed that the proportion of exporter firms in the relevant Yellow Pages listings is uniform across the nation, an index of management consultancy usage or management consultancy ‘intensity’ can be calculated for each city. Such an index is shown in Table 36, expressed in quantum of high end management consultancy time used per 100,000 jobs in the metropolitan area in question. Thus, enterprises in Melbourne, with a Management Consultancy Intensity Index of 1.02, make 28% more use of these services compared to Perth, which has an index of 0.80.

Because Melbourne generates a relatively large proportion of all specialised/high end management consultancy time (25.4% compared to its 18.6% share of all employment), and because there is a propensity for a relatively large proportion of this time to be sold within the Melbourne metro area, the city displays a higher Management Consultancy Intensity Index than all other cities except Canberra and Sydney. These metropolitan areas have even larger shares of total high end management consultancy time compared to share of employment.

Table 36 represents only a proto-type analysis. Clearly, each one of the assumptions detailed above and embedded in the calculation of the Management Consultancy.
Intensity Index needs to be tested and verified through city specific studies, including replication of the method used for the Melbourne survey of Advanced Business Service firms described here. However, if the pattern of index rankings estimated in Table 36 were to be borne out for all Advanced Business Services, the implication would be that the propensity for innovation would be strongest in those regions centred on Sydney, Melbourne, Canberra and, to a lesser extent, Brisbane. This affirms the scenario in Chapter 3 of a ‘core and periphery’ in the pattern of long term economic development, dominated by the major centres on the east coast.

From the Demand Side Perspective – Innovation Outcomes

The results of the regression analysis are summarised in Figure 37.

Considering the full data set (Panel 1 in Figure 37) it appears that manufacturing worker incomes are, indeed, inversely related to the (unweighted) distance from the nearest metropolitan area, albeit very weakly, with this factor explaining only 7% of the variation in salaries. This finding is broadly consistent with those of Graham (2006) regarding the elasticity of productivity in manufacturing (and other sectors) versus ‘agglomeration’, which, as explained, was measured in terms of accessibility to all employment in the UK. In effect, Graham’s method grants central locations in the larger cities the strongest agglomeration ratings with these ratings generally falling away with increasing distance from such locations. Graham found that centrality did not always advantage productivity within manufacturing. This advantage was generally confined to higher value added forms of manufacturing activity (see Table 26, on page 142).

Returning to Panel 1 in Figure 37, the explanatory power of distance weighted by LQI is far less than for unweighted distance and, in this analysis, is not statistically significant. This runs counter to the hypothesis in this thesis.

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26 Though it is likely that the general direction of the assumptions made here would be to dampen the Management Consultancy Intensity Index for Melbourne and Sydney vis a vis the other metropolitan areas. For example, one might expect that the proportion of Yellow Pages listed firms which are exporters would be higher in Sydney and Melbourne, and that, on average, Sydney and Melbourne firms are larger than their interstate counterparts.
However, the results change character as those SLA’s with unusually high D/LQI factors are progressively withdrawn from the regression analysis. Fourteen of the 894 SLA’s included in the analysis delivered D/LQI of more than 20. This occurs when SLA’s are some hundreds of kilometres away from metropolitan areas with weak specialisations in Advanced Business Services, most notably Hobart and Darwin. When these SLA’s are excluded (Figure 37 – Panel 2), the explanatory power of distance weighted for specialisation in Advanced Business Services begins to converge on that for unweighted distance, although the R²’s remain very low. Both equations are statistically significant (P = 0.05).

When the next tranche of SLA’s with exceptionally high D/LQI’s are removed from the analysis, that is, those with quotients greater than 15, weighted distance has much the same power as unweighted distance in explaining the variation in manufacturing worker incomes (Figure 37 – Panel 3). Again, both equations are statistically significant at the 0.5 level.

Finally, if the analysis is confined to SLA’s with D/LQI’s of less than 10 (which, it should be noted, comprise 95% of all SLA’s entered into the initial iteration of the regression), distance weighted for accessibility to Advanced Business Services is found to account for some 16% of the variation in incomes (in a statistically significant equation), compared to the (approximate) 8% found in each of the iterations using unweighted distance as the explanatory variable (Figure 37 – Panel 4).

In this analysis, it is the comparison between the R² outcomes under the two regression models (weighted and unweighted distance from jurisdictional capital city) which is of interest rather than the absolute explanatory power of the equations per se. The sequential withdrawal of particular data points meeting pre-determined criteria affects both models, so the fact that the R² shifts consistently in the weighted distance model while it remains stable in the unweighted case is potentially instructive. The sequential withdrawal of data points is not designed to improve explanatory power per se (which, in any case, remains modest) but rather to explore whether there are any tendencies in the wider data set germane to the research question.
Figure 37 Manufacturing Worker Income versus Distance from Jurisdictional Capital City – Unweighted and Weighted* for Specialisation in Advanced Business Services

Panel 1
Income versus Distance from Metro Area (Unweighted) - All SLA’s

\[ y = -0.2391x + 640.91 \]

\[ R^2 = 0.0726 \]

\[ F = 70.1 \]

Panel 2
Income versus Distance from Metro Area (Weighted for LQ) - Including Only SLA’s with D/LQ < 20

\[ y = -0.4434x + 618.91 \]

\[ R^2 = 0.0029 \]

\[ F = 2.6 \]

Panel 3
Income versus Distance from Metro Area (Unweighted) - Including Only SLA’s with D/LQ < 15

\[ y = -0.2504x + 641.64 \]

\[ R^2 = 0.0783 \]

\[ F = 75.0 \]

Panel 4
Income versus Distance from Metro Area (Weighted for LQ) - Including Only SLA’s with D/LQ < 10

\[ y = -0.2536x + 641.09 \]

\[ R^2 = 0.0805 \]

\[ F = 74.6 \]

* Scatter diagrams showing distance weighted by LQ plotted on a logarithmic X axis. F critical value for all equations = 3.85
The finding from the panel four analysis is aligned with the hypothesis that business innovation, proxied by manufacturing worker salaries, is advantaged by proximity to Advanced Business Services. Examination of the ‘excluded SLA’s’ in this fourth iteration of the analysis confirms that they are dominated by communities in Tasmania and the Northern Territory. Typically, these SLA’s feature higher manufacturing worker incomes than those reported by the full spectrum of SLA’s used in the initial iteration of the analysis, notwithstanding their apparently inferior access to Advanced Business Services. In the case of the Territory, incomes may, again, be boosted by the isolation factor noted above. In the case of Tasmania, the relevant enterprises may well benefit from relatively convenient access to Advanced Business Services delivered out of Melbourne, a factor which, of course, is not captured in a D/LQI factor calculated on the basis of distance from Hobart.

In interpreting the results of iteration 4, it is important to recall that this is inevitably a very crude analysis. Worker salaries and firm profitability can only be expected to be loosely related to comparative innovation performance in a data set such as that used above. As noted earlier, many other factors are likely to influence worker incomes at the SLA level, and some of these may be correlated in some way with D/LQI, in which case the explanatory power of D/LQI may be over-stated in a simple linear regression.

One obvious issue in this regard is that measured worker incomes will, in large part, reflect living costs. For example, the ‘Sydney premium’ for salaries is acknowledged across most industry sectors (see Australian Bureau of Statistics, 2007). Given that Sydney and Melbourne have comparatively high LQI’s as well as relatively high living costs, the regression analyses reported above may be reflecting the influence of these costs as opposed to access to Advanced Business Services. This possibility was explored by regressing average weekly rentals for houses (as a proxy for living costs) against D/LQI. The results, shown in Figure 38, confirm that average weekly rentals tend to be higher in those SLA’s with low D/LQI’s but the relationship is very weak.
This finding provides some comfort that iteration 4 represents reasonable evidence in support of the contention that the geography of innovation behaviour reflects the geography of Advanced Business Services. It is also interesting to note that the relationship shown in iteration 4 resonates with the findings of Gatrell (2002), albeit that, as explained earlier, Gatrell focussed on general business services rather than advanced skills in seeking to explain productivity outcomes in metropolitan versus non-metropolitan counties in Michigan, USA. Nevertheless, the limitations of the crude analysis presented here remain clear. Perhaps the most significant aspect of the foregoing discussion is that it demonstrates a methodology for quantitatively appraising how access to Advanced Business Services may shape the geography of successful innovation. The principal challenge is to generate, or synthesise, a more reliable data set measuring innovation outcomes at the small area level across Australia.
Qualitative Investigation of Advanced Business Service Use in Innovation Episodes

The following pages provide a brief description of each case study, identifying the nature of the innovation episodes in question and the links to Advanced Business Services. This, in turn, is followed by a synthesis of the key themes evident in the accounts provided by the respondents.

The Bendigo Case Studies

**Industrial Conveying**

Industrial Conveying (Aust) Pty Ltd (ICA) designs and builds materials handling equipment for a wide variety of industries including food processing, transport and printing and publishing. The firm’s manufacturing base and headquarters are located in Bendigo. ICA employs about 170 staff. It is a privately owned and managed corporation.

ICA epitomises many contemporary trends in advanced Australian manufacturing. While the company provides a complete assembly and fabrication service for its clients, it is more accurately characterised as an engineering solutions firm. It deploys engineering design staff to help clients specify their needs, and then develops unique or highly customised designs to meet these performance requirements. There is considerable intellectual content in the service it provides, and its market is sheltered from commodification to a large degree. ICA has developed a significant list of international clients.

The innovation episode cited by ICA involved the absorption of the engineering design team of a competitor firm, when the latter met with financial difficulties and was being wound up. ICA saw a need to strengthen its ‘solutions’ capability, particularly in metropolitan Melbourne where many of the company’s current and prospective customers are located.
The outstanding characteristic of this innovation initiative was that it was entirely conceived, developed and delivered by the CEO of ICA, who is also the founder and sole owner of the enterprise. The CEO deliberately avoided the use of outside advisors, regardless of their location in Bendigo, Melbourne or elsewhere. His experience with the use of consultants in previous business development strategies was that they took "a long while to understand the issues at hand" and provided advice that often overlooked or underestimated cultural and idiosyncratic "ways of doing things" in ICA. The CEO’s position is perhaps best described in his remark that "...if you want the job done properly, best do it yourself".

The biggest challenge faced by ICA in successfully introducing this innovation was the residual ‘them and us’ attitude carried by the staff of the absorbed firm. This was resolved by ensuring that the acquired team was functionally broken up and made responsible to a range of line managers based in Bendigo. As with all other facets of the innovation – finding a suitable location in Melbourne to house the new team, embedding advanced communication arrangements to fully integrate the Melbourne engineers with the production capacity in Bendigo and refining job descriptions – this major challenge was addressed without resort to advisors.

The CEO is currently contemplating a further innovation initiative, namely an organisational restructure to introduce a layer of ‘middle management’. This is seen as part of a succession strategy for leadership of the enterprise. Again, the CEO plans to deal with this challenge in his own way, without seeking advice from paid consultants of any type.

When probed on whether location in Bendigo had any bearing on how these innovation initiatives might be effected, the respondent did not refer to the lack of advisory services. Rather he discussed the difficulty which regionally based firms have in attracting staff with higher order skills.

**Bendigo Bank**

Bendigo Bank is one of the longest established public companies in Australia, having operated continuously for some 150 years. The company is noteworthy for its ‘community bank’ model, whereby Bendigo Bank facilitates the formation of locally
owned bank branches which operate under franchise. Bendigo Bank also operates an extensive conventional banking operation. Its engagement with local communities is the strategy for building the Bank’s brand and boosting customer loyalty. Moreover, this approach has characterised the Bank’s modus operandi from its founding days, when it was involved in a range of community based projects including infrastructure development and farming sector support.

The innovation event nominated in this case study was the formation of a community based enterprise in north-central Victoria manufacturing and retailing bio-fuels, using locally produced organic feedstock. Although this could be seen as an entirely new product, it represented an organic extension of the Bendigo Bank’s established business model for community owned bank branches.

Under this model, delivery of the innovation commences with consultation with the targeted community, to identify projects which the Bank and locals can ‘work together on to address demonstrated needs’. In this case, farming fuel costs were seen as a key issue and bio-fuel production an important opportunity to address this. The Bank then scopes the opportunity and tests the community’s willingness to proceed to the next step by calling for pledges to invest from the local community. Pending an adequate number and value of pledges, the Bank will develop a feasibility study, which is then independently appraised for robustness. If the proposal survives this scrutiny, a prospectus is prepared for the creation of the business and its governance structure, and this is marketed to those who pledged support.

Identification of this innovation opportunity, its implementation and its refinement post launch were all carried out by Bendigo Bank with a high degree of independence. No external advisors were used, other than the due diligence protocol of having an independent firm of accountants evaluate the business case. On some occasions, the Bank will take advice from specialist advisers where technical (usually engineering) issues arise. However, in this case the Bank had sufficient in-house knowledge about the bio-fuels sector to adequately assess risks and opportunities.

The case study respondent indicated that an innovation of this type would be approached in much the same way as previously, if it were to be undertaken again. There was little likelihood of involving paid external advisors unless, as noted, particular technical issues were raised. The Bank management feels that it is better
placed to identify needs and develop opportunities with local communities than most external consultants, who would require extensive briefings to understand the “Bendigo Bank way”. Moreover, undertaking these projects in an ‘in house’ way is seen to be an effective way of building staff engagement and skills.

The case study respondent also indicated that much the same approach would be applied, regardless of location in regional Victoria or metropolitan Melbourne.

**Hazeldene’s Chicken Farm**

Hazeldene’s is one of Australia’s leading poultry producers. Its farm and processing factory, located some 15 km from central Bendigo, ships around 100,000 frozen birds daily to customers in Melbourne and elsewhere. The business currently employs more than 500 workers.

Hazeldene’s began operations in 1957 and remains family owned and run. The current Managing Director is the son of the enterprise’s founder.

The innovation cited by this respondent involved a significant upgrading of the chicken processing line. A major investment in new production plant was made to shift from a poultry chilling process that was heavily dependent on immersion in cold water, to one dominated by air chilling. Air chilling is commonly used in Europe but is relatively rare in Australia. Apart from advantages in water savings (a key issue in drought exposed Bendigo), air chilling is likely to be more hygienic and delivers higher quality product, with less water bloating of the processed birds.

The decision to move the production process in this direction was prompted by the proprietor’s self initiated study tours of Europe. No local R&D was undertaken. To quote the respondent... “we sought to follow best practice overseas rather than trying to outrun the competition by inventing a new process locally”.

No external advice was sought from financial or business analysts when appraising the merits of the proposed investment. The respondent stressed that he and his management team were confident in their own ability to assess business development opportunities. He went on to remark that .... “we are constantly approached by...
consultants who say they can help us, but I find they talk in riddles, and show little understanding of our operations....I try to avoid them these days”.

Implementation of the new chicken processing line was also achieved without the assistance of outside consultants. Hazeldene’s directly tendered its equipment requirement (to two overseas suppliers) and used a local construction company to design and build the necessary factory extensions.

The Managing Director indicated that the innovation would have been rolled out in much the same way as previously, were it to be undertaken today. He also indicated that nothing would have changed had the business been located in Melbourne. When it was put to him that access to advice might be easier in the metropolitan area, he reiterated the view that consultants were unlikely to be of assistance, given the idiosyncrasies of the company.

Coliban Water

Coliban Water is a utility company responsible for the delivery of water supply, sewerage services and associated infrastructure in the Central Victoria region. The company was formed in the mid 1990’s when the then State Government moved to corporatise what had previously been statutory water authorities operating under relatively close ministerial oversight. Like all other water utilities in Victoria, Coliban Water remains wholly owned by the State Government. However, it carries out its functions on a strictly commercial basis, under the primary supervision of the Government’s independent regulator of infrastructure monopolies. These institutional reforms sought to usher in a subtle shift in utilities from a focus on engineering performance to a greater emphasis on customer service and improved returns from infrastructure assets.

The innovation episode nominated by Coliban Water related to management and organisational change. Upon his appointment in early 2008, the Managing Director resolved to rapidly and radically shift the culture of the organisation with greater productivity and improved responsiveness to customers in mind.

In the Managing Director’s words, the initiative was designed to ... “agree who we are, and establish a clear brand that reflects how we want people to describe us”. He
elaborated that .. “having established what we see as appropriate performance standards and acceptable business behaviours in line with our desired brand, the initiative addressed how we might hold each other to account for these outcomes”.

The respondent described the planned cultural change process as a “transformational endeavour” – a ‘step change’ in the context of the current thesis. The initiative was seen to be highly innovative in terms of regional practice, though not necessarily across Victoria or Australia generally.

The cultural change project involved one on one discussions between the newly appointed Managing Director and all staff in the organisation. With this feedback the Managing Director formulated a set of ‘change principles’ which he subsequently fleshed out with the assistance of a ‘kitchen cabinet’ comprising a group of future leaders from across the organisation. This process led to a new management structure and a comprehensive ‘spill and fill’ process for all senior management positions.

The subject innovation in Coliban Water was devised independently by the Managing Director, who, as noted, is a relatively recent appointment to the organisation. He did not seek ratification of the cultural change plan by the Board. The idea stemmed from conversations the Managing Director had had within his local business networks, including the CEO Institute. No consultant advice was sought in framing or refining the idea.

Moreover, no consulting advice was sought in implementing the cultural change strategy.

On the question of whether the initiative would have been handled in the same way had it been undertaken today, the response was .. “generally yes”. The respondent said some refinement was warranted, in that the one on one interviews had revealed a much greater preparedness to accept change amongst staff than what had been anticipated in the development of the strategy. In any case, the respondent saw no particular need to involve business advisers were the cultural change exercise to be repeated.
The Managing Director was also quite firm in the view that the initiative would have been pursued in much the same way had the organisation been located in metropolitan Melbourne. When asked to comment on the possibility that access to business advice might be superior in the city, he remarked that a “a two hour drive would not be a barrier to securing such support should a need for it arise”. On further probing, he indicated that his ‘trusted advisers’ were less likely to come from the ranks of paid consultants, than from past work colleagues and business associates encountered through training courses, conferences and the like.

**Jimmy Possum Furniture**

Jimmy Possum Furniture manufactures timber domestic furniture in its factory complex on the outskirts of Bendigo. The business is unusual in that it maintains a high degree of vertical integration. Jimmy Possum sources its own timber, employs in-house designers, runs its own furniture delivery fleet (both to supply its retail network and to service end-customers) and it directly operates its retail sales force from a network of showrooms across most of the Australian capital cities. Jimmy Possum has been operating for some 14 years and currently employs approximately 150 workers across all facets of its production and distribution process.

The innovation episode identified by this respondent concerned the introduction of a ‘healthy eating / healthy living’ program at the Bendigo factory. Management had observed that a substantial number of apprentices had been arriving at work ‘without a proper breakfast’. This was seen to be contributing to lapses of concentration on the job, generally poor health and lower morale, all of which was contributing to absenteeism. The CEO conceived of the idea to provide a morning meal for the factory workers and to introduce them to healthier patterns of eating and exercising. The program quickly developed from this base to include a worker well-being strategy, which included access to counselling for employees enduring work related stress or domestic problems, access to regular health checks (heart health, diabetes etc) and coaching on various life skills, including cooking healthy meals at home.

Whilst the idea behind this innovation was hatched by the CEO, she refined the concept in consultation with a friend who was employed as an outreach health worker in the Bendigo Community Health Centre. Nevertheless, the innovation was implemented within the Jimmy Possum business entirely by management, without
outside business advice. However, external experts (nutritionists, counsellors) were brought in as necessary to deliver the various technical services which management deemed necessary.

When probed on the question of using outside business consultants to refine and roll out the ‘healthy workforce’ idea, the respondent explained that external business advisers were most unlikely to “understand the Jimmy Possum way” or “affiliate with the company’s distinctive values”.

Not surprisingly the respondent also affirmed that the innovation would be designed, developed and delivered in exactly the same way, were it to be undertaken again.

On the question of whether the innovation would have been more difficult or easier to implement in a metropolitan setting, the respondent referred to the stronger community bonds in regional areas. These, it was claimed, made it easier to pursue team building initiatives such as the ‘healthy eating / healthy living’ program. When questioned on the potential advantage of easier access to Advanced Business Services in the metropolitan area, the respondent reinforced her general scepticism about the use of outside advisers. Indeed, she suggested that business in rural and regional areas were more likely to be resilient because of their ability to draw on in-house resources. She commented that the tendency for outsourcing in modern manufacturing was, in fact, robbing companies of a competitive advantage.

Bendigo Community Health

Bendigo Community Health (BCH) is a publicly funded health services provider in the Bendigo district. It operates under the strategic direction of a Government appointed Board. Like similar health services elsewhere in the State, BCH enjoys significant delegated authority to customise its services to suit local needs.

In 2006, BCH embarked on a service development initiative that proved highly innovative. The Elmore community situated some 40 minutes north of Bendigo had invited BCH to assess the scope for improved health services in the area. Elmore has a population of some 900 with a further 2,600 people living within its driving catchment. Hit by drought and the centralisation of Government and other services, the town was suffering business closures and high housing vacancy rates. However,
it retained a positive and energetic community. It also retained a medical General Practitioner (GP) who was in private practice but held a passionate and long-standing commitment to the district.

Discussions between BCH, the GP and local community representatives ultimately led to the formation of a customised public private partnership (PPP) for the delivery of health services into Elmore and district. The partnership had a modest start with some 1.5 GP’s employed, including the original Elmore doctor. This PPP now brokers the services of some 27 health professionals into the district, and is hailed as a best practice model by the Victorian Department of Human Services (DHS).

This innovative model relies on a series of resource and risk sharing arrangements which are governed by formal licence agreements. These ensure transparency and accountability in the respective contributions and obligations from the two partners in the enterprise – BCH and the original GP. Under these agreements the parties have jointly hired or contract in health professionals and support staff, and share the cost of premises and equipment.

The architect of the innovation was the Deputy CEO of the BCH, but the idea developed through extensive discussions between the prospective partners. The respondent regarded the resultant PPP model as a ground breaking initiative in a national context. Indeed, it is now being documented for promotion to other communities, and Monash University has been commissioned to undertake an evaluation of the model and its applicability in other regional settings.

Implementation of the innovation was achieved largely through the in-house resources of the two partners. However, it was necessary to engage specialist Melbourne based lawyers to advise on the best way of formalising the partnership and to help craft the necessary licensing agreements. The respondent noted that this expertise could not be found in Bendigo.

BCH is satisfied with the efficacy of the approach taken to developing and implementing this innovation, though less time would be taken up in preliminary discussions were the exercise to be undertaken again today. No reference was made to seeking additional paid professional advice in rolling out such initiatives in future.
On the question of whether innovations of this type might be easier (or more difficult) to implement in the metropolitan area versus regional Victoria, the respondent felt that the adversity faced by country communities such as Elmore’s may have assisted the process. Dealing with economic decline and population loss had built up a degree of trust amongst the transacting parties even before they engaged in a dialogue about how to meet the health services challenge in the district. This trust facilitated exploration of more radical ideas.

On probing, the respondent agreed that access to specialised business advice was more difficult and expensive in a regional setting (citing the need to hire Melbourne lawyers to help with the licensing agreements). However, she felt that this was not a barrier to the propensity for innovation in regional areas, rather a hurdle that had to be dealt with in the implementation process.

The Melbourne Case Studies

A. E. Smith Pty Ltd

This firm provides mechanical services, that is, heating and air-conditioning services, for major building projects. A. E. Smith Pty Ltd designs these service systems (as distinct from the heating and air conditioning plant itself), installs the required equipment and infrastructure and provides after sales service and advice. It manufactures ducting materials and modules. Otherwise, all mechanical components are sourced elsewhere. The company is currently structured around two major business units – construction, which is to do with delivery and installation of newly ordered mechanical services systems, and services, which focusses on support for customers in the commissioning and post commissioning period.

The innovation cited by the respondent (the firm's CEO) is "currently in train and about to reach fruition". It involves the establishment of a third arm to the business, to be known as Emerald Sustainable Performance (EmeraldESP). This will be set up as a quasi independent organisation, providing advice to the owners of existing buildings seeking to improve the environmental performance of these assets through
retrofitting, equipment upgrades and adjustments to built fabric. Whilst A. E. Smith Pty Ltd is already seen as a leader in sustainable mechanical services for new buildings, the company has recognised that these buildings constitute only a very small proportion of the standing stock of offices, factories, institutional campuses and housing. The main challenge in 'green buildings' lies in bringing the existing stock of buildings up to higher levels of environmental performance. This is potentially a very large market for A. E. Smith Pty Ltd.

This innovation represents a step change for the company; it is built on A. E. Smith’s current core business, but will entail an entirely new business model and customer base. Having said this, the company developed the proposition in organic fashion. The management team had made study tours of the US and had learned of the latent market for retrofitting B and C grade office buildings and the like. This prompted the hiring of an ex Honeywell sales representative who, relatively quickly, generated sizeable orders for the firm in the provision of sustainability advice and retrofitting of mechanical services. The flow of work from this initiative was seen to carry certain risks as well providing a continuing and robust source of sales. For example, customers would need solid guarantees that higher green star ratings achieved through retrofitting were 'real' and properly documented. Contractual arrangements would need to be carefully crafted to reasonably apportion risk of system failure or substandard performance in the future. In consideration of this potential and risks, the company resolved to establish EmeraldESP on a proper commercial footing, with its own business plan, brand and logo. Thus, the initiative moved from a sales and marketing putsch to the launch of a new enterprise.

Advanced Business Services have played, and continue to play, an important part in the development of EmeraldESP. Initially, consulting advice in 'green engineering' was sourced, in this case, from a trusted supplier in Tasmania. Specialist lawyers have been engaged to prepare the all important template contracts and guarantees for retrofitting services. Marketing experts, known personally to the A. E. Smith management, have been hired to develop a new brand and logo. The company is also planning to hire a US based consultant with direct experience in similar services, to provide advice and operational support as EmeraldESP is rolled out.

The respondent indicated that, were a similar initiative to be undertaken today, it would most likely be undertaken in a more deliberative fashion, with careful up-front
planning. As it happens, the advent of the 2008 global financial crisis has provided the company with a 12 month window of opportunity to “tidy up the business model and make sure it is on a robust footing”.

The respondent was clear that such an innovation would be more difficult to execute in a regional setting. He specifically cited lack of access to 'high calibre lawyers' and specialist advice, as well as suggesting that it would be difficult to recruit staff with the right skills (for example, the ex-Honeywell sales representative). He explained that the "people you need to speak to are not likely to be available in a place like Bendigo".

*mecu ltd*

*mecu ltd* is a credit union, headquartered in the Melbourne suburb of Kew and providing a range of financial services to customers across Victoria. It is the third largest credit union in Australia (ranked by net assets). As at June 2008, it held deposits of around $1.3 billion and employed some 189 staff. Net assets stood at $181 million²⁷.

*mecu ltd* traces its history to 1957 in the formation of the credit society supporting staff of the Commonwealth Scientific and Industrial Research Organisation (CSIRO). In successive decades, this antecedent organisation engaged in a series of mergers with the credit unions of Ansett Airways and the State Electricity Commission, as well as absorbing or acquiring a range of smaller community or workplace based financial institutions.

In the words of the respondent – *mecu ltd’s* General Manager, Development, the organisation had reached a point in 2002 where it was financially robust but had "lost its way". Neither the Board, nor senior management, or staff for that matter, could readily articulate the organisation’s point of difference and reason for being as an alternative to the mainstream banks. Whilst its business model was sustainable in an accounting sense, the organisation had become "moribund” and had no compelling sense of purpose.

Recognising this, senior management, including the CEO of the time and the respondent, prepared advice for the Board that it "was either time to hand shareholder capital back so that members might avail themselves of standard banking services elsewhere, or re-invigorate the community ethic which underpinned the formation of the business in the first place".

These senior executives appraised developments in the credit union sector in the UK and US and undertook a study tour of Germany to better understand the changing role and purpose of community based financial institutions. Amongst other things, their hypothesis of an emergent and sizeable market amongst ethical or socially responsible investors was confirmed. That is, they became convinced that there was a large segment in the community interested in seeing their savings deployed in businesses that were aligned with the ‘sustainability agenda’, including affordable housing, bio-diversity protection and climate change mitigation and adaptation.

The innovation, therefore, was to transform the credit union built on tenuous affiliations based on the home location of members and historic workplace connections, to one which would reflect and leverage shared concerns amongst members for sustainable development. This innovation was ‘launched’ simultaneously as merger talks with another relatively large credit union were coming to a close. The formation of a new organisation, mecu ltd, was the product of this merger plus the repositioning strategy based on sustainable development.

The innovation was entirely conceived ‘in house’, and the architects of the mecu ltd transformation resolved early on to develop and implement the idea using staff rather than outside consultants. They had canvassed the possibility of using some of the larger financial industry consultants, but had found that these organisations did not share the same values or vision. Critical to the mecu ltd vision was that it would not become ‘just another bank’. In the view of the innovation champions at mecu ltd, the mainstream consultants to the industry would have simply replicated standard banking models in their advice.

Thus, key data gathering tasks, including surveys of member aspirations and staff consultation, were performed without the aid of advisers.
Nevertheless, specialist advisers were recruited to perform a critical role in the transformation process. This involved auditing *mecu ltd* information systems to ensure that the organisation could transparently report upon its performance with respect to sustainability outcomes. This related not only to the deployment of depositor funds in sustainability friendly products and projects, but also the day to day operations of *mecu ltd* in terms of carbon impact, water use and worker welfare. These sustainability auditors established a framework of goals, standards and operating guidelines which enabled *mecu ltd* to hold itself out as a credible leader in ‘green and socially responsible finance’.

In the respondent’s view, the formation of *mecu ltd* genuinely represented a ‘strategic leap’ not only for the business itself but in the wider context of the Australian financial sector.

When asked about whether this innovation would have been carried out in much the same way today, the respondent pointed out that the greatest difficulty faced in the process was in making the commercial case for the shift to a brand based on sustainability. Senior management had collected sufficient evidence that there was likely to be a substantial latent market for such products, but could not quantify for the two boards in question the scale of the business that would be generated and the risks involved. The innovation was carried through anyway because the boards were sufficiently in tune with the qualitative arguments put by management. However, in a similar initiative today, the respondent felt that the evidence gap regarding the business case would need to be filled more convincingly. How this would occur he could not say.

On the question of whether a regional location would have helped or hindered in the execution of such a transformative innovation, the respondent indicated that it was unlikely to be possible outside the metro area “because of the lack of appropriate skills – the people you need to speak to just aren’t there”. He recounted that *mecu ltd* had, in fact, contemplated shifting the bulk of the business to a regional location as part of its transformative strategy, but found that such a move was not a viable proposition because of assessed shortcomings in human capital and advisory services.
Nestlé - Peters

Nestlé – Peters employs some 800 workers in its Mulgrave factory producing a wide range of ice cream products. The company is one of two large scale manufacturers of these products (the other being Streets, based in Sydney).

The respondent was the Site Production Manager. He explained that he had assumed the current role about three years ago, after spending some 14 months in a ‘corporate role’ within Nestlé – Peters. Prior to this, he had managed another Nestlé – Peters plant in northern Melbourne. He also indicated that he had once run a confectionery plant in Maryborough in Central Victoria.

The innovation cited by this respondent involved the re-commissioning of a mothballed production line to respond to a capacity bottleneck identified by a joint factory and corporate management team. The re-commissioning of the line entailed a great deal of re-engineering of the old plant to introduce improvements tested or achieved in more recently installed lines at the factory. It also involved a significant investment in robotic automation of the packaging and distribution functions at the end of the line. Overall the innovation cost approximately $3 million to implement, including extensions to factory buildings.

Little outside expertise by way of advanced business services was used in the design and execution of this innovation, though the respondent noted that some of the equipment suppliers provided technical support as well as the relevant machinery. On probing, he further explained that in some broader areas of factory operations, like reducing energy consumption, conserving and re-using water in production processes, market research, business strategy development and some aspects of training and human resource development, Nestlé – Peters made significant use of consultants and outside suppliers.

Prior experience with these outside consultants was seen to be a factor in the company’s choice of contractors, but rarely was it the most important one. The respondent noted that much depended on the job at hand; if it was a production or management problem encountered before there was a tendency to go back to suppliers who had established a successful track record with the company. However,
if the firm was ‘looking for ideas’, it would deliberately seek out alternative views, possibly from a fresh pool of consultants.

On the question of the relative difficulty or otherwise of undertaking innovations of the type discussed in regional as opposed to metropolitan setting, the respondent drew on his prior experience in Maryborough. He mentioned the relatively limited supply of skilled labour in country areas as militating against innovation, but particularly highlighted poorer access to what he termed “cream of the crop” consultants in production engineering. He remarked that these high level advisers and suppliers were likely to gravitate to the metropolitan area where opportunities for their own skill development were greater and the projects on offer were “more exciting”.

**Jemena Corporation (formerly Alinta Limited)**

Jemena is an electricity and gas utility company. It owns and operates the electricity distribution network which services the south eastern suburbs of Melbourne, as well as the natural gas infrastructure servicing the whole of the State of Victoria. Jemena also has electricity and gas businesses in NSW, the ACT and Queensland. The company is a product of energy sector reform pursued under National Competition Policy in Australia from the early 1990’s, and more particularly, the privatisation of the power and gas industries in Victoria during the period of the Kennett Government (1992 – 1999).

More specifically, Jemena was one of three businesses formed following the sale, in late August 2007, of Alinta Limited to a consortium comprising Singapore Power International (SPI), Babcock & Brown Infrastructure (BBI) and Babcock & Brown Power (BBP). Alinta was a diversified energy company which grew from a gas based utility in Western Australia. Alinta had acquired various gas and power assets and concessions on the east coast.

The respondent in this case study – the Chief Operating Officer (COO) of Jemena – identified the expansion of the company into a new market as the innovation focus for discussion. The innovation involved Jemena moving back into the WA market, not as an asset owner and operator (which was ruled out under the terms of the Alinta sale and break up), but as a provider of various maintenance, cable laying, inspection and
other operational support services to power and gas companies in that State. WA was identified as a strategic market and a 'natural domain' for Jemena, given its heritage. Becoming a service provider in that market was targeted as a key growth opportunity for Jemena in its first 4 years of operations.

The innovation involved the acquisition of two relatively small (family owned) companies already active in the relevant service areas, and the rapid development of a competent field force, without being seen to be poaching the human resources of WA enterprises which were formerly aligned with, or part of, Alinta.

The idea for this innovation was generated early in the formation of Jemena, by its Board and senior management. The new owners came to the business with growth opportunities uppermost in mind. Senior management subsequently developed what the respondent described as a "classic process of environmental scans, business cases and due diligence investigations" before arriving at a service provider strategy and business acquisition plan.

The innovation was new and, "in some ways, quite dramatic" to the firm, but was not seen by the respondent to be particularly novel in terms of the energy sector generally.

In terms of the sheer amount of time spent, most of the effort in developing and implementing the innovation was expended by senior management. However, Jemena made use of specialised energy sector consultants to conduct a preliminary analysis of growth opportunities in the WA market. These specialised consultants were Melbourne based, though the respondent noted that this was 'coincidental'. The consultants were chosen because they were nationally recognised and trusted advisers.

The respondent also observed that while Jemena "probably had the necessary market analysis skills in house, the use of consultants was important as this was a way of opening doors that would have otherwise been closed to us". In other words, independent approaches to potential customers and partners via consultants improved Jemena’s chances of designing an effective growth expansion strategy, by expanding collaborative opportunities, and adding qualitative depth to market intelligence.
The cost of engaging the specialised consultants was likely to be less than 10% of the total cost of due diligence in framing and implementing the growth strategy, but it was seen to be vital ingredient in the success of the venture.

Jemena also used legal consultants in the later stages of the process. These steps encompassed acquisition of the new businesses and the formulation of complex service contract models.

The respondent indicated that the innovation would be implemented in much the same way today as it was previously, though the tactic of using external support to open doors had proven very cost-effective and might well be used more on similar exercises in the future.

The hypothetical question regarding how the innovation experience might have been different had the business been located in regional rather than metropolitan Victoria was difficult to answer, as it is unlikely that a utility corporation like Jemena, with assets counted in the $billions, would operate from such a base. The respondent opined that this scale factor was likely to be the key factor in different innovation outcomes rather than geography per se.

**John Sands Pty Ltd**

John Sands is a marketer of greeting cards. It is a long established brand in the Australia, but is now owned by American Greetings, one the US’s largest designers, manufacturers and distributors of greeting cards and associated merchandise.

John Sands employs approximately 400 people, including off-site sales representatives.

The respondent CEO identified a range of innovation episodes including the decision taken some 2 years ago to gradually phase down manufacturing of greeting cards at the company’s Clayton plant and migrate this to off-shore providers, mainly in China. More recently, the company has commenced an investigation into the outsourcing of its warehousing and distribution functions. These two innovations were characterised as a focussed strategy to consolidate into the firm’s core business of marketing.
greeting cards whilst controlling, but not owning, the value chain. In this sense, this respondent provided a clear example of the unbundling process referred to in this thesis. The main driver of this strategy was cost reduction; in a mature market, cost competitiveness is crucial to survival and profitability.

The respondent also referred to an innovation involving the substitution of electronic transfer of data on stocks and orders in retail outlets for a cumbersome paper based system. This innovation had a human resource dimension as well in that the flexible, simple and efficient data gathering system was well suited to a part-time sales force comprising mainly women with young children, seeking casual working hours.

The strategy to close down manufacturing operations was devised by senior management, with the respondent acting as the principal architect of the innovation. Manufacturing had been part of the company’s operations for more than 30 years, so this move was seen as a dramatic change, indeed, a ‘step change’. Because the phase down was part of deliberate strategy as opposed to a reaction to a sudden shift in market conditions, it was put into practice with considerable lead time. The workers in question were notified 18 months ahead of the closure. Management worked directly with each of the affected staff to build up their skills for, and prospects of securing, alternative employment in the area. This included formal training provided mainly by outside contractors but delivered on the John Sands premises. It also included direct canvassing of about 200 businesses in the area, highlighting the opportunity to take up well trained workers from the John Sands plant.

As a result of these measures, the shut down of manufacturing operations went ‘relatively smoothly’. On questioning as to whether the strategy might be altered were it to be undertaken again, the respondent suggested that a more formally documented planning process would probably be adopted, as distinct from the “strategic planning on the run approach which we applied”. He further indicated that this formal planning process would probably involve the use of appropriate consultancies.

This is being borne out in the method John Sands is applying to the possible outsourcing of warehousing and distribution. Experts in logistics and work process mapping have been engaged to assist management to gauge potential cost savings
and risks. The respondent reflected that the earlier exercise in outsourcing manufacturing had shown management that it could not rely on in-house experience to detect all relevant considerations in a major strategy decision – “we don’t know all the unknowns”.

The respondent indicated that the manufacturing phase down and the outsourcing of warehousing and distribution would most likely be more difficult to execute for a similar business in a regional Victoria setting. This was mainly to do with the ‘thinness’ of the labour market – there would be fewer opportunities to have redundant staff re-employed elsewhere in the district. He confirmed that it might be “tougher to source specialist consultants”, though he felt that this was unlikely to apply to logistics consultants who “were likely to travel to wherever the job is”.

**Monashlink**

Monashlink is a government funded but independently constituted community health centre providing a range of preventative health services and associated education programs in Melbourne’s inner south eastern suburbs. Some of these suburbs host heavy concentrations of public housing dating back to the early post war period, when these estates were developed to support industrial development. Changes in government policy over the past two decades have seen this stock of public housing increasingly targeted at high needs, welfare dependent households, resulting in heavy concentrations of disadvantage. These feature high morbidity levels in a metropolitan sub-region which is otherwise reasonably well endowed in jobs and opportunities. Community Health Centres, such as Monashlink, are often commissioned by Government to target these hotspots, to contain the latent heavy demands on the hospital system.

Services like Monashlink are typically called upon to implement programs according to ‘templates’ which have been developed by the central health services bureaucracy of the State. One such program is known as the Early Intervention in Chronic Diseases (EICD) initiative. It is focussed on educating and supporting individuals with high risk exposure to diabetes and cardio vascular diseases.

The template in this case involves the use of "Health Coaches", to work with individuals and groups to develop and implement exercise and healthy eating
programs. This model has been found to work well with higher income groups and people with stable home lives, but it is not as effective with welfare dependent clients suffering from substance abuse, occasional homelessness and other severe disadvantage.

The Monashlink innovation was to add new features to EICD to better address the profile of its heavily disadvantaged clientele. These included adding counsellors to the health professional teams working in an outreach capacity. This facilitated a shift from a patient care focus (the traditional modus operandi of health professionals) to one that appreciated the wider social context of the presenting client and the factors that might condition their motivation to participate in any ameliorative program. Another new feature was to connect with difficult to reach clients through a pets program, which included a job creation dimension (e.g. dog grooming).

These innovations were developed, in part with the assistance of consultants, mainly through participation in formal strategic planning processes for services. The consultants in question tend to be free-lancers and SME’s. They were chosen by the respondent (the CEO) because of their track record in the field, known to the CEO by prior experience with the consultants involved or through contact with trusted colleagues in the industry.

In the current case, one of these consultants was subsequently recruited to staff and now directs further development of the EICD and other programs from within the organisation.

By coincidence, the respondent had, until two years ago, run a similar service in Bendigo. He suggested that innovations of the type described above could be “easier in the country, provided the personalities get along. If they don’t, you tend to find an entrenched conservatism and resistance to new ideas, which is difficult to break through”.

On the role of consultants in the innovation process, he commented that there was reasonable access to local advice in Bendigo, but that better qualified and more experienced advisors were more likely to be sourced in Melbourne. Upon further discussion of differential access to this higher quality advice, he speculated that the consultants in question would probably be prepared to travel to where the work is.
Overview and Implications

A scan of the innovation episodes across the case study firms (Table 37) indicates little difference between the regional and metropolitan respondents in terms of the scale, ambition and degree of novelty in the business improvements described. However, beyond this there were some recurrent themes that separated the innovation behaviours of the two panels.

The metropolitan case study firms tended to make greater use of Advanced Business Services, across all phases of the innovation episodes in question. Indeed, there was a distinct element of distrust, or even antipathy, in at least three of the Bendigo case studies (ICA, Hazeldenes and Jimmy Possum) regarding the role of outside advisors in delivering innovation. These and other Bendigo based respondents were inclined to stress how ‘unique’ their businesses were and how it would be difficult for an outsider to come to grips with these peculiarities and competitive strengths. No such sentiments were expressed amongst the Melbourne case study firms, with the exception of mecu ltd, which noted that mainstream consultants in the banking services area were unlikely to appreciate the sustainability dimension which mecu ltd was trying to bring to its brand. However, unlike its regionally based counterparts, even mecu ltd was quite open to the use of consultants in delivering other aspects of the innovation process.

This clear difference in the responses is suggestive of a general lack of experience in deploying consultants in regional areas, which may be a function of lack of availability. In this regard, it is interesting to note that of the three Bendigo respondents who felt that location could make a difference to the ease with which an innovation episode might be executed, two cited constrained access to higher order advice as a disadvantage in regional areas.
### Table 37  Case Studies – Headline Findings

<table>
<thead>
<tr>
<th>Case study organisation</th>
<th>Innovation type 1</th>
<th>Degree of novelty2</th>
<th>Role of Advanced Business Services in the cited Innovation</th>
<th>Anticipated role of Advanced Business Services in future similar innovations</th>
<th>Regional versus Metropolitan Location</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Development</td>
<td>Implementation</td>
<td>Refinement</td>
<td>Influence of location on difficulty or ease of implementing innovation</td>
</tr>
<tr>
<td>ICA</td>
<td>Acquisition of a competitor</td>
<td>Step change</td>
<td>New to firm</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bendigo Bank</td>
<td>New product</td>
<td>Incremental</td>
<td>New to firm</td>
<td>None</td>
<td>Minor</td>
<td>None</td>
</tr>
<tr>
<td>Hazeldene’s</td>
<td>New production process</td>
<td>Incremental</td>
<td>New to firm</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Coliban Water</td>
<td>Organisational reform</td>
<td>Step change</td>
<td>New to firm</td>
<td>None</td>
<td>Minor</td>
<td>None</td>
</tr>
<tr>
<td>Jimmy Possum</td>
<td>Human resource management improvements</td>
<td>Incremental</td>
<td>New to industry</td>
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<td>Minor</td>
<td>None</td>
</tr>
<tr>
<td>Bendigo Community Health</td>
<td>New product</td>
<td>Step change</td>
<td>New to Australia</td>
<td>None</td>
<td>None</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Development</td>
<td>Implementation</td>
<td>Refinement</td>
<td>Influence of location on difficulty or ease of implementing innovation</td>
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<td></td>
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<td>Development</td>
<td>Implementation</td>
<td>Refinement</td>
<td>Influence of location on difficulty or ease of implementing innovation</td>
</tr>
<tr>
<td>Jemena</td>
<td>Entry to new market</td>
<td>Step change</td>
<td>New to industry</td>
<td>Significant</td>
<td>Minor</td>
<td>None</td>
</tr>
<tr>
<td>mecu ltd.</td>
<td>Organisational reform and repositioning in market</td>
<td>Strategic leap</td>
<td>New to Australia</td>
<td>None</td>
<td>Significant</td>
<td>None</td>
</tr>
<tr>
<td>Nestle - Peters</td>
<td>New production process</td>
<td>Incremental</td>
<td>New to Australia</td>
<td>None</td>
<td>Minor</td>
<td>Minor</td>
</tr>
<tr>
<td>John Sands</td>
<td>Re-casting of supply chain</td>
<td>Step change</td>
<td>New to firm</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Monashlink</td>
<td>Product modification</td>
<td>Incremental</td>
<td>New to industry</td>
<td>Moderate</td>
<td>Minor</td>
<td>None</td>
</tr>
<tr>
<td>A E Smith</td>
<td>New product</td>
<td>Strategic leap</td>
<td>New to industry</td>
<td>Moderate</td>
<td>Significant</td>
<td>Significant</td>
</tr>
</tbody>
</table>

1 Following the typology of innovation set out by Carnegie and Butlin (1993)

2 Following the typology described in Department of Industry Tourism and Resources (2006)
Not only did the metropolitan respondents report a stronger involvement for Advanced Business Services in their chosen innovation episodes, they tended to indicate that the same or more prominent role could be expected of these Services in prospective innovations of a similar type. Almost without exception, the Bendigo respondents felt that future innovations would be carried out in much the same way as before, that is, with minimal or no involvement of outside advisors.

The importance of face to face contact and trust based relationships did not emerge as an overt and consistent theme in the case studies. Nevertheless, these issues figured prominently in four of the metropolitan firms; A. E. Smith Pty Ltd appointed marketing and branding consultants based on established personal relationships; Jemena hired electricity industry analysts to assist in market scoping because it knew the consultants in question were well known and trusted in the industry; Nestlé reported that it went back to a trusted group of consultants and advisors for much of its routine process improvement, market research and strategy work; and Monashlink appointed consultants mainly on the strength of prior experience with them or personal referrals.

Overall, the evidence from the case studies was consistent with the hypotheses underpinning this thesis. The regionally based firms were clearly less engaged with Advanced Business Services in their innovation strategies. Moreover, a recurrent theme amongst metropolitan and non-metropolitan respondents alike was that the lack of access to higher order advice in regional areas was likely to retard the innovation process. Both these factors are suggestive of a distance decay in the propensity for innovation, linked to the access to metropolitan concentrations of Advanced Services. These findings are all the more noteworthy for the fact that Bendigo is relatively close to Melbourne.

Assessment of the Research Evidence

The evidence assembled in this Chapter points to significant distance deterioration in the impact of Advanced Business Services as catalysts for innovation, which in turn, implies a bias in innovation outcomes in favour of those regions which are well endowed with such Services. The supporting evidence generated from the supply side
analysis (the Melbourne survey of Advanced Business Service firms) and the qualitative ‘demand side’ analysis (case studies of Advanced Business Service use amongst metropolitan and regionally based firms) is the clearest in this regard. The findings from the quantitative ‘demand side’ analysis are also congruent with the hypothesis, but cannot be taken as definitive owing to data limitations.

Observed in the context of the literature review, these findings offer a number of contributions to the international literature on innovation and regional development.

Firstly, while others have noted the uneven distribution of business services across Australia under the influence of globalisation and the reorganisation of economic activity (see Baum and O’Connor, 2004), this thesis has proposed a new method for estimating the degree of spatial concentration of advanced ‘thinking power’ in the national economy. This sharpens our understanding of the dominant (and growing) role being developed by Sydney and Melbourne as dispensers of these vital services.

Secondly, the thesis has clarified the need to move beyond traditional conceptualisations of innovation which focus on commercialisation of the outputs from formal research and development. It has demonstrated that in contemporary advanced economies, innovation takes a much more complex network form where knowledge intensive business services are crucial agents in successful delivery of commercial advantage from innovation initiatives. The rhetoric of policy has started to reflect these new perspectives (see Cutler and Company, 2008) but policy practice still lags far behind, partly for want of a compelling theoretical framework and evidence base in support of the network model of innovation (Roberts, 2009). To some extent the thesis addresses this gap in the literature.

Thirdly, the thesis provides robust evidence that Advanced Business Services are, indeed, inclined to favour local clients in terms of any positive impact they might have on the propensity for successful innovation. This is the first time this tendency has been demonstrated in an Australian context. Allied to this, the thesis provides new qualitative insights, based on detailed case studies, that regionally based enterprises are less likely to be engaged with Advanced Business Services and are therefore likely to suffer a long term innovation disadvantage.
These findings have significant implications for policy regarding the development of Australia’s space economy. These are taken up in the final Chapter of the thesis.
5 Conclusions and Implications for Public Policy

The literature on Advanced Business Services shows that these firms constitute a key element in the Australian innovation system. They perform a knowledge creation and technology diffusion role which is vital to the capacity of Australian firms to remain competitive in domestic and international markets. The role and impact of Advanced Business Services appear to be highly important under both 'organic' models of the innovation process and more traditional 'Schumpeterian' models of innovation characterised by a strategic leap in product offering and/or in the organisation of production.

It follows from this finding that the ability to secure quality advice and management involvement from advisory firms offering high calibre problem solving skills and brokerage of new ideas, is important to regional prosperity. In other words, firms in those regions which, for whatever reason, suffer poor accessibility to Advanced Business Services will ultimately be less competitive vis-a-vis otherwise similar firms which enjoy greater opportunities to interact with these providers of insight and solutions.

The international literature on Advanced Business Services also tells us that these firms have a strong propensity to cluster into relatively few geographic service points. This situation is certainly evident in Australia, with Sydney and Melbourne together accounting for more than 80% of the nation’s high end services, a proportion well in excess of these two cities’ share of all business activity.

This concentration into relatively few centres is partly explained by agglomeration economies; that is, the need for Advanced Business Services to be close to kindred and complementary service firms so that they (and, indeed, their clients) might rapidly assemble strategic teams of advisers which are precisely suited to the needs of the clients in question. Labour market efficiencies are also relevant in this regard, with all firms benefiting from a broad and deep metropolitan pool of analytical and creative skills.
The fact that supply side efficiencies effectively herd Advanced Business Services into one or two pre-eminent supply points across the nation does not necessarily imply a geographic bias in the propensity for innovation. But, for this bias to be avoided, it would need to be assumed that the spatial friction encountered by Advanced Business Service firms in reaching clients located outside their host region is fully and readily overcome by modern communication technologies and low cost travel. On this basis, a manufacturer of specialist cheeses would enjoy the same quality of advice on export finance, design and packaging, quality assurance, logistics planning and marketing, whether they are located in Red Hill on the Mornington Peninsula, 90 kilometres from Melbourne, or at Red Cliffs located some 540 kilometres from the State Capital, near Mildura. Conversely, the providers of Advanced Business Services could be expected to generate much the same interaction with (and fees from) remote as well as local clients.

The literature is mixed on this issue. Taking a cue from the ‘lifestyle school’ – those economic geographers who emphasise the footlooseness of knowledge workers (Malecki, 1984, Blakely, 1991 and Florida, 2000, 2002), it might be held that employees and owners of Advanced Business Service enterprises are particular about the type of work they take on, where and through which social networks. Under this view, it cannot be assumed that these types of enterprises will distribute their services to all comers over space, as would suppliers of basic commodities or other products where cost and achievable price are the key determinants of market share. This line of argument suggests that not only do Advanced Business Services cluster in particular regions, but their innovation boosting capability will be most strongly felt in their host region.

On the other hand, Sassen (1991, 2000) puts a strong case that the most advanced of the producer services have been liberated from dependence on the local regional hinterland.

"Even though manufacturing – and mining and agriculture, for that matter – feeds growth in the demand for producer services, its actual location is of secondary importance for global level service firms. .................New York lost 34% of its manufacturing jobs from 1969 and 1989 in a national economy that overall lost only 2% of such jobs and that actually saw manufacturing growth in many areas. The British economy lost 32% of its manufacturing jobs from
1971 to 1989, and the London region lost 47% of such jobs. Yet both cities had sharp growth in producer services. This divergence points to the fact that the finance and producer services complex in each city rests on a growth dynamic that is somewhat independent of the broader regional economy – a sharp change from the past, when a city was presumed to be deeply articulated with its hinterland.” (Sassen, 2000, p. 71)

Similar perspectives are discussed in Spiller (1999). Nevertheless, the question remains: while Advanced Business Services increasingly reach out to widely distributed clients located well beyond the host city, is the frequency or quality of this service diminished in any way by this distance? Do clients in the host region enjoy a better quality of service and therefore better access to the innovation and productivity edge which these firms offer?

In referring to the superior economic performance of England’s South East Region, incorporating the prospects of manufacturing as well as service firms, Sassen’s own work hints that proximity to globally oriented producer services can be an advantage to the host region (Sassen 1991, p. 147). It is also interesting to note that in a study of Sydney’s economic geography (SGS Economics & Planning Pty Ltd, 2004), manufacturing production per worker was found to be somewhat higher in the Sydney region compared to greater Melbourne, notwithstanding the latter’s stronger manufacturing base and numerical superiority in the export of ETM’s. Could this productivity be a function of local access to superior Advanced Business Services?

According to Eraydun and Koruglu (2004), there are some consistent patterns emerging from a range of recent studies which have examined how production firms go about their purchases of services. Firstly, it appears that production firms source required services from internal and external providers in roughly equal proportions. In terms of externally sourced services, the general tendency is for these services to be provided locally. More specifically:

- the share of services bought locally varies between 47% and 85%;
- the share bought outside the host region, that is from more than 50-100 klm away, falls in the range 11% to 37%; while
- importation of services from abroad can be anywhere between 0% and 13% of such purchases.
The implication from these figures is that client firms prefer to deal with locals wherever possible. This would be consistent with the commonly reported proposition that ‘spatial proximity facilitates contacts, reduces uncertainties, creates trust relations, enables access to both codified and tacit knowledge, accelerates cooperative learning and assists effective knowledge transfer’ (Eraydun and Koroglu, 2004, p 4). This said, many of the studies reviewed by these authors suggested differences in the tendency to purchase locally depending on the nature of the service in question. General legal, accountancy, design and banking services are the services that are most commonly purchased locally. More specialised or technically oriented services, for example, engineering consultancy, management consultancy, legal consultancy and market research are more likely to be purchased from more distant suppliers.

These variations in the tendency to purchase locally versus inter-regionally might support speculation that some producer services ‘travel better’ than others; that is, their quality and impact as far as the client firm is concerned are not eroded as a result of their delivery by remote and unfamiliar companies and people. Intuitively, this is unlikely to be the case. There is no obvious reason why clients would suspend their usual preference for ‘working with the people they know’ (a preference presumably influenced by the prospects of better knowledge transfer – see Storper and Venables, 2002) for some types of services versus others. The more likely explanation, as discussed at length by Sassen (2000) is that some services are so specialised they can only be feasibly delivered out of relatively few cities nationally or globally, meaning that many clients will have no choice but to import advice from these limited service points.

Under these circumstances, a client’s remoteness from the supply points for more specialised services is likely to be an inhibitor to usage. Moreover, lack of familiarity with the service providers is likely to reduce the innovation transfer benefit for the client, when usage of these services does occur.

In this thesis, this proposition of ‘distance deterioration’ in the innovation boosting effect of Advanced Business Services was tested via a random sample survey of more than 100 these specialised service firms located in Melbourne. This showed that while inter-regional sales are undoubtedly important to these enterprises, the lion’s share of their interaction with clients, and, presumably, their innovation boosting effect occurs
within the host region. Accompanying this finding was a preliminary ‘demand side’
analysis which suggests that innovation outcomes, proxied by manufacturing worker
incomes, may well diminish with increasing distance from key supply points for
Advanced Business Services. Moreover, detailed case studies of the innovation
experiences of 6 firms located in regional Victoria versus 6 matched firms in
metropolitan Melbourne produced significant qualitative evidence in support of the
distance decay hypothesis.

This thesis points to emergent policy challenges. The continued ‘unbundling’ of the
value chain in the modern, globally engaged, economy is spawning greater numbers
of Advanced Business Services and greater specialisation in these Services. This
process is generating significant productivity gains which ultimately benefit the whole
national community. Growing recognition of such shifts in production systems is
leading to a much stronger focus on knowledge intensive services as drivers in macro-
economic policies. This is discussed by Howells (2006) – see Table 38.

However, there is far less policy attention given to the ‘natural’ tendency for
Advanced Business Services to concentrate in relatively few regions and for these
regions to enjoy superior propensities for innovation as a result. So while Advanced
Business Services are playing a vital role in growing the national wealth pool, their
evolution in a passive policy environment could see this wealth less equally
distributed spatially, suggesting, ultimately, the formation of a core and periphery
pattern of economic development in Australia.

This potential is illustrated in Figure 39, which also summarises the key propositions
explored in this thesis. Improvements in ‘physical’ technology such ICT, ‘institutional’
technology (such as advances in the governance of international trade and inter-
jurisdictional capital flows) and ‘organisational’ technology (such as human resource
management practices, enterprise resource management (ERM) systems and
customer relationship management (CRM) systems) have facilitated the integration of
inter-regional and international markets. Enterprises have been empowered to
contract out, or influence through a variety of other partnership arrangements, a
multiplicity of value adding processes, all with comparatively low transaction costs
both in direct financial and risk terms. Coase’s (1937) glimpse of vertical
disintegration of firms, or the unbundling of value chains with advances in technology,
has been fulfilled and continues to gather momentum.
Table 38  **Underlying Policy Regimes for Industrial and Innovation Policy in relation to Services, Advanced Economies**

<table>
<thead>
<tr>
<th>Policy Regime 1: Denial (Mid 1960s – end 1970s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain manufacturing, and manufacturing-centric policies, as long as possible.</td>
</tr>
<tr>
<td>Assume relative growth of services will 'bottom out' eventually</td>
</tr>
<tr>
<td>'Normal service' will then be resumed and manufacturing-centric policies can be applied.</td>
</tr>
<tr>
<td>In the meantime some tweaking of policies may be necessary to satisfy emerging interest groups in services, e.g. tourism ('through a dog a bone').</td>
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<tr>
<th>Policy Regime 2: Retreat to the High Ground (Early 1980s – mid 1990s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge that manufacturing and resource-based activities will decline relatively and absolutely and that services will continue to grow, but the focus is still on manufacturing.</td>
</tr>
<tr>
<td>Policy aim to develop high technology and high value manufacturing.</td>
</tr>
<tr>
<td>Realisation that some high value services may support and help shore up this high value manufacturing and therefore it may be considered for support.</td>
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<tr>
<th>Policy Regime 3: Moving up the Value Chain (Late 1990s/ early 2000s)</th>
</tr>
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<tbody>
<tr>
<td>Manufacturing still declining, reorientation of policies to moving up the value and knowledge chain and this will be increasingly be in relation to knowledge intensive services (KIS).</td>
</tr>
<tr>
<td>These policies associated with notion of the 'Knowledge-Based Economy'</td>
</tr>
<tr>
<td>Allows for 'cooperation model' via offshoring to India, China, Russia and central Europe of lower order, more routine services.</td>
</tr>
<tr>
<td>But assumes the advanced economies, stay at the top of the chain with high value/knowledge intensive services.</td>
</tr>
</tbody>
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<tr>
<th>Policy Regime 4: Concern (Mid 2000's- ?)</th>
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<tbody>
<tr>
<td>Concern that everyone (both advanced and developing economies) is seeking to move up the value and knowledge chain.</td>
</tr>
<tr>
<td>'Cooperation model' of offshoring still assumed, but concern that there is increasing competition from developing economies in relation to high value services.</td>
</tr>
<tr>
<td>Concern that advanced economies will not necessarily stay at the top of the knowledge and value chain for all (service) activities.</td>
</tr>
<tr>
<td>Period of reflection.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy Regime 5: Refocusing (Emergent?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reassessment on what activities a nation will retain and excel in.</td>
</tr>
<tr>
<td>More holistic approach that acknowledges the 'old' economy (agriculture, mining, resources and traditional manufacturing) as being still important.</td>
</tr>
<tr>
<td>In relation to services, role of KIS in supporting these activities starting to be emphasised.</td>
</tr>
<tr>
<td>Re-emphasis of developing, and holding onto, high value knowledge ‘orientation’ service activities, but in a more nuanced, focused way.</td>
</tr>
</tbody>
</table>

*Source, Howells (2006)*

The upshot of these trends is that, increasingly, the 'thinking aspects' of production, to do with strategic planning, design, financial engineering and risk management are spatially separable from the making, distribution and selling aspects of the value chain. **Advanced Business Services** account for a considerable proportion of this 'thinking power' in value creation. While they may now be freed from co-location with
physical production and distribution of goods and services, they show a continued trend to agglomerate in key cities, and their impact on innovation continues to be shaped, to an important extent, by their capacity to form trusting relationships with clients. Here spatial friction in the formation of social relationships becomes a crucial factor, notwithstanding spectacular advances in communications technologies and travel services.

Thus, client firms within those cities advantaged by an agglomeration of Advanced Business Services will enjoy a marginal but constantly accumulating advantage in innovation. This in itself can be expected to generate relatively rapid increases in the demand for ‘thinking services’ so that these key cities become even more powerful magnets for these services, setting up a virtuous cycle of innovation and economic development. In this sense, these advantaged regions – limited in number because of the agglomeration dynamic in knowledge intensive services – may transition towards a role as ‘super innovative cores’ within the national economy. Meanwhile, those regions without a strong local body of Advanced Business Services may be caught in vicious cycle of marginal but accumulating disadvantage in innovation potential leading to a reduced capacity to retain and attract the lead agents of the thinking economy. This may condemn these regions to permanent ‘client’ status, in a way evocative of the bifurcation of regions into core and periphery during the early stages of expansion in Fordist production (Harvey, 1989).

Policies to redress these adverse tendencies need to go far beyond the attempted attraction of knowledge workers with excellent offers of urban quality and livability. Nationally driven policies to promote services exports and centres of excellence across Australia’s network of metropolises will also be required.

Pro-active strategies at the macro or national level are likely to be essential to position Australia as a regional leader in at least some niche service areas. The policy challenge is to accelerate growth in (international) export services with a view to stimulating a reinforcing cycle of services investment. In this cycle, successful export of services builds critical mass and reputation. This, in turn, boosts domestic incomes and promotes innovation in local firms, generating further demands for business services.
Ongoing integration of inter-regional and international markets, ICT developments, improved trading protocols and brokerage and cheaper transport

Accelerated unbundling of the enterprise value chain

Further and more pronounced loosening of the 'thinking' aspects of the value chain from the making, distribution and selling aspects

Client firms in key city regions enjoy a comparative advantage in innovation

Key city regions become a more powerful magnets for thinking services

Liberated thinking agents in the value chain (Advanced Business Services) agglomerate in key cities but are still driven by social models of business transaction

Demand for thinking services grows at faster rate in key city regions

SUPER INNOVATIVE CORE REGIONS

CLIENT / PERIPHERAL REGIONS

Client firms in 'remote' regions suffer a comparative disadvantage in innovation

Reduced capacity to attract and retain thinking services

Slower growth in demand for thinking services
Other small countries have attempted such macro-strategies, some with great success. Singapore actively sought and maintains a leadership role in the export of logistics services and related advice in financial brokerage. Ireland targeted IT and back office services functions.

Local policy practice also provides some pointers as to how globally peripheral cities can build a base of Advanced Business Services. The Australian Government has promoted Sydney as a regional financial transactions hub. Meanwhile, the State Government of Victoria seems to have arrested the steady decline of Melbourne as a financial services centre by reinforcing the city’s emergent role in the burgeoning funds management industry, so that Melbourne might become to Sydney what Boston is to New York.

In view of the continuing spatial concentration of Advanced Business Services in Australia identified in this thesis, proactive strategies are especially necessary for Adelaide and Perth, notwithstanding the former’s apparently high participation rate in innovation and the latter’s recent reputation as a ‘boom town’. As noted in Chapter 2, Adelaide’s high ranking on attempted innovation does not necessarily mean successful capture of competitive advantage. Meanwhile Perth’s prosperity is driven by a transient strength in commodity exports rather than a well developed local innovation system.

The type of pro-active, ‘macro’ policies that might be applied in these sizeable cities which lack capability in Advanced Business Services include the recruitment of key global institutions and enterprises which fit well with those States’ recognised capacities and ‘brand’ (e.g. mining, infrastructure and value chain management in food based industries etc). Publicly funded R&D in targeted service areas may also play a part. More than likely, the relevant policies will need to have a long term planning horizon and focus on skills and knowledge development, which means embedding the strategy in State education programs, stretching down into junior schooling as necessary. The so called ‘Irish miracle’ was preceded by decades of investment in a high quality public education system.
In terms of implications for policies on *intra-metropolitan* economic structure, this research can only support preliminary commentary. On the available evidence, Advanced Business Services do their best innovation boosting work in a rather tight spatial domain, but this distance deterioration effect is unlikely to be so severe as to leave any metropolitan sub-region at a serious disadvantage in accessing the knowledge intensive services typically delivered out of a handful of key inner city locations. The issue is more one of heightening latent competitive advantage at the sub-regional level as opposed to avoiding outright disadvantage. In this context, the research reported in this thesis points to an enhancement of innovation capacity when the nexus between the production economy and the service economy is multi-faceted and spatially integrated. The current attempts across the nation to transform the suburban Australian metropolis into a 'city of cities' would seem to be prudent from this perspective. However, this is a matter for further investigation in its own right.
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Appendix 1 Advanced Business Services – Relevant ANZSIC Codes

7511 Financial Asset Broking Services
This class consists of units mainly engaged in trading in stocks, shares or other financial assets for others, or in underwriting financial asset issues.

Primary Activities
Commodity futures broking or dealing (on commission); Financial asset broking service; Mortgage broking service; Stock broking or trading (on commission)

7519 Services to Finance and Investment n.e.c.
This class consists of units mainly engaged in providing nominee, trustee, investment management or advisory services, or other services in the field of finance or investment (except insurance or superannuation). Also included in this class are units of incorporated stock exchanges.

Primary Activities
Credit card administration service; Executor service; Finance consultant service; Finance service n.e.c.; Financial asset investment consultant service; Fund raising (on a commission or fee basis) n.e.c.; Money changing service (nonbank); Nominee service; Portfolio, investment, management service (on a commission or fee basis); Security valuation service; Share registry operation; Stock exchange operation; Terminating building society management service (on a commission or fee basis); Trustee service

7730 Non-Financial Asset Investors
This class consists of units mainly engaged in holding intellectual property or other non-financial assets (except real estate or plant and equipment) which were not produced by the unit and from which they derive income from payments for the use of those assets or for reproducing those assets.

Primary Activities
Investing in patents and copyrights; Investing in tangible artistic work; Non-financial asset investing n.e.c.; Taxi cab plate leasing

7810 Scientific Research
This class consists of units mainly engaged in undertaking research in the agricultural, biological, physical or social sciences.

Exclusions / References
Units mainly engaged in
(a) providing technical or engineering consultancy services are included in Class 7823 Consulting Engineering Services;
(b) providing market research or similar services for businesses are included in Class 7853 Market Research Services; and
(c) providing pathological services for the medical profession are included in Class 8631 Pathology Services.

28 The descriptions cited here are sourced from the Australian Bureau of Statistics website.
**Note:** Units of universities mainly engaged in undertaking basic or applied research are included in Class 8431 Higher Education.

**Primary Activities**
Aeronautical research institution operation (except university); Agricultural research institution operation (except university); Biological research institution operation (except university); Economic research institution operation (except university); Food research institution operation (except university); Industrial research institution operation (except university); Medical research institution operation (except university); Observatory operation (except university); Research farm operation (except university); Scientific research institution operation (except university); Social science research institution operation (except university); Space tracking station operation (except as communication service)

**7821 Architectural Services**
This class consists of units mainly engaged in providing architectural services.

**Exclusions / References**
Units mainly engaged in managing or organising construction projects as the prime contractor are included in the appropriate classes in Division E Construction.

**Primary Activities**
Architect (own account); Architectural consultancy service (except construction project management); Drafting service, architectural; Landscape architecture service; Town planning service

**7823 Consultant Engineering Services**
This class consists of units mainly engaged in providing consultant engineering services. Also included are units mainly engaged in providing quantity surveying services.

**Exclusions / References**
Units mainly engaged in

(a) the physical or chemical transformation of materials into new products are included in the appropriate classes in Division C Manufacturing;
(b) managing or organising construction projects as the prime contractor are included in the appropriate classes in Division E Construction; and
(c) providing scientific or technical laboratory or testing services are included in Class 7829 Technical Services n.e.c..

**Note:** Research and scientific institutions are included in Class 7810 Scientific Research

**Primary Activities**
Boat designing service; Building consultancy service; Building inspection service; Chemical engineering service (consulting); Civil engineering service (consulting); Construction project management service (on a fee or contract basis); Consultant engineering service n.e.c.; Drawing office service (engineering); Electrical engineering service (consulting); Electronic engineering service (consulting); Hydraulic engineering service (consulting); Marine engineering service (consulting); Materials handling engineering service (consulting); Mining engineering service (consulting); Naval architecture service; Pipeline engineering service (consulting); Product design service (for furniture, fittings, machinery or equipment); Quantity surveying service; Sanitary engineering service (consulting); Traffic engineering service (consulting)

**7831 Data Processing Services**
This class consists of units mainly engaged in providing data processing services. Also included are units mainly engaged in providing a computer time sharing service.
Exclusions / References
Units mainly engaged in
(a) the mass production of computer software are included in Class 2430 Recorded Media Mfg and Publishing;
(b) leasing or hiring electronic computers or other data processing equipment without operators, are included in Class 7743 Plant Hiring or Leasing;
(c) providing a computer data storage and retrieval service (other than libraries) are included in Class 7832 Information Storage and Retrieval Services; and
(d) providing a computer consultancy or programming service are included in Class 7834 Computer Consultancy Services.

Primary Activities
Computer time sharing service; Data entry service; Data processing service; Tabulating service

7832 Information Storage and Retrieval Services
This class consists of units mainly engaged in providing information storage and retrieval services (other than library or bibliographic services).

Exclusions / References
Units mainly engaged in
(a) the mass production of computer software are included in Class 2430 Recorded Media Mfg and Publishing;
(b) leasing or hiring electronic computers or other data processing equipment are included in Class 7743 Plant Hiring or Leasing;
(c) providing a data processing service are included in Class 7831 Data Processing Services;
(d) providing a computer consultancy or programming service are included in Class 7834 Computer Consultancy Services; and
(e) providing library or bibliographic services are included in Class 9210 Libraries.

Primary Activities
Information storage and retrieval service (other than library)

7834 Computer Consultancy Services
This class consists of units mainly engaged in providing computer consultancy services, computer systems analysis or computer programming services.

Exclusions / References
Units mainly engaged in
(a) the mass production of computer software are included in Class 2430 Recorded Media Mfg and Publishing;
(b) leasing or hiring electronic computers or other data processing equipment are included in Class 7743 Plant Hiring or Leasing;
(c) providing a data processing service are included in Class 7831 Data Processing Services; and
(d) providing a computer data storage and retrieval service (other than libraries) are included in Class 7832 Information Storage and Retrieval Services.

Primary Activities
Computer consultancy service; Computer programming service; Software production service (other than mass production); Systems analysis service (computer)
7841 Legal Services
This class consists of units mainly engaged in providing legal services.

Exclusions / References
Units mainly engaged in providing real estate title transfer services (performed other than by qualified legal practitioners) are included in Class 7720 Real Estate Agents.

Primary Activities
Advocate (own account); Barrister (own account); Conveyancing service (provided by units of qualified legal practitioners); Legal aid service; Notary (own account); Patent attorney (own account); Solicitor (own account)

7842 Accounting Services
This class consists of units mainly engaged in providing accounting, auditing or bookkeeping services.

Primary Activities
Accountant (own account); Accounting service; Auditing service; Auditor (own account); Bookkeeping service; Tax agent (own account)

7851 Advertising Services
This class consists of units mainly engaged in providing advertising services (except sale of advertising space in their own publications or broadcasts).

Exclusions / References
Units mainly engaged in
(a) selling advertising space in printed material published by the same unit are included in the appropriate classes of Group 242 Publishing; and
(b) selling advertising time in radio or television broadcasts by the same unit are included in the appropriate classes of Group 912 Radio and Television Services.

Primary Activities
Advertising agency service; Advertising placement service; Advertising preparation service; Advertising service (except sale of advertising space in own publications or broadcasts); Advertising space selling (on a commission or fee basis); Aerial advertising service; Samples distribution service

7852 Commercial Art and Display Services
This class consists of units mainly engaged in providing graphic design services, or in signwriting or ticket writing on a custom or order basis.

Primary Activities
Commercial art service; Graphic design service (for advertising); Signwriting; Ticket writing

7853 Market Research Services
This class consists of units mainly engaged in providing market research services.

Primary Activities
Market research service; Public opinion research service

7854 Business Administrative Services
This class consists of units mainly engaged in providing a range of services to support the operation of a business or businesses. The services provided are primary to classes in business services, property services or finance and insurance services but do not predominantly come from any one class.
Exclusions / References
Units which are predominantly engaged in providing specific services are classified to the appropriate classes in Subdivision 75 Services to Finance and Insurance, Subdivision 77 Property Services and Subdivision 78 Business Services.

Primary Activities
Business administrative services (general)

7855 Business Management Services
This class consists of units mainly engaged in providing business management services, including business analysis, efficiency or organisation and methods studies, personnel management, public relations consultancy or statistical services.

Exclusions / References
Units mainly engaged in
(a) providing data processing services are included in Class 7831 Data Processing Services; and
(b) providing government statistical services are included in the appropriate classes in Subdivision 81 Government Administration.

Primary Activities
Business management service; Business statistical service (except tabulating service or government statistical services); Efficiency advisory service; Environmental consultancy service (excl. laboratory service); Government relations consultancy service; Lobbyist (own account); Management consultancy service; Merchandising consultancy service; Operations research service (commercial); Personnel management service; Public relations counselling service; Sales advisory service; Tariff consultancy service; Tourism development consultancy service
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7861 Employment Placement Services
This class consists of units mainly engaged in personnel search, selection, referral and placement in connection with employment in any field. The services may be supplied to the potential employer or the prospective employee and may involve the formulation of job descriptions, the screening and testing of applicants and the investigation of references.

Exclusions / References
Units mainly engaged in theatrical and motion picture casting are included in Class 9259 Services to the Arts n.e.c.

Primary Activities
Outplacement service; Employment agency operation; Employment office operation; Executive search service

7869 Business Services n.e.c.
This class consists of units mainly engaged in providing business services n.e.c., such as auctioning or valuing services (except in the case of real estate, wool or livestock), translation services and telephone answering services. Also included in this class are units mainly engaged in debt collecting, or in mercantile or consumer credit reporting.

Exclusions / References
Units mainly engaged in
(a) auctioning or valuing wool or livestock are included in Group 451 Farm Produce Wholesaling; and
(b) auctioning or valuing real estate are included in Class 7720 Real Estate Agents.

Primary Activities
Auction rooms operation; Auctioning service (except real estate, wool or livestock); Business service n.e.c.; Collection agency service (accounts; except real estate); Consumer credit reporting service; Credit bureau or agency service; Debt collecting service; Fashion design service; Interior decorating service n.e.c.; Interpreting service; Mercantile credit reporting service; Microfiche production service; Telephone answering service; Translation service; Valuation service (except for real estate, wool or livestock)

8431 Higher Education
This class consists of units mainly engaged in providing university undergraduate or post graduate teaching or research.

Exclusions / References
Units mainly engaged in operating student halls of residence are included in Class 5710 Accommodation.

Primary Activities
Post graduate school, university, operation; Research school, university, operation; Undergraduate school, university, operation; University operation

8432 Technical and Further Education
This class consists of units of recognised institutions mainly engaged in providing technical or vocational education or courses.

Primary Activities
Technical and further education college operation; Technical college operation

9621 Business and Professional Associations
This class consists of units of associations mainly engaged in promoting the interests of employers or self-employed persons.

*Primary Activities*

Accountants association operation; Architects association operation; Bar association operation; Builders association operation; Business taxpayers association operation; Chamber of Commerce operation; Chamber of Manufacturers operation; Chemists association operation; Dentists association operation; Employers association operation; Engineers association operation (except trade union); Farmers association operation; Graziers association operation; Hotelkeepers association operation; Lawyers association operation; Manufacturers association operation; Medical association operation; Pastoralists association operation; Retail traders association operation; Surveyors association operation; Trade association operation (except trade union)
Appendix 2 Briefing Kit for Survey Administrator

This briefing kit has been prepared by Marcus Spiller, a PhD student at RMIT University. The kit contains instructions for research assistants engaged to administer a telephone and email survey exploring recruitment, business development and marketing practices amongst Advanced Business Service firms in Melbourne.

Accompanying these notes are:

1. An Excel spreadsheet comprising the sample frame for the survey
2. An Excel spreadsheet for use in recording answers from phone respondents
Nature, Purpose & Scope of the Survey

Thesis Propositions

This survey is being undertaken as part of a PhD thesis exploring the role of Advanced Business Services in the creation of prosperous local economies.

The argument developed in the thesis makes three points:

Firstly, Advanced Business Services play a key part in the innovation process, whether this is undertaken in ‘strategic leaps’ (such as in the creation of new products like the ‘bionic ear’) or ‘organically’, through a series of small adjustments to business practices and products.

Secondly, Advanced Business Services operate in large part through social networks where personal contacts and locally rooted cultural mores and convention are crucial to commercial success. Accordingly, Advanced Business Services will interact most intensively and most successfully with clients that are in the local region rather than with their more remote clients. Accordingly, their greatest innovation boosting effect will be felt locally.

Thirdly, Advanced Business Services are likely to consolidate in relatively few ‘command and control centres’ at the national and international level. This clustering enables Advanced Business Service firms to more rapidly match creative and problem solving skills to client needs through sub-contracting arrangements and recruitment of employees. Moreover, the highly specialised nature of these Services dictates that relatively few centres can be supported by the national and global client base. In Australia, there is a clear trend for Advanced Business Services to concentrate in Sydney and, to a lesser extent, Melbourne, in much the same way as London and New York dominate the services markets in their respective countries.

If these points hold, it follows that those regions which host a concentration of Advanced Business Services will have a greater propensity for innovation and therefore sustainable prosperity compared to those regions which lack a substantial base of such Services. In Australia’s case, this logic implies that the Sydney region and Melbourne will enjoy permanently superior prospects of quality jobs and high incomes compared to the rest of Australia, creating a ‘core-periphery’ structure which has hitherto been avoided in the national economy.

Evidence

The first point in the argument outlined above is strongly supported by the extensive literature on the nature of innovation and how it is transacted in modern economies. The third point is a matter of statistical record.
The second point is the core issue addressed by the thesis. While other studies have highlighted the 'social' nature of commerce within the Advanced Business Services sector, 'distance deterioration' in the innovation role of these Services has not been satisfactorily addressed. Indeed, much of the literature implicitly assumes that the concentration of Advanced Business Services into relatively few centres is simply a matter of supply side efficiency. That is, it aids in the effective production of these Services for reasons outlined above, but does not compromise the quality of service received by remote clients (vis a vis those clients located closer to supply points) because the consultants in question can readily reach them through modern communication technology and inexpensive air travel, and remote clients can access the Advanced Business Services they need through similar means.

This survey is specifically designed to test;
1. the importance of social networks in the operation of Advanced Business Service firms in Melbourne; and
2. the extent to which the intensity of client – Advanced Business Service interaction tapers off with increasing distance between client and supplier.

Survey Method

The survey is intended to secure responses from approximately 250 randomly selected Advanced Business Service firms located in metropolitan Melbourne.

The adopted sampling frame for the survey comprises all metropolitan businesses listed in the official phone directory as ‘Management Consultants’ or ‘Business Consultants’. By inspection, these listings include a good cross-section of advisers in HR, marketing and organisational development. In this sense they constitute a microcosm of the wider grouping of Advanced Business Services as defined in the draft thesis.

The focus of the research is on Advanced Business Services. Accordingly, sampled firms will be screened according to whether they secure billings from interstate and international clients. Making such inter-regional sales is deemed to be prima facie evidence of a specialised/advanced service offering.

The survey administrator will make phone contact with each sampled firm with a view to confirming its eligibility for incorporation in the survey and to recruit its co-operation in this exercise.

Confirmed respondents will have the option of completing the questionnaire over the phone, with the administrator reading out the questions and pre-scheduled responses. Alternatively, the respondent may choose to receive the questionnaire by email and make a response by return email.
Firms which have agreed to participate but which do no respond within certain time frames will be followed up for a response twice before they are abandoned. This follow up procedure is important to contain non-response bias in the survey results.
Instructions for Survey Administration

Who to Call

Three separate samples of 250 firms have been drawn on a random basis (see Attachment 1)

The Administrator will exhaust potential respondents from the first sample, before resorting to supplementary respondents from the second sample, and ultimately from the third sample.

Phone Introduction

The Administrator will ring each potential respondent firm and ask to speak with the Office Manager, or somebody familiar with the wider operations of the company. In introducing the survey, the Administrator may use the following script or similar.

Hello my name is............ I have been employed by RMIT University to administer a business survey in connection with PhD research being undertaken in the University.

Your firm has been selected randomly from the listings for Management and Business Consultants in the Yellow Pages.

With your agreement, I would firstly like to check whether your company is an enterprise of interest to this research.

During the financial year ended June 30, 2005, did your company secure 2% or more of its billings from clients located interstate or overseas?

If the answer is 'no'.....Thank you for your time. Your firm does not meet the criteria for inclusion in the survey.

If the answer is 'yes'.. I would be grateful if you would agree to participate in the survey. It involves 13 questions about the general location of your clients and your broad business strategy. You may complete the questionnaire now, over the phone, or I can send you and email with the questions and you can return it within 2 days.

As a respondent to the survey, you would be entitled to receive a count of the results, should you be interested in this.

I can assure you that all information collected will be treated confidentially. It will be processed in consolidated lots so that the answers of individual respondents will not be identifiable. The information collected will not be disclosed to any third party and all relevant files will be destroyed upon completion of the research.
If the respondent elects to participate in the phone interview, administer the questions at Attachment 2.

If the respondent elects to participate by email, despatch the questionnaire at Attachment 3. Be sure to include the name of the respondent in the introductory greeting.

Recording Responses

Responses from phone interview participants should be directly recorded into the Excel spreadsheet supplied with this briefing kit (and shown in sample form at Attachment 4).

The Administer will keep a copy of this spreadsheet in a separate data base, as well as a daily printed copy, in case of system failure or file corruption.

Email responses should be printed and compiled in a folio. Two electronic copies of each response should also be kept in separate data bases.

Follow ups

The Administrator will maintain a record of each potential respondent who has opted to reply by email, and monitor response performance against this.

If the potential respondent has not replied by email within 2 days of receipt of the questionnaire, the Administrator will call back, using a script along the lines of the following.

We talked two days ago about your firm participating in a PhD related research survey being undertaken under the auspices of RMIT University. I trust that you received my email with the questionnaire?

If the respondent says the email did not arrive, make arrangements to send a fresh email, including to an alternative address.

We have not received your response. May I continue to count you as a respondent to the survey?

If the respondent has changed their mind on participation, accept this and abandon them from the survey.

If I have not received your response within 2 days, I’ll call back to see if there are any problems with completing the survey.

This procedure will be repeated for the second follow up of email respondents. If responses are not received from this group after a further 2 days, they should be abandoned from the survey.
ATTACHMENT 1 Drawing the Sample

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29 See Excel spreadsheet of phone listings supplied with this Administrator’s Kit
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ATTACHMENT 2 Questionnaire for Phone Interview

1. What is the postcode of this office?  xxx

2. What are the firm’s principal fields of specialisation?  xxxxxxxxxxxxxxxxxxxxx

3. What is the total number of (equivalent full time) employees at this location?  xxx

4. What % of these can be categorised as support or admin staff, as opposed to staff directly engaged in client work?  xx% are support or admin staff

5. What percentage of the firm’s current complement of employees were recruited by:
   • External recruitment services  xx%
   • Formal advertisement and in house assessment of candidates  xx%
   • Unsolicited approaches from prospective employees  xx%
   • Head hunting / referrals by the firm’s principals and employees  xx%
   • Transfers from other offices of the firm  xx%
   • Past employees returning from travel, maternity leave, study etc  xx%
   • Other (describe  xxxxxxxxxxxxxxxx)  xx%

6. Of your aggregate billings in Financial Year 2004/2005, what % was accounted for by the following? (Estimate if necessary – percentages should add to 100):
   • Open, generally advertised, competitive tender  xx%
   • Select competitive tender, stemming from personal contacts / previous client work  xx%
   • Select competitive tender, stemming from general marketing efforts of the firm  xx%
   • Repeat business (i.e. from previous clients) with no competitive tender  xx%
   • New clients, stemming from personal contacts / previous client work, with no competitive tender  xx%
   • General, unprompted enquiries with no competitive tender  xx%
   • Other (describe  xxxxxxxxxxxxxxxx)  xx%

7. Thinking about your current business development practices, how would you rate the following factors in your firm’s capacity to generate billings? Please indicate the rating on a scale of 1 to 5, with 5 signifying great importance and 1 signifying little or no importance. Show ‘0’ if you have no opinion.
   • Marketing campaigns in the mass media (nominate a figure between 1 and 5, or 0 if you have no opinion)
   • Newsletters, brochures directed at prospective clients (nominate a figure between 1, or 0 if you have no opinion and 5)
   • Sponsorship of, and participation in, industry events (nominate a figure between 1 and 5, or 0 if you have no opinion)
   • Website (nominate a figure between 1 and 5, or 0 if you have no opinion)
   • Personal contacts and reputation of the firm’s local principals (nominate a figure between 1 and 5, or 0 if you have no opinion)
   • The established brand of the firm (nominate figure between 1 and 5, or 0 if you have no opinion)
   • Special techniques, methodologies or data bases developed by the firm (nominate figure between 1 and 5, or 0 if you have no opinion)
8. What percentage of your total billings (or aggregate billable time) in Financial Year 2004/2005 were sourced from clients located in the following areas? (Estimate if necessary – percentages should add to 100):
   - Within the Melbourne metropolitan area  xx%
   - Within Victoria but outside the metropolitan area  xx%
   - Outside Victoria but within Australia  xx%
   - Outside Australia  xx%

9. For what percentage of your total billings (or aggregate billable time) in Financial Year 2004/2005 was your firm operating as sub-contractor to another consulting firm? (Estimate if necessary)  xx%

10. What percentage of your billings earnt in this sub-contracting capacity were sourced from clients located in the following areas? (Estimate if necessary – percentages should add to 100)
    - Within the Melbourne metropolitan area  xx%
    - Within Victoria but outside the metropolitan area  xx%
    - Outside Victoria but within Australia  xx%
    - Outside Australia  xx%

11. Thinking about your current Victorian clients only, what percentage are located within the following areas. Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised. (Estimate if necessary - – percentages should add to 100)
    - within 5 km of your office  xx%
    - between 6 and 20 km of your office  xx%
    - more than 20 km + from your office  xx%

12. Thinking about your regular clients – those with whom you enjoy significant repeat business - how are these distributed across the following locations? Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised. (Estimate if necessary - – percentages should add to 100)
    - Within the Melbourne metropolitan area  xx%
    - Within Victoria but outside the metropolitan area  xx%
    - Outside Victoria but within Australia  xx%
    - Outside Australia  xx%

13. On a typical assignment undertaken by your firm, what percentage of the billable time spent is carried out on the client’s premises?  xx%

Are you interested in receiving a count of the survey results?

If 'yes', record details for despatch of this information.

Thank you very much for your assistance with this research
Dear survey administrator to complete name of respondent

Thank you for agreeing to participate in this survey.

This research is being undertaken as part of a PhD thesis exploring the role of Advanced Business Services in the creation of prosperous local economies.

The research is being undertaken under the auspices of the School of Social Science and Planning at RMIT University. You may contact Kangie Gisonda at the School of Social Science and Planning on 9925 9933 should you wish to confirm the official status of this research.

All information collected will be treated confidentially. It will be processed in consolidated lots so that the answers of individual respondents will not be identifiable. The information collected will not be disclosed to any third party and all relevant files will be destroyed upon completion of the research.

As a respondent to the survey, you are entitled to receive a count of the results. If you are interested in receiving these, please indicate this on the questionnaire, together with a return email address.

How to complete the questionnaire

• Please answer all questions from the perspective of your local business operation. Do not include information about interstate or overseas offices of the same business.

• Please select and overtype shaded text as necessary.

• Please reply by return email within 2 days.

• If you have any difficulties completing the questionnaire, please contact the survey administrator via the email address of this message.

The questionnaire

1. What is the postcode of this office? xxxx

2. What are the firm’s principal fields of specialisation? xxxxxxxxxxxxxxxx
3 What is the total number of (equivalent full time) employees at this location? 
   xxx

4 What % of these can be categorised as support or admin staff, as opposed to staff 
directly engaged in client work?  xx% are support or admin staff

5 What percentage of the firm’s current complement of employees were recruited by 
the following means? (Estimate if necessary – percentages should add to 100)
   • External recruitment services xx%
   • Formal advertisement and in house assessment of candidates xx%
   • Unsolicited approaches from prospective employees xx%
   • Head hunting / referrals by the firm’s principals and employees xx%
   • Transfers from other offices of the firm xx%
   • Past employees returning from travel, maternity leave, study etc xx%
   • Other (describe xxxxxxxxxxxxxxxxx) xx%

6 Of your aggregate billings in Financial Year 2004/2005, what % was accounted for by 
the following?  (Estimate if necessary – percentages should add to 100):
   • Open, generally advertised, competitive tender xx%
   • Select competitive tender, stemming from personal contacts / previous client 
     work xx%
   • Select competitive tender, stemming from general marketing efforts of the firm 
     xx%
   • Repeat business (i.e. from previous clients) with no competitive tender 
     xx%
   • New clients, stemming from personal contacts / previous client work, with no 
     competitive tender xx%
   • General, unprompted enquiries with no competitive tender xx%
   • Other (describe xxxxxxxxxxxxxxxxx) xx%

7 Thinking about your current business development practices, how would you rate the 
following factors in your firm’s capacity to generate billings?  Please indicate the 
rating on a scale of 1 to 5, with 5 signifying great importance and 1 signifying little or 
no importance.  Show ‘0’ if you have no opinion.
   • Marketing campaigns in the mass media (nominate a figure between 1 and 5, or 0 
     if you have no opinion)
   • Newsletters, brochures directed at prospective clients (nominate a figure between 
     1, or 0 if you have no opinion and 5)
   • Sponsorship of, and participation in, industry events (nominate a figure between 
     1 and 5, or 0 if you have no opinion)
   • Website (nominate a figure between 1 and 5, or 0 if you have no opinion)
   • Personal contacts and reputation of the firm’s local principals (nominate a figure 
     between 1 and 5, or 0 if you have no opinion)
   • The established brand of the firm (nominate figure between 1 and 5, or 0 if you 
     have no opinion)
   • Special techniques, methodologies or data bases developed by the firm (nominate 
     figure between 1 and 5, or 0 if you have no opinion)

8 What percentage of your total billings (or aggregate billable time) in Financial Year 
2004/2005 were sourced from clients located in the following areas?  (Estimate if 
necessary – percentages should add to 100):
   • Within the Melbourne metropolitan area xx%
   • Within Victoria but outside the metropolitan area xx%
   • Outside Victoria but within Australia xx%
   • Outside Australia xx%
9 For what percentage of your total billings (or aggregate billable time) in Financial Year 2004/2005 was your firm operating as sub-contractor to another consulting firm? (Estimate if necessary) xx%

10 What percentage of your billings earnt in this sub-contracting capacity were sourced from clients located in the following areas? (Estimate if necessary - percentages should add to 100)
   - Within the Melbourne metropolitan area xx%
   - Within Victoria but outside the metropolitan area xx%
   - Outside Victoria but within Australia xx%
   - Outside Australia xx%

11 Thinking about your current Victorian clients only, what percentage are located within the following areas. Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised. (Estimate if necessary - percentages should add to 100)
   - within 5 klm of your office xx%
   - between 6 and 20 klm of your office xx%
   - more than 20 klm + from your office xx%

12 Thinking about your regular clients – those with whom you enjoy significant repeat business – how are these distributed across the following locations? Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised. (Estimate if necessary - percentages should add to 100)
   - Within the Melbourne metropolitan area xx%
   - Within Victoria but outside the metropolitan area xx%
   - Outside Victoria but within Australia xx%
   - Outside Australia xx%

13 On a typical assignment undertaken by your firm, what percentage of the billable time spent is carried out on the client’s premises? xx%

End of questions. Thank you for your help.

If you would like to receive a count of the survey results, please indicate a name email or postal address for this purpose.

name
email
postal address
ATTACHMENT 4 Spreadsheet for recording phone responses (sample only)

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<th>Name of respondent firm</th>
<th>Telephone</th>
<th>Contact</th>
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1. What is the postcode of this office?
2. What are the firm’s principal fields of specialisation?
3. What is the total number of (equivalent full time) employees at this location?
4. What % of these can be categorised as support or admin staff, as opposed to staff directly engaged in client work?
5. What percentage of the firm’s current complement of employees were recruited by:
   - External recruitment services
   - Formal advertisement and in house assessment of candidates
   - Un solicitud approaches from prospective employees
   - Head hunting / referrals by the firm’s principals and employees
   - Transfers from other offices of the firm
   - Past employees returning from travel, maternity leave, study etc
   - Other

6. Of your aggregate billings in Financial Year 2004/2005, what % was accounted for by the following?
   - Open, generally advertised, competitive tender
   - Select competitive tender, stemming from personal contacts / previous client work
   - Select competitive tender, stemming from general marketing efforts of the firm
   - Repeat business (i.e. from previous clients) with no competitive tender
   - New clients, stemming from personal contacts / previous client work, with no competitive tender
   - General, unanticipated enquiries with no competitive tender
   - Other

7. Thinking about your current business development practices, how would you rate the following factors in your firm’s capacity to generate billings? Please indicate the rating on a scale of 1 to 5, with 5 signifying great importance and 1 signifying little or no importance. Show “0” if you have no opinion.
   - Marketing campaigns in the mass media
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   - Website
   - Personal contacts and reputation of the firm’s local principals
   - The established brand of the firm
   - Special techniques, methodologies or data bases developed by the firm

8. What percentage of your total billings (or aggregate billable time) in Financial Year 2004/2005 were sourced from clients located in the following areas?
   - Within the Melbourne metropolitan area
   - Within Victoria but outside the metropolitan area
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9. For what percentage of your total billings (or aggregate billable time) in Financial Year 2004/2005 was your firm operating as sub-contractor to another consulting firm?

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    - Within Victoria but outside the metropolitan area
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11. Thinking about your current Victorian clients only, what percentage are located within the following areas. Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised.
    - Within 5 km of your office
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12. Thinking about your regular clients – those with whom you enjoy significant repeat business – how are these distributed across the following locations? Please estimate the percentages by reference to the numbers of the clients in question as opposed to the billings raised.
    - Within the Melbourne metropolitan area
    - Within Victoria but outside the metropolitan area
    - Outside Victoria but within Australia
    - Outside Australia

13. On a typical assignment undertaken by your firm, what percentage of the billable time spent is carried out on the client’s premises?
Appendix 3  Case Study Questionnaire

Research into Business Innovation in Victoria

Thank you for agreeing to be interviewed as part of this research into innovation practices in Melbourne and Bendigo based businesses.

The purpose of the research is to identify whether the approach to, and outcomes from, business innovation in regional areas is different from those of metropolitan based firms.

In preparation for the interview, please peruse this document and consider your responses to the questions set out. You will then be invited to elaborate on your responses during the scheduled face to face or phone discussion.

Defining ‘innovation’

In this research, innovation is defined as any out of the ordinary initiative taken by a business to improve competitiveness or profitability.

An innovation initiative may involve;

- The introduction of a new product or service offering for customers. As well as entirely new products or services, these innovations could include changes in the way existing products and services are packaged or bundled up with supplementary benefits for customers.
- The introduction of better ways of producing and delivering the current range of products and services. This could occur through an improved customer relations management system, better inventory control information systems, enhanced training arrangements for production staff, to name just a few examples.
- Management and organisational change, for example, acquisition of, or merger with, a complementary business to yield efficiencies, and the introduction of different reporting lines to aid efficiency.

Some innovations will involve a ‘strategic leap’ into a new market or way of doing things that is vastly different to current practices within the business. Other innovations will be more incremental or ‘organic’ in nature. Both these types of innovations are relevant to this research.

Whether the innovations involve a ‘strategic leap’ or an incremental improvement, the changes in business practices and products/services of interest in this research will go beyond the ‘standard’ developments in the life of an enterprise, for example; 

- relocating to new premises;
- mounting advertising campaigns;
- replacing of capital equipment;
- appointing a new CEO;
Pick a successful innovation which was conceived and delivered in your business in the period June 2006 to June 2008

1. What did this innovation involve? (Select up to 3 descriptors)
   - Significant modifications to the design and/or features and/or functionality of a product or service to improve customer value
   - Introduction of an entirely new product or service offering
   - Packaging of existing product and/or services with other products and/or services from the business to improve customer value
   - Packaging of existing product and/or services with the products and/or services of other businesses to improve customer value
   - New production techniques to support greater product and/or service customisation
   - Improved inventory and supply chain arrangements to gain cost or customer value improvements
   - New outsourcing arrangements to gain cost or customer value improvements
   - Improved systems for managing customer relations, to improve sales yield
   - Improved labour hire and training arrangements to support production efficiencies
   - Introduction of equipment to support entirely new or significantly different production processes
   - Reorganisation of production teams and work flow within the business
   - Reorganisation of management structures to provide a sharper focus on corporate objectives
   - Formal alliances with other businesses to improve production efficiency or customer value
   - Informal alliances with other businesses to improve production efficiency or customer value
   - Takeover of, or merger with, other businesses to improve production efficiency or customer value
   - Improved human resource management arrangements, including reward structures and incentives to boost productivity
   - Selling off of businesses to sharpen focus on core corporate objectives
   - Changes in capital sourcing arrangements to permit expansion or a better focus on long term objectives
   - Other (please describe in one sentence)…………………………………………………………………………………………

2. How would you describe the scale and scope of this innovation?
   - A ‘strategic leap’ for the firm
   - An incremental / ‘organic’ improvement
   - Somewhere in between.

3. Did the innovation involve an idea which was..
• New to the firm? Yes/No
• New to the region? Yes/No
• New to Australia? Yes/No
• New to the world? Yes/No

4. What would you say was the impact of the innovation on the business’s bottom line?
• No change / difficult to say
• Less than 2% improvement
• 2% to 5% improvement
• 5% to 10% improvement
• 10% to 20% improvement
• More than 20% improvement

5. Who originally came up with the idea? (Select the most relevant category)
• Management
• Staff
• An external business advisor (accountant, marketing or other professional)
• A customer
• A supplier

6. How much of the thinking work required to prove up the idea was undertaken by:
• Management n%
• Staff n%
• External business advisor n%
• Customer n%
• Supplier n%

7. How much of the work required to actually implement the idea was undertaken by:
• Management n%
• Staff n%
• External business advisor n%
• Customer n%
• Supplier n%

8. After the launch of the innovation, how much of the work required to refine and improve the idea was undertaken by:
• Management n%
• Staff n%
• External business advisor n%
• Customer n%
• Supplier n%

9. If you were tackling the same innovation today, would you proceed..
• Much the same as previously
• With minor adjustments
10. If your business/division/branch/outlet had been located in Melbourne (or Bendigo), what difference, if any, do you think this might have made?

- Significantly more difficult to implement successfully
- Moderately more difficult to implement successfully
- No difference
- Moderately easier to implement successfully
- Significantly more difficult to implement successfully
## Appendix 4 Details of Case Study Participants

### Bendigo

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<th>Interviewee</th>
<th>Role / Organisation</th>
<th>Email Address</th>
<th>Phone Numbers</th>
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<td>Don Erskine</td>
<td>Managing Director, Industrial Conveying (Australia)</td>
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### Melbourne

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