

10-6-2007

Innovation and inertia: the emerging dislocation of imperatives within the Australian wine industry

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Keywords

Innovation, Inertia, Clusters, Wine Industry, Regionalisation

Disciplines

Business | Social and Behavioral Sciences

Publication Details

This article was originally published as: Aylward, D, Innovation and inertia: the emerging dislocation of imperatives within the Australian wine industry, *International Journal of Technology and Globalization*, 2007, 3,(2/3), 246-262. Copyright 2007 Inderscience.

Innovation and Inertia:
The Emerging Dislocation of Imperatives within the
Australian Wine Industry

David Aylward

Abstract

A common theory in current innovation literature, and one that this paper supports, is that spatially defined industry clusters provide incubation for ‘competitive advantage’. It is the heightened interaction between ‘actors’, the intense vertical integration and concentration of resources that creates enclaves of innovation within which activity is leveraged in an efficient and productive manner.

A less studied aspect of such activity, however, is the structural and organizational inertia that may result as imperatives of cluster participants dislocate from those of their host industry. A sector in which this is becoming apparent is the Australian wine industry. It appears that as the international wine landscape consolidates the industry’s operating paradigm is shifting from a national approach to one based on a nexus of global/local priorities and serviced by prominent industry clusters. Such a paradigm is creating an escalation in tension between nationally focused industry bodies and the firms to which they cater.

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Innovation and Inertia:
Perceptions and Experiences of Firms within the
Australian Wine Industry

In recent years the potential for industry clusters to create ‘competitive advantage’ has become an issue of growing discussion. Innovation systems literature has evolved to incorporate a range of cluster types and their role within national systems. As cluster types have proliferated, so the debate has turned from performance outcomes and relationships to institutional imperatives, local economic conditions and state intervention (Maskell and Malmberg, 1999; Lundvall and Maskell, 2000; Wolfe, 2003; Mytelka and Goertzen, 2003; Boschma, 2004).

Furthermore, analysis is now being applied to the globalization/localization nexus embedded within regional development discourse (Lorentzen, 2003; Isaksen, 2001). It is argued that the global landscape is increasingly punctuated by regional enclaves of specialized industries and innovation built around clusters of small and medium firms in response to international pressures (Isaksen, 2001; Aylward, 2005). In this environment industry clusters and the institutional imperatives by which they are bound are attracting more attention from economists and organizational science scholars alike. The clusters, mostly natural and spatially defined, are often highly developed and organically mature in nature. There exists a creative milieu of firms, industry bodies, research institutions and suppliers that drive innovation through both vertical and horizontal integration. This institutional and cognitive ‘thickness’ also feeds into export activities, a phenomenon that locks such regions into global markets and priorities (Aylward, 2005; Rosenfeld, 2005). As local regions and clusters become more observable and identifiable, they also develop their own brand, which

allows them to occupy legitimate innovative 'space' outside national innovation systems, rather than within, as the literature has traditionally held.

Yet within much of the literature the differential between cluster type, proximity (geographic, cultural, cognitive), developmental stage, industry sector and maturity is not being addressed (Martin and Sunley 2003). Ozcan (2004) points out, borrowing from Martin, Sunley and Feser, that clusters are being referred to in an 'all-embracing, universalistic' way, which tends to create confusion. General laws and principles are applied to these clusters regardless of their unique characteristics. Understanding of their behaviour can be simplistic and over-generalised. Indeed within the literature, there is sometimes a *misunderstanding* of cluster differentials and drivers. Theoretical developments tend to be based on inadequate empirical studies with insignificant and therefore inappropriate sample groups (Visser & Langdon, 2003; Martin & Sunley, 2003; Isaksen, 2001) . Furthermore, conclusions are taken from such studies and applied to a range of unrelated industry sectors and cluster types (OECD, 2001).

Importantly, more recent and exploratory literature is signaling an important parallel between cluster development and the various forms of inertia. Discordant resource imperatives (R&D extension & region-specific branding) between clusters and their host industry and the potential threat this discord poses to the development of innovative environments is seen as critical in understanding the requirements of national and regional innovation systems The work, however, is embryonic. (Niosi & Zhegu, 2005; Lagendijk, 2003; Wolfe and Gertler, 2004; Fritsch and Franke, 2003; Boschma, 2004). The relationship between competing imperatives and organizational inertia is not adequately dealt with and as a result, emerging theories leave much

unexplained. Increasingly, empirical studies will need to examine regions and industry clusters in the context of discordant imperatives in order to provide robust analysis. Focus must shift to innovative environments where dynamic self-contained clusters link into global rather than national landscapes and consequently require paradigmatic shifts and a re-alignment of priorities within the host industry.

Aims

It is the intention of this paper to explore the link between discordant levels of innovation and organizational inertia by:

1. Gauging user perceptions of innovative differentials between particular cluster types for a particular industry only – the Australian wine industry. This industry is an excellent example, representing as it does one of Australia's most dynamic in terms of innovation uptake and networking, as well as hosting spatially defined clusters.
2. Then, focusing on user perceptions of the broader industry's research and development (R&D) environment, the paper will attempt to attach meaning to the emerging dislocation in priorities between industry organizations and the firms they service. The way in which such dislocation is contributing to organizational inertia at the industry level will also be examined.

The paper will be divided into two phases. Phase 1 (innovation) will provide a quantitative assessment of user perceptions and experiences from within two distinct cluster models. The assessment will explore the link between cluster development and innovative activity. Phase 2 (inertia) will extend upon this by using qualitative feedback from firms within the study to highlight the often conflicting relationship

between R&D requirements of cluster participants and the R&D priorities followed by the industry organizations. These conflicting imperatives will provide salient commentary on the organizational inertia that may percolate through even the most innovative industries, highlighting the need for appropriate, cluster-specific R&D extension.

Michael Porter's (1998) basic cluster definition will be used as a starting point from which to develop a central argument – that geographic proximity or co-location within the wine sector is perceived by the users themselves as a major driver of innovation, and one that creates significantly different impact for those operating within and outside highly developed clusters. The Porter model will be further enhanced by the inclusion of Mytelka and Farinelli's (2004) 'organised' and 'highly developed' cluster categories.

At a basic level Michael Porter (1998) has described clusters as:

A form of network that occurs within a geographic location, in which the proximity of firms and institutions ensures certain forms of commonality and increases the frequency and impact of interactions.

It is this network between public and private sector 'actors' that can be so effective in generating an environment of concentrated innovation. As the environment becomes more interactive, actors tend to be attracted from an increasing range of related industry sectors. This results in the growth of value-adding and both competition and cooperation within the cluster are further elevated. Furthermore, intense interaction within clusters becomes itself a measure of innovation. Firms learn their innovative behaviour from their environment through vertical integration, knowledge spillover between firms and organizations alike, and competition within the market: the more

intense and robust the cluster, the more innovative the firm (Mytelka & Farinelli, 2004).

Organised and Innovative Cluster types

Two distinctions are drawn by Mytelka and Farinelli (2004) when observing cluster types. These are:

1. Spontaneous groupings of firms, suppliers and public sector bodies around a growth-orientated industry; and
2. Constructed clusters such as industrial parks and incubators, originating through policy mechanisms with specific objectives in mind.

For the purposes of this paper, the focus will be on the first type – spontaneous clusters. Mytelka and Farinelli (2004) divide these into useful categories: informal, organised, and innovative clusters. Based on a matrix of innovation measures, they rate each cluster type, with ‘informal clusters’ representing what Porter (1998) would classify as the least ‘evolved’ through to ‘innovative clusters’ as representative of the highest level of development.

Wine Industry Clusters

These cluster types may be applied neatly to the wine industry. While wine is one of the world’s oldest commodities, the systemic organization, infrastructure, packaging and marketing of this commodity is more recent. It has been referred to as an ‘industry’ only within the past twenty-five years. Now, however, particularly with the emergence of high-growth New World wine industries, the sector is attracting intense interest from both researchers and policy-makers. Importantly, New World wine

industries are also attracting interest because of their natural tendency towards cluster formations, or what Porter (1998) refers to as ‘pre-existing local circumstances’.

The desire to export has been a key factor in the evolution of wine clusters. While, historically, wine firms have always emerged in proximity to grape-growing regions, it was the desire to export, and to expand markets that triggered systemic organization. In catering to international markets, New World firms quickly realized that the most effective way to compete with their Old World counterparts was to produce and market a consistently high-quality product, at reasonable price points, to the world. This required a coordinated approach to R&D, a well-developed supply chain, sustainable alliances between growers and producers, significant public and private sector infrastructure and a unified marketing strategy. To a very large extent, the strategy has worked, and, clusters have evolved.

These clusters have, without exception, followed the model of geographic proximity emphasized by Porter (1998), Redman (1994) and to some extent, Rosenfeld (2005). Unlike IT, communications or the electronics industry, the wine sector is a natural resource-based industry that, according to Marshall’s (1920) theory is focused around ‘site-specific characteristics’. Wine clusters will vary in development, intensity of interaction, connectedness and therefore economic and innovative effectiveness. The least developed will include a loosely knit group of firms with some associated suppliers, perhaps local industry associations, some related agricultural firms, technical education providers and growers. Contrasting sharply with this model is the highly evolved, innovative cluster, which displays a significantly different business and organizational culture. There is a cohesive integration of suppliers, wine makers,

growers, marketers, numerous related industries, and the national research, funding, regulatory, education and infrastructure bodies that help provide the framework within which these firms compete and cooperate so effectively.

Porter and Bond (2000) have devoted considerable attention to what they refer to as the California wine cluster. In other studies, Mytelka and Goertzen (2003) have focused on the Niagara wine cluster and Visser and De Langen (2003) have selected the Chilean wine cluster for examination. These clusters are at substantially different stages of evolution, California being far more developed than either of its newer rivals, Niagara or Chile. It has the associated fertilizer, grape harvesting, irrigation, barrel, cork, bottle and wine-making equipment firms. It has strong linkages with government agencies, regulatory bodies, marketing agencies and research institutes, and it has the associated tourism and food clusters. As with wine clusters in South Africa, New Zealand (with the exception of Marlborough) and Argentina, Chile and Niagara are far less evolved and could only be classified as ‘informal’ or ‘organised’.

The Australian Context

Today, the Australian wine industry is at the forefront of a changing international wine landscape. It is one of the ‘upstart’ New World participants that have sacrificed tradition for innovation and growth (Anderson, 2004). As a result, it has transformed itself from a cottage industry to a leading exporter, ranked fourth internationally in 2006, with sales of \$2.8 billion. The industry has approximately 2000 wineries, with 168,181 hectares under vine, and crushes 2.2 million tonnes a year (Winetitles, 2006). The growth has indeed been impressive.

These figures, however, tend to mask the uneven distribution of resources, research infrastructure and wine output across the industry. Of those 2000 wineries, the 20 largest account for over 85% of sales. Almost 70% of wineries crush less than 100 tonnes annually. In terms of exports, the top 20 exporters account for approximately 85% (Winetitles, 2006). These patterns of activity, however, are not only restricted to size. Clusters, or geographic co-location play a critical role.

Of the fourteen national industry associations, including regulators, national supplier groups, export councils, federations and research bodies, all are located in the South Australian wine cluster. Funding and intermediary agencies are also located there, as are the national training and education bodies. While South Australia is home to only 24% of the country's wineries, it accounts for 48.4% of production and 66% of the nation's exports (Winetitles, 2005). Furthermore, wine regions within the South Australian cluster epitomize the innovative model. While wine clusters in New South Wales, Victoria and Western Australia represent Mytelka and Farinelli's (2004) less developed 'organised' model, South Australian regions have successfully integrated the core ingredients of viticulture, oenology and the organizational and marketing requirements into a highly evolved mix of innovation and export activity (see figures 1 and 2). This is what sets it apart. The apparent two-way articulation between innovation and export is refined to a degree that one appears to a large extent to feed into the other.(Aylward, 2003; Harcourt, 2003).

Figure 1: The Scope of Firm Connections within the 'Innovative' South Australian Wine Cluster

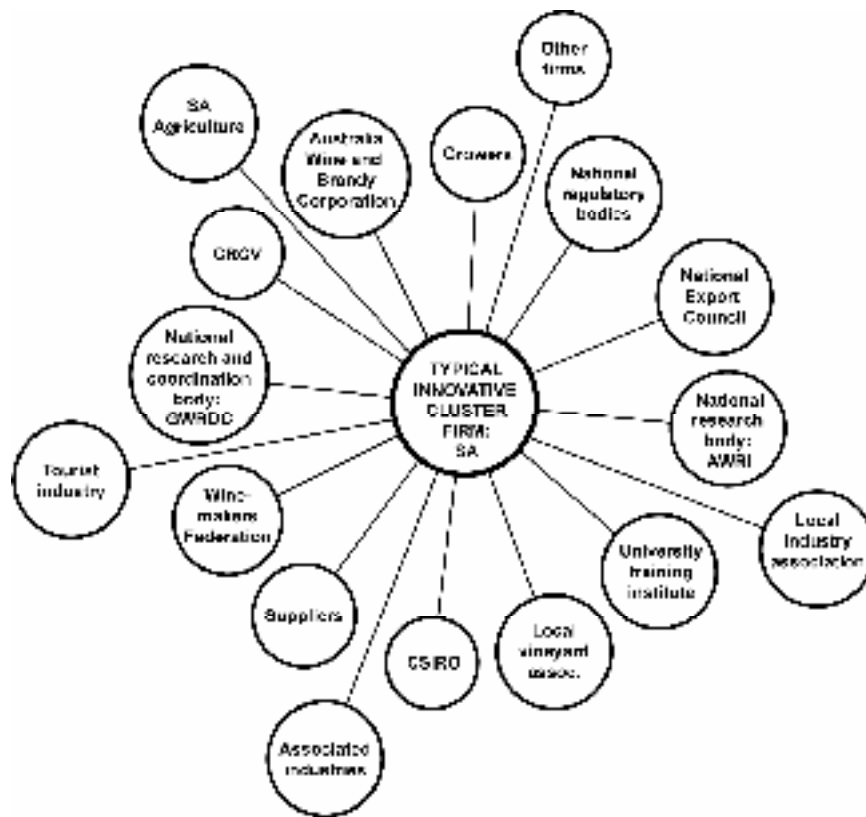
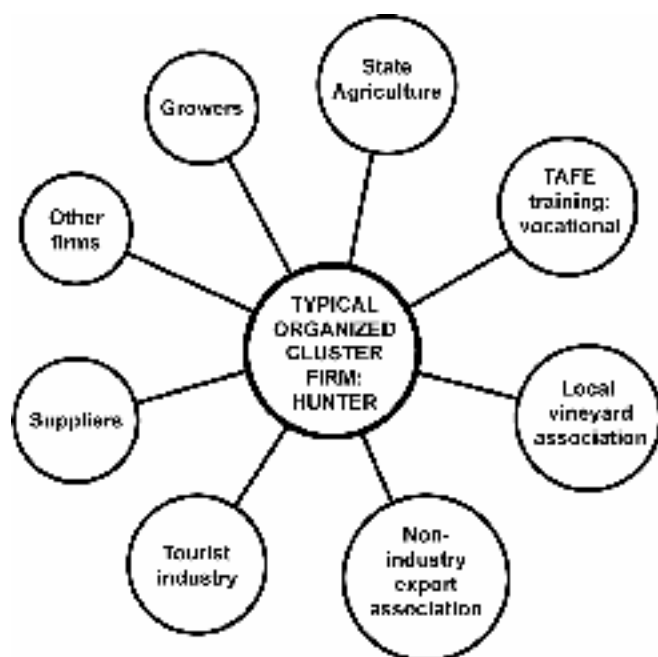


Figure 2: Scope of Firm Connections within a Less Developed 'Organised Wine Cluster model



Method

This study, carried out in 2005, focused on the perceptions and experiences of 165 micro and SME wine firms across multiple wine regions in four Australian states. The sample was divided equally between South Australia (whose regions represent the innovative cluster model), New South Wales, Victoria, and Western Australia (all of whose regions represent the less developed organized cluster model).

The sample was based on a stratified, randomised selection of firms within defined regions in the four states. In South Australia, regions included the Barossa Valley, Adelaide Hills, Clare Valley, McLaren Vale and Coonawarra. In New South Wales regions included the Hunter Valley, the Central West region and the Southern NSW region. In Victoria they were the Yarra Valley, Mornington Peninsula, the Pyrenees and Rutherglen. In Western Australia the regions included the Swan Valley, Great Southern, Margaret River and Perth Hills. While each of these regions vary in terms of innovative activity and interaction, previous studies by the author have determined that they broadly fit the cluster models outlined above (Aylward, 2002, 2003, 2004a, 2004b, 2005).

The first phase of the study is purely quantitative, measuring perceptions of innovation leadership, innovation drivers, cluster intensity, impact, R&D extension, and competitive advantage based on adherence to core indicators of innovation. These core indicators have been identified from extensive literature reviews and a number of previous surveys by the author. Specifically, the indicators are compared and contrasted between the different cluster models of the study in order to ascertain degrees of competitive advantage.

The second phase is a qualitative commentary from firms on the connection between innovation priorities and organizational inertia. The commentary addresses this connection in light of industry responsiveness, infrastructure support and the effectiveness of R&D extension programs. All 165 firms were first surveyed by phone and email for Phase 1 of the study. Phase 2 of the study involved phone interviews with approximately 90 of the survey firms as well as in-depth face-to-face interviews with CEOs and managers from four of the industry peak bodies. These included the Grape and Wine Research and Development Corporation (GWRDC), the Winemakers Federation of Australia (WFA), The Australian Wine and Brandy Corporation (AWBC) and the Cooperative Research Centre for Viticulture (CRCV).

Findings

Innovation in Australian Wine Clusters: The results of Phase 1 analysis

Innovation Leadership

For approximately two decades the Australian wine industry has enjoyed a reputation of innovation leadership within the global sector. There is a strong centralization of R&D levy collection, resource distribution and research priority setting. This has helped ensure that the uptake of innovation within the industry is maximised (albeit by a minority), and the roles of the respective organizations clearly defined. The outcomes, of course, have resulted in a template of high-quality, consistent and well-marketed product against which the rest of the wine world benchmarks.

This issue of innovation leadership was raised among 165 respondents of the study. Almost 82% agreed that the Australian industry enjoyed a leadership position among international wine industries, with 28% stating it was substantial and almost

54% stating it was moderate. Another 15.6% thought Australia’s innovative capacity was comparable to other major wine industries while only 2.5% thought it was lagging. The only variation in responses among the state cluster models, was that South Australian (innovative cluster) respondents ranked Australia’s leadership slightly higher (86.6%) than the average and Western Australian respondents ranked it notably lower (67%). The types of innovation in which Australia’s leadership was considered strongest included:

- New product development
- Product differentiation
- Employee training
- Distribution networks
- Marketing

In terms of the perceived drivers of innovation the majority (61.6%) of respondents believed firms were as effective as industry bodies such as the GWRDC, the CRCV, the Australian Wine Research Institute (AWRI) and the WFA in generating innovative activity and creating a research culture within the industry. Firm respondents accepted that industry organizations drove the R&D priority setting and extension, but believed firms’ innovative behaviour and readiness to adopt new techniques nurtured the industry’s creative milieu. As shown in table 1, when these responses were analysed by cluster type, the pattern remained similar, although Victoria and Western Australia were slightly less positive about industry contribution.

Table 1: Are Industry Bodies the Main Drivers of Innovation?

Industry bodies as:	New South Wales	South Australia	Victoria	Western Australia
Main drivers	31.7%	28.6%	21.6%	24.3%
Joint with firms	60.9%	65.3%	62.1%	56.7%
Minimal input	7.3%	6.1%	13.5%	13.5%
No input	0%	0%	2.7%	5.4%

Innovation intensity

The perceived geographic pattern of innovative activity at the industry level, however, provided dramatic, if expected results. The results also reflect findings from the author's previous studies, as well as other innovation cluster studies (Aylward, 2004b; Mytelka and Farinelli, 2004; Roper and Love, 2002; Rosenberg, 2005). When respondents were asked where they thought industry-level innovative activity was most concentrated over 88% nominated the South Australian cluster. The perception correlates closely with previous data collected by the author (see Aylward, 2004b) showing that 68% of firms within the South Australian cluster used the industry's research services on a regular basis, compared to only 32% within the Victorian and New South Wales clusters.

Other data from the study also highlighted the difference between clusters with regard to a number of core indicators of innovation. For example, in terms of inter-firm collaboration for research, marketing and other 'innovative activities', 64% of South Australian firms claimed they had been involved in this type of collaboration within the past three years, compared to 44% from the other state clusters. For other indicators such as new product development, improvement to production processes, education levels of employees, training levels, technical innovation and branding the South Australian firms recorded higher rankings in each case. Although the lead was variable, there was a clear pattern of innovation leadership within this cluster.

Interviews conducted with industry representatives from the major research-oriented organizations confirmed that South Australian firms were more likely to access and utilize the industry's R&D pools. Perhaps Boschma (2004) explains the reasons for this most succinctly when explaining the benefits of proximity:

...proximity is regarded as essential, because it tends to lower transaction costs, it facilitates the transfer of (tacit) knowledge and thus, learning and innovation, and it encourages co-operation between firms.

It may be argued that the intensity of this proximity - geographical, organizational and cognitive, has created an 'ecosystem' within which innovation and knowledge transfer are most effective. In the case of South Australia, the pronounced vertical and horizontal integration, the institutional 'thickness' and the fact that the cluster is locked into global priorities, have created an innovative climate that not only acts as an incubator for those 'actors' within the cluster, but is increasingly perceived as excluding those on its periphery.

The perception of exclusiveness was clearly an issue among respondents. Relating to the perception by 88% of respondents that R&D was concentrated within the South Australian cluster, firms were next questioned about how this concentration impacted on their own ability to participate in the industry's research initiatives. Overwhelmingly (82.1%), South Australian firms believed that the concentration of innovative activities in their state was beneficial to their own firm while an average of 41% from the other clusters shared this belief. Additionally, only 4.4% of South Australian firms believed that it was a disadvantage as opposed to 20.5% (average) from the other state clusters. The remainder had mixed perceptions on the impact. These frequency tabulations were reinforced by a chi-square test (table 2) that demonstrated a substantial difference between the way participants from the two cluster models thought about this impact.

Table 2: Chi-Squared Test of responses

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi Square	33.343a	8	.000
Likelihood ratio	36.640	8	.000
N of valid cases	162		

When asked how this same concentration impacted on the industry as a whole, rather than individual firms, perceptions were generally more positive with 91% of South Australian firms claiming the concentration of R&D resources was beneficial and an average of 74% for the other three clusters (see table 3 for more detail).

Table 3: Perceived impact on Industry of South Australia's innovative cluster (N=160)

Impact	New South Wales	South Australia	Victoria	Western Australia	Average all
Highly Beneficial	19.5	22.7	15.8	2.7	15.6
Beneficial	58.5	68.2	50..	75.6	63.1
No Impact	12.2	4.5	18.4	10.8	11.25
Disadvantage	9.8	4.5	15.8	10.8	10

These responses fit within the ‘competitive advantage’ concept of established cluster theory (Porter, 1998; Maskell and Malmberg, 1999; Lorentzen, 2003). Firms recognize that being located within clusters allows them advantages not enjoyed by those firms residing outside the cluster. Similarly, members of more intense, innovative clusters enjoyed greater advantages than those within less developed clusters. Regardless of these perceptions, however, there is a generally strong feeling among industry participants that geographical concentration of R&D benefits the industry.

This theory may be applied to the issue of ‘awareness versus use’ of industry R&D. There was little variation among respondents when asked about their awareness of the

industry's R&D initiatives and outcomes. Approximately 85%, regardless of cluster type, claimed that their awareness levels were above average to high. The primary factor in this uniformity, is the industry's system of information dissemination (Smart, 2005). Recent cluster literature places significant emphasis on the relevance and availability of information and the Australian wine industry has established itself as a benchmark for timely, dedicated and relevant information for the use of its participants. There are at least five industry wide journals/magazines that address issues from viticulture to wine-making to business development, to export to R&D and the uptake of this media is widespread among users. In addition, there are industry websites, newsletters and conferences dealing with a broad range of industry issues.

There is, however, a gap between *awareness* of the industry's research and *participation* in that research. Even though still high compared to other industry sectors, the cluster distinction is obvious. Approximately 88% of South Australian respondents claimed that they were regular users of the industry's R&D compared to an average 68% from other clusters, a pattern which closely reflects data from the author's previous study (see Aylward, 2004a). The pattern may be extended to firm collaboration and networking, another common element in cluster theory (Porter, 1998; Porter et al, 2004) where the level was high for both cluster types but higher still for South Australia (76%). Again, a chi-squared test demonstrated that the responses between cluster type were substantially different (see table 4).

Table 4: Chi-Squared Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.389a	8	.000
Likelihood ratio	15.715	8	.047
N of valid cases	165		

Competitive Advantage

Perhaps the most telling section of the survey was that in which respondents ranked core indicators of innovation for what they believe constitutes their firm's *actual* competitive advantage. Cumulative firm rankings were generated for each of the indicators, which included: uptake of technology, new product development, product differentiation, branding, marketing, distribution and exporting. Although this type of methodology has an inevitable margin of error, it should be noted that the sample populations were highly similar in terms of firm size, age and exporter/non-exporter mix. These indicators', however, should still only be interpreted as a 'package' demonstrating the consistency of South Australia's lead (see table 5).

Table 5: Comparing performance in core indicators of innovation

Indicator	New South Wales	South Australia	Victoria	Western Australia	South Australian lead over average
Innovation uptake	134	162	118	126	28.5%
Marketing	148	195	162	136	30.9%
Market placement	154	192	161	140	27.2%
Prod. Differentiation	163	193	153	149	24.5%
New Prod. Development	140	145	120	124	13.3%
Employee training	125	157	113	119	31.9%
Process improvement	151	164	122	127	23.3%
Distribution channels	132	186	139	150	32.9%
Agents	94	150	99	120	44.2%
Exporting	121	158	113	129	30.6%

Phase 1 of the paper indicates two distinct views of innovative activity. The first is that innovative activity in highly developed clusters is generally seen as more intense and effective than in less developed clusters. The second view is that natural, resource-driven clusters appear to demonstrate relatively high levels of innovation, cooperation and competitive advantage when compared to their broader industry sector.

Organizational Inertia in the Australian Wine Industry: Results of Phase 2 Analysis

Phase 2 of the study was designed to assess clusters and their relationship with the host industry, strategies for broadening the uptake of innovation outside those clusters, and the organizational inertia embedded within emerging discordant imperatives. This problematic relationship between enclaves of concentrated innovation and the broader industry sector is probably captured best by Bathelt (2005). He argues that

The role of institutions becomes, of course, more complicated when firms in a cluster exchange goods and knowledge through global pipelines. Different rules of the game exist and cultural differences can provide a barrier to communication and knowledge transfer.

The following section of the paper explores this fundamental but somewhat discreet connection between clusters of innovative activity and broader domains of inertia.

Theoretical Framework

Perhaps the most common weakness in current organisational change theories is the inadequacy in addressing organizational inertia at an industry, rather than firm or institutional level. While theoretical foundations of change at these two levels have become increasingly intimate over the past decade, there is little attempt to adapt the models to the broader industry environment (Ruef, 2004). Instead, there is sometimes a rather crude extrapolation of existing theories that lack the subtlety and complexity required by different paradigms.

Yet if we are to extend our understanding beyond the orthodoxy of current inertia theories we must acknowledge alternative paradigms and broaden our parameters of enquiry (DiMaggio & Powell, 1991; Foxon, 2002). The commentary presented in this

paper reflects one such paradigm, ie the increasing gap in imperatives within the Australian wine industry over recent years. The *gap* has been created by the divergent development of two distinct groups of stakeholders – the wine cluster participants and the industry organisations by which those participants are serviced.

Since 2000, the industry's landscape has been subjected to seismic shifts – global shifts in demand, supply, ownership, distribution, markets, price points and product style. Such shifts have created both strategic and operational pressures. They have also brought about a restructuring of the wine landscape in response to these pressures, in turn creating multiple nexi of local production with global pipelines of distribution and technology transfer.

In the Australian wine scene, as is the case internationally, mergers and acquisitions among and by the larger firms have created a truly global culture. For example, Australia's largest winefirm, which account for 20% of production, is foreign owned. Approximately 55% of Australian wine sales in total, flow back to foreign interests. In turn, the larger of the country's wine firms have substantial interests in other New and Old world wine industries. Such a global nature of ownership suggests that traditional national boundaries and approaches are rather limited.

This is where a distinction between the two sets of industry stakeholders becomes apparent. Industry organisations such as the GWRDC, the AWBC and the WFA have built their platform on the 1995 '2025 vision'. This original article of policy and operation was focused on growing Australia's exports in quantity and quality through *national* extension of R&D and a *nationally* branded product. It was implemented in a

period of embryonic internationalisation for the industry and has become a mandate for these organisations. Their vision and ability to react to changing environments is governed by a mantle of generic, national priorities. As such, they continue to service the entire industry from a common set of resources for a common purpose – that of ‘Brand Australia’. While an eleven year-old, ‘pre-fabricated’ mandate provides rigid parameters within which the industry organisations operate, cluster participants (the other stakeholders), are responding to altogether different mandates. These are contemporary and are determined by consumer demand, higher price points, flexible distribution channels and regional differentiation. In short, Australian wine cluster firms are increasingly operating within the rules of a fundamentally different paradigm. They are exposed to the pressures of international price competition, are under pressure to build sustainable and identifiable brands, and must retain a technological edge over their international peers.

The organizational inertia model used in this paper cannot be ascribed to an individual entity or even group of entities. Rather, it is an industry-level model which represents a conceptual and operational void between discordant R&D, marketing, extension and technology transfer imperatives. Industry organisations *are* adapting and even changing in response to perceived challenges, but at a national level. The cluster firms are also adapting and changing in response to their multi-faceted challenges, but these challenges are occurring across a very different landscape. The organizational and operational frameworks of clusters have evolved in a more sophisticated manner than those of their host industry due to their intensity of integration and complementary nature of their ‘actors’. They do not require generic R&D. They *do* require region-specific strategies that are acclimatised to the specific level of activity and integration

of their cluster environment. As such, they may be subject to different paradigmatic rules.

Findings -Issues of concern

Issue 1 – Inadequacy of Current R&D Extension Programs

A large number of respondents had concern about their access to the transmission of knowledge and innovation. Although information was widespread within the industry, tacit and codified knowledge, decision-making and pathways for technical R&D consulting were viewed by these respondents as sporadic and often inadequate. It is believed that the industry's R&D extension programs had improved in terms of geographic spread, but were still too few in number and most importantly, were designed around generic objectives and priorities. A greater emphasis in regional research priorities and a stronger focus on specific cluster needs and absorptive capacity was required.

Related to this, there was a general call for democratization of the main industry research institutes. A concept gaining wider support among firms within the wine industry is one of regional R&D nodes, ie an organisation such as the AWRI could establish nodes in each of the major wine clusters across Australia, so that research may be disseminated more effectively and with region-specific priorities. This extension could be achieved in a number of ways. The most feasible, however, would be the utilization of regional growers' and winemakers' associations as extension vehicles. The associations' authority would be subordinate to the GWRDC (the industry's R&D funding and coordination body), from which they would receive funding and resource distributions to be allocated among their own region's users.

Such democratization would also establish innovative ‘building blocks’ within less developed clusters to allow a re-weighting of the industry’s innovative capacity (Aylward, 2002, 2003). Even more importantly, it would allow the very region-specific R&D that is being called for. It is a concept that firms increasingly view as an integral component of regional cluster development, yet while industry representatives acknowledge its validity they are, as yet, reluctant to commit themselves.

The ‘research node’ concept has been reinforced by one of Australia’s most prominent wine figures – Brian Croser, who recently argued for greater regional differentiation (Croser, 2004). Croser claims that regional differentiation in Australia has traditionally been obscured by the industry’s national approach and that if its success is to continue in export markets, greater emphasis now needs to be placed on the whole notion of regional identity, with the requisite support structures (Croser, 2004) At a recent wine industry conference in Brisbane, Sally Easton (a British Master of Wine) extended this argument by stating that SMEs have their own priorities which, although differing from large producers, need the same emphasis. She intimated that these SMEs were often located in diverse regions and with this came a need for ‘estate’ (local) branding (Smart, 2005).

Issue 2 – Scientific Imperatives versus User Needs

A second issue emerging among respondents and within the industry generally, is the nature of research currently being conducted. There is some concern that industry sponsored research, particularly that carried out within the AWRI is being increasingly driven by imperatives other than user priorities. The perception among a

significant number of respondents within both cluster models, is that scientific imperatives, rather than firm and regional priorities, are providing the thematic and accountability framework for many of the research questions in the industry. As a result, wine R&D is losing relevance for a number of users and the value of the R&D levy is being compromised.

This conflict between imperatives is not uncommon within industry sectors where historically successful R&D programs have become entrenched. Levitt and March (1996) succinctly refer to the phenomenon as a ‘competency trap’. Lawson and Lorenz (1999) contend that “becoming quite good at doing any one thing reduces the organization’s capacity to absorb new ideas and to do other things”. The AWRI has enjoyed an international reputation for wine research for the past 15 years. Together with the CRCV it has helped establish the Australian wine industry as a template for the effective dissemination and uptake of innovation. But many users are now arguing that as a result of this success its own scientific imperatives are to some extent displacing their more ‘tangible’ needs.

The User argument is that much of the industry-sponsored research is of a novel or ‘discovery’ nature, rather than one which addresses the more practical needs of growers and winemakers. Specifically, their espoused needs require region-specific research targeting such things as virus diagnosis, pest management, quality testing, ageing and canopy management. Currently research is available from the AWRI for each of these requirements, but only under individual technical assistance contracts and usually at costs prohibitive to smaller firms. The region-specific R&D model

envisaged by users advocates a packaging of these research services under industry-funded aid sponsored by user R&D levies.

For a host industry to remain competitive and for its associated clusters to remain robust learning environments it is essential that R&D effectively services user requirements. A common element within failing clusters is the break down or dislocation of industry and user R&D imperatives. In accompanying interviews, institutional representatives from all but one of the organizations disagreed with these user concerns, arguing that their research agenda continues to fulfill the criteria that has made it so successful in the past. One industry representative, however, belonging to an organization funded under different mechanisms, shared the users' concerns. It was this person's belief that a number of organizations within the industry had become somewhat complacent in their approach to needs and had allowed their own internal agendas to emerge as an entrenched component of the research framework, regardless of their value to broader priorities. If we look at the funding mechanism for the AWRI, there is some validity to this concern. The AWRI receives approximately 90% of its annual funding from the GWRDC. This funding is virtually guaranteed from year to year, thereby creating a defacto incentive for differing imperatives.

Issue 3 – The Dislocation of Industry and Cluster Imperatives

The third, and possibly most important concern, relates to the evolution of the industry in general, and its clusters in particular. It is also a concern that highlights the idea of organizational inertia most effectively.

Common among survey respondents was the belief that firms within all cluster models tend to be more innovative than those operating outside clusters. Furthermore, clusters within the wine industry are increasingly ‘locking-in’ to global pipelines of technology transfer and sales rather than the traditional model of domestic priorities and markets. As these ‘lock-ins’ become more sustainable so too does the cluster’s overall competitive advantage. Activity is intensified, inputs increase, the nexus between innovation and internationalization is more defined and the operational and productive ‘gap’ between the cluster and the broader industry sector widens. Innovation and particularly marketing and branding policy, therefore, require greater levels of differentiation (Aylward, 2005). Having industry support bound within a national context, based on sector-wide priorities is in conflict with such differentiation.

For example, the Australian wine industry has recently re-packaged its ‘Brand Australia’ template, creating a more-of-the-same branding platform (Smart, 2005). The platform will reinforce the national approach to branding, marketing, and R&D extension programs. It is an approach driven by the industry organizations and one based on historical success. It is also an approach that embraces the more static nature of the broader industry sector and may, therefore, dilute and diminish cluster initiatives. In this case there is a strong push among many cluster participants to adopt regional frameworks that incorporate branding, marketing and R&D. The thinking among a number of industry leaders and a large percentage of cluster firms is that the globalization/localization nexus has created a unique opportunity or even requirement for firms clustered in regional areas to become branded entities. They believe it is this,

rather than the nationally branded approach that will continue to differentiate them in the eyes of consumers. As the Master of Wine, Sally Easton recently told the industry:

Brand Australia is fantastic but I wonder whether it may be your enemy....we are beginning to wonder if brand doesn't equal bland...I wonder if you need to create a different sound bite for small to medium producers. Maybe you need to market yourself outside Brand Australia. At the moment the (British) press is slightly disenchanted about Australia. We like family-owned stuff in the UK because there is a story behind it (cited in Smart, 2005, p.44).

Yet to date, agenda setting entities such as the WFA, the GWRDC and the AWBC are reluctant to progress from positions of national representation to one that involves promotion of regional or estate branding as an extension of the national platform. The situation neatly fits within Hannan and Freeman's (1984) framework of 'high inertia', who contend that "structures of organizations have high inertia when the speed of reorganization is much lower than the rate at which environmental conditions change" (Hannan and Freeman, 1984).

The international wine industry is fluid and evolving rapidly. The industry's clusters are also evolving rapidly and are adjusting to the new globalization/localization paradigm. They are attempting to satisfy global demand with local, highly differentiated products. With the industry's governing organizations appearing reluctant to forsake an older operating paradigm, however, the ability of regions to leverage their reputations against international competitors is impaired.

Perhaps the Australian industry now needs to look to highly successful Old World institutions such as *InterRhône*. Operating within an advanced organizational paradigm, *InterRhône* (a leading-edge wine research institute) is demonstrating the effectiveness of linking regionally focused R&D to regional branding. The Rhône

region, an intense cluster of SME and micro wine firms, has created a lucrative niche brand that differentiates itself from the national platform through region-specific R&D, different marketing techniques, different ‘routes-to-market’ and the use of flexible distribution channels (WBM, 2005; BeverageWorld, 2005). It is a model already being duplicated successfully in Spain and California and one that is a logical progression for an industry in which globalization has rendered national approaches somewhat dated.

Concluding remarks

By demonstrating the differential in cluster development between two distinct cluster models in Phase 1 of the paper, there has been an attempt to highlight the way in which a focus of resources impacts on innovative performance. The articulation of this same conceptual framework in Phase 2 of the paper then shows how emerging discordant organizational imperatives may neutralize that focus and undermine performance and future positioning. Perhaps more importantly, however, this link between Phase 1 and Phase 2 explores an association between entrenched success and emerging organizational inertia. The Australian wine industry has enjoyed considerable global success and throughout its growth has spawned a number of productive clusters. It is this historically national success and the subsequent creation of an environment punctuated with highly innovative enclaves that have precipitated the dislocation of imperatives. It is a dislocation that is leading to organizational inertia, as industry priorities no longer match those of the clusters it so successfully created.

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