Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia

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Abstract

Prompted by the observation that some Australian universities state that they wish to be entrepreneurial, and appear to be only mildly successful at it, whilst others are entrepreneurial by any measure and yet do not state that aim, this study explores what it means to be an entrepreneurial university in the complex and challenging Australian context. It asks the key question “What does it take?” in seeking to identify the organisational and managerial capabilities that underpin successful entrepreneurial outcomes with a view to developing a model that can assist senior university executives in their managerial and leadership practice.

The study is undertaken in an interpretive, qualitative research framework where an initial model based on a literature synthesis, using the work of Clark as a starting point, is presented to a group of participants. All are either present or recent vice-chancellors, higher education industry experts and bureaucrats, or are senior technology transfer managers concerned with direct entrepreneurial efforts in larger universities. In two iterations, the participants are engaged in dialogue about the model, refining and commenting on it until their views are incorporated and it more closely approximates their own mental models for the practice of entrepreneurship in the university.

Their comments about related issues of government policy, current national and international trends, their respective university strategies and concerns are also incorporated to add rich meaning to their views on the model itself.

The study concludes that there are five clusters of capabilities involved in building an entrepreneurial university in the Australian setting. They are labelled Context, Strategy, People, Enabling Mechanisms and Culture and Internal Politics in this study. There is some overlap with those elements Clark originally identified but also some notable additional emphasis and detail added. In this study, the capability clusters related to relationship with environment and Context and that relating to Strategy and strategic leadership in general are found to be more important than Clark indicated, more crucial in the present Australian context and generally more underdeveloped in Australia than the current circumstances would indicate is necessary.

It is concluded that where entrepreneurship is handled as a marginal, optional, or half-hearted pursuit, and the concept not fully embraced, it is likely to result in haphazard outcomes, not always enhancing or progressing the institution in its desired direction. In contrast, successful entrepreneurship in and by Australian universities essentially requires greater emphasis on the capabilities of strategic management and plans that place entrepreneurship centrally in an integrated strategic entrepreneurship framework.
Acknowledgements

This study could not have been undertaken without the generous and candid participation of many very busy people. All of them remain anonymous in the text of this research, as they wished to be, and I here acknowledge and thank all of them for their contribution and interest in the topic. I had some wonderful, insightful and animated discussions with them.

I also thank my supervisor, Professor Nita Cherry, for her clarity, judgement and support.

Lastly, but not least, I thank my husband, Professor Miles Nicholls, for his unswerving confidence that I could do this, and for his encouragement and practical help when some substantial family and personal difficulties made hard work of this project and threatened to derail both it and me.
Declaration

I declare that this thesis:-

• contains no material which has been accepted for the award to me of any other degree or diploma, except where due reference is made in the text of the thesis;
• to the best of my knowledge contains no material previously published or written by another person except where due reference is made in the text of the thesis; and
• where the work is based on joint research or publications, discloses the relative contributions of the respective workers or authors.

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<tr>
<td>RBV</td>
<td>Resource Based View</td>
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<td>SCA</td>
<td>Sustained Competitive Advantage</td>
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<td>DCV</td>
<td>Dynamic Capabilities View</td>
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<td>CV</td>
<td>Corporate Venturing</td>
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<td>CE</td>
<td>Corporate Entrepreneurship</td>
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<tr>
<td>Unis</td>
<td>Colloquial abbreviation for ‘universities’</td>
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<tr>
<td>DEST</td>
<td>Department of Education, Science and Training</td>
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<td>IP</td>
<td>Intellectual Property</td>
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<td>HR/HRM</td>
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Chapter 1: Introduction

“Corporate entrepreneurship is about the ability of a large organisation – not an individual - to make the most of commercial opportunities, to innovate, to do things differently. It is about developing an organisational and strategic capability not just to manage change, but to embrace it, create it and shape it – quickly. It is about developing an organisational and strategic willingness to take measured risks – sometimes failing, but learning by those mistakes- and putting in place the processes and procedures to monitor those risks and take early corrective action if required. It is also about bringing personality back into management, so that relationships, rather than rule books, are important in shaping what employees do. It is about getting rid of the grey suits. It is about creating a balance so that some control is given back to employees whilst they are still held to account for their actions. It is about creating ‘space’ to be creative and innovative.”

(Burns, 2005:xviii)

1.1 The Australian University Context:

Australian universities currently face turbulent times, times of intense and almost continuous change and challenge. They are not alone in this. Many higher education systems in many developed countries with market-driven economies are also experiencing some degree of the same turbulence (Slaughter & Leslie, 1997). Others with similar patterns include Canada, New Zealand, the United Kingdom, the United States of America and much of Europe as well. Their governments are choosing to spend less on their higher education systems, whilst also asking more of them. Universities are asked to educate significantly greater proportions of populations to take their place in what are fast becoming knowledge economies (Slaughter & Leslie, 1997:1-2). They are also expected to contribute to the economic development of those knowledge economies. Accordingly, governments are placing clear research and development priorities before universities, priorities that have preferred industry and economic impact (Powers, 2004). A publicly funded research university is expected to be “…a generator of future economic growth in ever more direct ways.” (Etzkowitz, 2004:64). Such policy impels institutions in those countries to seek closer relationships with both government and industry. At the same time, the policy requires them to drive resource efficiency and quality management approaches through all aspects of their business, requiring a high level of both financial and outcome accountability. The complex and intertwined relationship between higher education, business and government has been described by Etzkowitz (2004:64) as a triple helix, a genomic image of almost biological oneness that is certainly intended to
imply interdependence and synergy. Clearly, in such intertwined scenarios, the ivory
tower of higher education is gone in developed economies and the political economic
changes we see in these relationships, now almost global, are structural and are not
likely to revert or disappear (Slaughter & Leslie, 1997:6; Clark, 1998; Marginson &
Considine, 2000).

In Australia, universities accordingly find themselves faced with diminishing or at
best static public funding, with high student demand and increasingly scarce qualified
academic employees. These parameters tend to lead to high academic workloads and
a number of other resource stringencies. The Australian Government policy
framework, seeking efficiency and excellence in the system, has generated
competitive dynamics between and even within institutions possibly rather more
aggressively competitive than was ever anticipated according to some observers
(Slaughter & Leslie, 1997; Marginson & Considine, 2000). The policy framework
does shift the once fully publicly funded system of Australia towards one that is more
privatised in nature, more exposed to national and international market forces, and
quite intentionally so (Clark, 1998, 2003; Slaughter & Leslie, 1997:111). The desired
outcomes include both higher quality of higher education and greater resource
efficiency, and a degree of self-sufficiency from Australian universities in the face of
diminishing block grants that are likely to diminish further.

Such a policy framework has some elements that universities find interventionist and
a little contradictory. Government policy is requiring high levels of accountability
and, at the same time, driving the competitive market of higher education harder and
faster towards a more deregulated, privatised system (Marginson & Considine, 2000;
Harman, 2005). In some respects pressed into ‘free’ market-driven mode, universities
in Australia are also having many aspects of their internal operations mandated and
restricted. For example, whilst being encouraged by Government to develop very
creative and market-responsive courses, regulation related to the Higher Education
Support Act of 2003 (HESA) now requires each institution to register all subjects and
courses over one year in advance of operation with a central bureaucracy, and leaves
no scope for quick change and little market responsiveness in curriculum. The market
forces offer exciting opportunity to create partnerships with industry, with other
institutions and with government itself in order to build quality options for Australia.
There are paradoxes here. On the one hand, the deregulation of the system allows universities to generate revenues for themselves in ways previously neither needed nor permitted, and yet the central bureaucracy caps many fee levels and prescribes certain fees that may or may not be collected. On the one hand, universities are directly encouraged to innovate, and yet may not strategically innovate by opting to either commence or abandon teaching in certain disciplines – all these facets of institutional profile are negotiated well in advance and not readily changeable. This is a paradoxical, even contradictory and certainly a challenging environment – free but not free, deregulated but controlled in some respects from Canberra. Undoubtedly, there is great opportunity in the de-regulated higher education market, now more fully exposed to international pressures and trends. There is also high potential for complexity, challenge and threat.

This makes the task of university management a very complex one at this time in this country. Senior university executives are finding themselves ironically with more ‘power’ on paper, more capacity to chart a specific strategic course for their institution, and yet with less room to actually move an institution through this turbulence in order to maximise opportunity and minimise threat. The Australian Government is clearly encouraging universities to become more financially independent via its education reforms. Indeed it is expressly urging them to become more entrepreneurial, largely as a means by which each institution can self-fund to a far greater degree (Clark, 1998, 2003; Gallagher, 2000; Marginson & Considine, 2000). This in itself is almost an institutional strategic choice being prescribed by Government policy, and yet it is the same one that many governments have also firmly encouraged in universities around the developed world.

The antithesis of the traditional ‘ivory tower’ of learning, the entrepreneurial university is a much more economically and societally focused model, one that will be explained in much greater detail later in the next chapter. It is not just a more commercialised entity than the traditional university, although an entrepreneurial university will be much more commercial. It is an institution that is actively engaged with the task of contributing to the entirety of a cultured and competitive Australian society. It will be honouring its intellectual and social purpose of improving the
quality of Australian life for the whole community (National Board of Employment, Education & Training, 1990). This engagement with society, with industry and with business will make it an outward-looking institution to some extent, and in taking government funds to support part of this mission, each university will also become more accountable for public funds, and more accountable for its own internal workings (Grigg, 1994:275). In this wider sense, the entrepreneurial university is commercial, but it is more. It is outward-looking, self-sufficient, engaged with and actively contributing to the common good in its society, and doing much of that by contributing to economic development, as will be elaborated later. This more actively engaged role, the role of third party in the triple helix of business, government and higher education (Etzkowitz2004: 64), generates some deep ambivalence in some educators (see for example Clark, 1998; Slaughter & Leslie, 1997; Harman, 2005; Lee & Rhoads, 2004; Harley, Muller-Camen & Collin, 2003). It has nonetheless become an utterly inescapable concept, quite possibly a virtual necessity for organisational sustainability in many universities, and permeates all current Australian Government policy on higher education. It has done so since the creation of the Unified National System in the late 1980s.

Whilst in common parlance we might associate the concept of ‘being entrepreneurial’ with the mode of taking and making opportunity in business, of starting new businesses, the context for Australian universities could also be seen as one with as many limitations and threats as opportunities. Can these universities truly be entrepreneurial in such a threatening and challenging context? Do they actually have the capacity to make the strategic choice to be entrepreneurial, and to then enact that choice? It would seem entirely possible for some universities in difficult circumstances to achieve entrepreneurial style and outcomes. Clark, (1998) presents us with five very well-documented cases of such university transformations (for example, University of Twente in the Netherlands, and Warwick University in the UK), often against the backdrop of resource constraint and serious challenge, threat and near emergency. The fact that these international exemplars exist, and that there are now more recent success stories suggests that it is possible. The sense of institutional emergency in those cases may even have helped the new entrepreneurial cultures and outcomes to emerge in the pursuit of survival and sustainability.
Certainly, by 2000, a senior Australian education bureaucrat, described to an OECD conference the entrepreneurial trend as ‘well advanced’ in Australian universities, although he acknowledged that the practice was very patchy at that stage. He indicated that the Government administration’s point of view was that universities still needed to do more learning about how to best take advantage of the opportunities presented by the policy framework, only in its initial stages at that point (Gallagher, 2000). Five years later, the trend is much more pronounced, the learning is greater and the debates about the ethical propriety of universities needing to be commercially astute and active are subsiding somewhat (Harman, 2005; Clark, 2003). Many opportunities have been entrepreneurially grasped, and government policy initiatives continue to drive the entrepreneurial response, or at least to outwardly encourage it as part of the active higher education marketplace. The trend is not confined to Australia either. The entrepreneurial university, the *triple helix* partner described above, is a phenomenon of the developed western world. Those in the higher education ‘industry’ are now focusing not so much on whether to, but on *how* to embed the concept, explore its full potential and see it as an ongoing and sustainable way of thinking and operating, rather than as a fad of the cash-strapped ‘90s (Clark, 2003, 2004a).

Current policy initiatives indicate that the institution of a Research Quality Framework (RQF) into Australian Universities is likely to have impact of significance for the strategy, the self-sufficiency and even the survival of some institutions. There is a high likelihood that we will see in this country, not by accident, but by Ministerial design, some universities become highly research intensive, whilst others diverge to become highly teaching intensive (Nelson, 2005). Still others might well be somewhere in between, performing well on both dimensions. It could be said that some universities are ‘teaching only’, although the absolute preclusion of research activity is hotly challenged by many. At the point of writing this thesis, policy detail regarding the RQF is not totally clear, so that the terms *research intensive* and *teaching intensive* will be preferred in this work, assuming that even a teaching-rich institution will seek to maintain some research, however minimally funded it might be from the Government in Canberra. It assumes a sort of continuum with research intensive universities at one end, teaching intensive
ones at the other, and allows for some to be positioned along that scale and even for
some to be excellent at both aspects.

This emerging policy context changes the strategic challenges for many university
leaders, but it seems very unlikely to reduce the need to become more and more
strategic and more entrepreneurially oriented, given that resources are likely to
become even less reliably derived from the public purse in the foreseeable future. If
anything, it will amplify the need for most institutions to manage their affairs
entrepreneurially. Clearly, “..smaller, under-resourced and non-specialized colleges
and universities are at greatest risk” (Rowley, Lujan & Dolence, 1998:25) when the
context is fiercely competitive, change is everywhere and survival a struggle. Being
more entrepreneurial is for them likely to be a vital survival mechanism. For others of
more robust size and kind, it is nevertheless likely to be an integral part of how they
seek to operate.

1.2 This Research:

This current research does not seek to argue the appropriateness or otherwise of the
demands being placed upon Australian universities. It does not join the debate as to
whether the reduction of public funding into our universities is for the better or worse.
It does not debate or bemoan the fact that institutions are undoubtedly being pressed
into generating far more of their own revenues. It takes these facts as a given context,
one that then forces universities to strategically think their way through both
opportunities and threats as best they can if they are to survive as distinct, viable
entities that accomplish their missions.

Instead, this work aims to explore some aspects of strategic management that may
assist senior leaders in universities to chart a successful course through the difficulties
and in particular, to shape their institutions as entrepreneurial organisations. Such
strategy has the dual goals of both helping them to cope in the short term, and setting
in place things that will ensure the ongoing survival and success of their universities
in the longer term. It especially explores the nature of ‘being entrepreneurial’ in the
university context as a strategic option, and seeks to understand exactly how senior
executives in our Australian universities should think and act to actually create and operate the entrepreneurial organisations that most say they seek to build. In fact, even a cursory look at the websites of most Australian universities reveals that a high proportion of universities state as part of their strategic plans that they wish to ‘be entrepreneurial’, or operate in an entrepreneurial fashion whilst in the pursuit of other more defined goals.

This study will draw from the literature whatever best practice advice can be provided for senior university managers. It will examine some of the practices that have tended to produce best entrepreneurial outcomes thus far, and also note some of the significant hindrances being experienced in the current Australian context and seek input from experienced senior practitioners. Since it appears that ‘being entrepreneurial’ is relatively easy to say, both in strategic plans and in person, and yet is much harder to actually achieve in the current Australian context, this study aims to develop a clearer model of leadership practice for senior university managers in order to assist the senior leaders of the sector to more systematically manage in ways that will move the stated strategic entrepreneurial intent into successful practice. It will not attempt to identify in detail the complex theoretical causal linkages between and among many of the identified components of the model of practice. It seeks simply to identify and map the key dynamic elements that senior university leaders must hold in mind and activate in order to bring the entrepreneurial university to reality.

Only a small amount of research has been undertaken on matters of strategy-making within the university sector per se (Shatlock, 2000; Lynch & Baines, 2004), and the literature has described the ‘entrepreneurial university’ in relatively general terms, but given only a little attention to leadership behaviours in that specific context (Clark, 1998, 2003,2004a&b). As a result, this current work will borrow heavily from the wider literature on the transition processes of public enterprises to more ‘corporatised’ or private ones, and from the very much larger literatures on strategic management and corporate entrepreneurship as a whole. It intends to draw out the key messages that might be of most help in understanding the strategic choices and strategic leadership models that Australian universities could employ in the pursuit of entrepreneurship at this time. It will then compare the messages derived from the literature with those obtained from some senior practitioners in the sector in order to
build an improved practice model that embodies the best of that which has already proven successful.

Given how important a university’s strategic choices are in such challenging environments, it is remarkable that so little direct application of strategic leadership and management concepts appears to have as yet found its way into the literature on higher education. This may be partly attributable to the widespread reservations about managerialism and all that this potentially implies in academe (see for example Harley et al., 2004) or it may be simply that there has been relatively little need for refined strategic thinking in a sector that was until the past fifteen years, remarkably stable and protected. This work will hopefully assist in bringing some of the strategy and entrepreneurship concepts more directly to the tasks of management and leadership in Australian universities.

It is also surprising that the recent research on entrepreneurship and leadership in universities has not yet done a great deal to overtly inform the actual behaviours and practice of senior executives throughout the system. It has mostly worked at the level of broad-brush ideas, with the possible exception of Clark’s more recent work (Clark, 2003, 2004a&b). That research which has been done in universities has thus far tended to work at the general and strategic conceptual levels, but given few clues about what good practising university leaders at, say, Dean, Deputy Vice Chancellor or even at Vice Chancellor level, should actually do to help their university be more effectively entrepreneurial. There are undoubtedly some skilled senior practitioners who have devised their own models and practices intuitively, but detailed research to build such models of practice for the benefit of all has yet to appear.

This study will not focus at the level of university councils or senates, whilst recognising that they too have major roles to play in creating and driving entrepreneurial universities. Rather, it focuses on the practice of leadership within the university, recognising the strategic vision and facilitation that must also come from such councils. However, an entrepreneurial council cannot create an entrepreneurial university. That rests with the day-to-day management and leadership of the organisation, those who are charged with orchestrating and enacting entrepreneurship. It could even be argued that some elements of the Australian context are unhelpful for
enacting entrepreneurship, since Government policy could be seen as intrusive to university operations and requiring many bureaucratic responses to bureaucratic demands and regulations. As will be seen, bureaucracy is often seen as the ‘enemy’ of entrepreneurship. Given the level of difficulty, the study aims to fill the research gap by devising, in consultation with senior practitioners, a practical model of entrepreneurial leadership that can assist senior academics to lead their universities strategically and for best entrepreneurial outcomes in this complex and very challenging current context.

We do not yet seem to know exactly what one ought to do as a university senior manager, or rather, the range of actions from which one must choose, in order to make for a truly entrepreneurial university. Although we know that most Australian universities say they wish to be more entrepreneurial, we know that progress in this regard is uneven and in the present policy context, difficult. We do not yet fully know how senior managers should translate the concepts to their daily practice, or at least, we do not yet have a formal body of practice knowledge. We do not yet know fully ‘what it takes’ to succeed in such leadership tasks. These are the concerns at the centre of this study.

The declared stance of this researcher, who is an experienced manager of a large academic unit within the sector, is to note that the available advice falls a little short of a good and helpful model of practice. This work therefore seeks to answer the question the author will be asking herself at all points in the pursuit of practical guidance: “Will this help me act?” Any model of entrepreneurial practice that is to emerge must be able to vary according to whether the university is research intensive or teaching intensive, and according to how well or poorly developed the institution is already in terms of its entrepreneurial identity and capability. It is therefore intended that the work of this study will adjust for these scenarios, providing flexible advice for those in a range of institutions.

1.3 Structure and Overview

The thesis is structured to follow thus:-
The next chapter (2) will review selected literature on what is meant by ‘entrepreneurial’ especially in the university context, and what it could potentially mean. It also examines the more traditional corporate entrepreneurship for whatever implicit and explicit clues are presented about the organisational and managerial capabilities required for success, ‘borrowing’ what appears relevant for a university. Where the idea of the entrepreneurial university has arisen in the higher education literature, that is also examined for capabilities implications.

Chapter 3 describes the methodological approach taken and assumptions made in structuring this interpretive and qualitative study, which commences with a synthesised capabilities model drawn from the literatures.

The two following chapters, 4 and 5, present the summarised data from the two iterative rounds of interviews, analysing and interpreting data and examining for themes and linkages. Each chapter contributes to the notional model of capabilities by emphasising certain capabilities, adding some further clarification, assembling the main clusters of capabilities, and raising issues that participants in the study find highly relevant, but which the initial literature did not highlight.

Chapter 6 draws out the key capabilities, noting that two of the clusters found in this study are not well discussed in the literature relating to universities, and are not well-developed in many Australian universities. Implications for the future management of Australian universities are then discussed.

A number of appendices are included at the end of the thesis, and referred to throughout the text. Each is either a specimen of some part of the research process, or a table, assembly, or figure representation of data extracted from the tape-recorded interviews. Several are extensive documents, made available for the reader’s use to review all data pertinent to the discussion and findings, but not incorporated in the text due to their bulk.

A copy of a refereed conference paper produced from some of the early data of this study and presented at the 2006 conference of the British Academy of Management is also included in appendices.
Chapter 2: The Literature

2.1 What Does ‘Being Entrepreneurial’ Mean?

The terms ‘entrepreneurial’ and the whole field of entrepreneurship are neither singular nor simple ones with which to engage. Until the 1990s, the fields of theory development and research into aspects of entrepreneurship were badly plagued by lack of clarity and agreement on key definitions and terms. Schumpeter’s (1934) seminal early works of the 1930s and 1940s had taken entrepreneurship as being about acts of ‘creative destruction’ (of market equilibrium) which carried an invention or creation into innovation which resulted in a new business which could grow successfully (Kirchoff, 1991:8). Over the ensuing decades, consensus on definitions has been more difficult to obtain, as is often the case in rapidly growing, emergent academic disciplines.

Gartner (1989) believes that the essential and defining ingredient in entrepreneurship is that new organisations are created. Others see the defining dimension as being that innovation, (or entrepreneurial discovery) has occurred (Jennings, 1994; Kirzner, 1997:64; Brazeal, 1999:36; Covin & Miles, 1999: 49). Sharma & Chrisman (1999) created a landmark synthesis of much of the literature to that time, and defined entrepreneurship as “...acts of organizational creation, renewal or innovation that occur within or outside an existing organization” (Sharma & Chrisman, 1999:17). This inclusive definition, inclined to relate more to the actions of the single entrepreneur than to activities emerging from an existing organisation, has become something of a platform on which subsequent research has been based. Certainly, the definition sees entrepreneurship as a step further along than the simple act of technology transfer, since research has shown that the fact that a university sells, licenses or otherwise transfers its technology to another organisation does not alone mean increased jobs or new business creation. Often larger firms buy a technology from university research and never actually use or commercialise some aspects of it (Harmon et al., 1997:432-433). Thus Sharma & Chrisman’s (1997) definition of corporate entrepreneurship (CE) assumes that businesses have actually been created.
following whatever technology transfer took place. Entrepreneurship may create new organisations, but when considered against the backdrop of multinational global economies, and against the current Australian university context, it is possibly more likely to relate to the renewal or innovation elements of the definition than to organisation creation per se.

In the current Australian university context, this definition may be a little narrow. Current usage of the entrepreneurial descriptor in this setting has embraced the simpler phenomenon of commercialisation that is clearly more about the harnessing of whatever property, goods and services the organisation holds for financial returns, about making money (Marginson & Considine, 2000). What is implied is rather more than simple commercialisation. Use of the term ‘entrepreneurial’ in this university context has looked to the broadest elements of what is more usually known as corporate entrepreneurship, those that are more to do with a positive, pro-active, enterprising, self-sufficient culture: that is, innovating, creating organisations, making money, looking for self-sufficiency, positive interaction with the broader society that adds value to the university and to the society. This is a broad-spectrum view of entrepreneurship, encompassing organisational creation, but also many of the attitudes and orientations that underpin such activity.

Taking their definition of entrepreneurship as starting point, Sharma & Chrisman (1999) therefore logically concluded that corporate entrepreneurship (CE) could be defined as “...the process whereby an individual or a group of individuals, in a association with an existing organization, create a new organization or innovation within that organization” (Sharma & Chrisman,1999:17). Effectively, the processes of organisational creation, renewal and innovation emanate from within an organisation, rather from an individual entrepreneur and do so for the organisation’s on-going benefit. Whilst this is a broad and encompassing definition, there has been some ambiguity about exactly what might fall under this umbrella. Brazeal (1999) states that elements of change (the catalyst preconditions), creation (the idea), and innovation (the successful implementation) are at the heart of all entrepreneurial actions, whether they are independently undertaken or take place within an organizational context. In some respects, Brazeal’s view may make it so broad that it is difficult to see where the consideration of, say, the entrepreneurial university starts
and where it stops. In other respects, this very broad definition of corporate entrepreneurship may be helpful when considering the entrepreneurial university, since it will allow us to consider both the means to entrepreneurship and the ends, that is the wealth and value-adding outcomes the activity is seeking. Such ‘wealth’ may come in the form of substantial excesses with which the university can enrich its activities, or rather more in the form of a sufficient amount of revenue to ensure sustainability via various cross subsidies, given that universities are fundamentally not-for-profit organisations.

Covin & Miles (1999: 48) see that there are three main phenomena that can present as facets of CE. These are where an established organisation enters a new business, where an individual or group champions new products and ideas within an existing organization, and where a more general entrepreneurial philosophy or mindset permeates a whole organisation’s operations and style. These all imply that an innovation has been involved, but innovation alone, in Covin & Miles’ eyes, would not be sufficient to be true CE. They would see that a major ‘shake-up’ effect needs to have taken place which truly “..revitalizes, reinvigorates and reinvents” the organisation (Covin & Miles, 1999: 50). This directs attention to the actions and behaviours within the organization, and their eventual outcomes. Alternatively, Sharma & Chrisman (1999:18-19) see that two main facets can fit under the CE umbrella term, namely strategic renewal and corporate venturing. The former is more to do with revitalisation and change within the existing business, and the latter more to do with creation of new business organisations within the existing corporation.

By contrast, Lyon, Lumpkin & Dess (2000:1056) are more focused on the holistic entrepreneurial orientation of a firm which consists of “..processes, structures and/or behaviours that can be described as aggressive, innovative, proactive, risk taking, or autonomy seeking”. The focus here is on the competitive aggressiveness and the intensity of efforts to ‘best’ rivals. This is more oriented to a variety of internal processes and attitudes, and less to eventual rejuvenation outcomes, an important distinction since there is active debate in the literature about whether CE is really about eventual corporate outcomes of wealth generation or increased chances of viability or really more to do with ‘style’. The debate continues over whether to and how we could measure those outcomes in any case, since much of the literature
recognises that CE outcomes and ‘pay off’ may actually take years to become evident, and it is always embedded in many complex variables and contexts which make it hard to see what has exactly caused or resulted in what (see for example Lyon et al., 2000; Zahra, Jennings & Kuratko, 1999). It is really only since the early 1990s that the concepts of entrepreneurship have in any way been applied to public sector entities and to universities as organisational types, and these present some especially complex problems in terms of outcomes, since financial balance sheets are not the most obvious way of ‘reading’ corporate success for a university or public not-for-profit entity, and the evaluative dimensions are therefore complex.

Given that wealth creation is a consequence of CE, even if a little slow to become apparent, Australian universities are naturally potentially interested in it in their current circumstances.

2.2 Corporate Entrepreneurship and the University:

In the context in which Australian universities now find themselves, a CE approach has much to offer, since virtually all would acknowledge that they need both renewal and revitalisation in the existing organisation and creation of new lines of business beyond the existing ones in order to generate wealth. In fact most institutions have dipped their toes into this water, in a variety of ways that will be elaborated later, but many, if not all have some maturing to do before gaining full potential benefits (Marginson & Considine, 2000; Gallagher, 2000:47).

CE does not necessarily sit entirely comfortably with the ethos of traditional universities, especially those that have historically been largely publicly funded, and there is much learning to do to fully explore becoming an entrepreneurial university and all that it might mean (Clark, 1998). Certainly, universities’ move towards entrepreneurial activity has not been without some problems and ‘growing pains’ anywhere in the world where universities have embraced the concepts. There are issues of balance to achieve in terms of education for general public good, as compared with education as ‘commodity’. Some note that there is a tendency towards seeing academics as instrumental research and development workers, or profit-
oriented sales people who are expected to make profit at all points, and whose every activity must add favourably to the balance sheet or be removed from the university (Williams, 2001:22). This involves potential changes in the nature of academic work, and in some quarters, resistance to that change. It could potentially lead to neglect of students and depletion of resource and focus on undergraduate teaching (Slaughter & Leslie, 1997:202; Lee & Rhoads, 2004). There are also dilemmas of academic standards, especially when universities are receiving substantial fees for services, and then sometimes feel somewhat pressured to provide the desired outcomes. Clearly, there are values and ethical issues to balance and tensions to manage. Commercial transactions around education do not necessarily compromise standards, but there are certainly some checks and balances required to protect the standards.

Senior education bureaucrat Michael Gallagher, although very positive about the entrepreneurial development of Australian universities, also acknowledges that there are still some unresolved issues and tensions about intrinsic and extrinsic motivators, handling the legalities of especially complex intellectual property matters that are made so because much IP is in formative stage at the point of commercial licensing or sale, and is not a completed product. There are additional potential complications with royalties or profit sharing in organisations where profit has never been an element, let alone the systems for sharing it about. There are also issues of uneven access to rewards given that some disciplines have roaring markets and others almost none (Gallagher, 2000: 47). Notably, Gallagher’s comments are mostly to do with commercialisation per se. He does not describe or acknowledge many of the difficulties within universities in attempting to manage themselves as more innovative, self-sufficient, enterprising entities. The transformation to the triple helix partnership with government and business, to the outward-looking, societally valued and value-adding organisation, is not much addressed.

In her study of public sector entrepreneurship, Boyett also notes that the Vice Chancellors in her sample who identified characteristics of what they saw as successfully entrepreneurial peer Vice-Chancellors in the UK, recognised the vital need to ensure that entrepreneurial vision, plans and impetus did not get out of step with the core mission of their universities, needing to be a ‘good fit’ with university values (Boyett, 1996:43). Educational values need to be preserved, and good learning
and research outcomes established, even whilst commercial goals are being fulfilled. Corporate entrepreneurship is therefore very much an emergent phenomenon in the university world with much cautious exploratory effort being made in many institutions (Slaughter & Leslie, 1997; Harman & Harman, 2004).

In examining why many universities here and around the world have at least started to move in this direction (even if not yet operating in a highly entrepreneurial manner or with very evident results), it becomes apparent that some have sought what Hitt, Ireland, Camp & Sexton (Hitt et al. 2002:1) see as a more general entrepreneurial ‘mindset’ which they say is absolutely required for any firm or organisation to compete successfully in the current competitive landscape. In this an organisation’s entrepreneurialism may be more a state of awareness and culture than any specific activities. If that mindset then re-energises the university, and revitalises its staff to think more creatively and innovatively, then that in itself may be a good thing.

Certainly Miles & Covin (2002) among others acknowledge that a desire for culture change and for generally encouraging a ‘bottom up’ sense of commitment and energy to the enterprise is what drives many firms to CE initiatives. They see culture change as being a necessary antecedent component of CE, but it is probably not enough. Nor is it likely to be sufficient for an Australian university, since a generalised mindset that does not also become entrepreneurial and innovative practice will not deliver wealth, probably the most desired entrepreneurial goal for Australia’s higher education sector. CE is therefore fundamentally about achieving that mindset for specific gains on the strategic, reputational and financial fronts (Miles & Covin, 2002; Hitt et al., 2002; Zahra et al., 1999; Covin & Miles, 1999; Ireland, Hitt, Camp & Sexton, 2001).

Universities, especially in Australia and the U.K. face deeply competitive scenarios, competing directly for funds, industry contacts, grants, staff and the best students. CE has the potential to provide what Covin and Miles (1999) call sustained regeneration in the form of a stream of new products, programs and services that can give broader market presence and attract new clientele. CE could also provide organisational rejuvenation more in the form of new and improved internal processes and structures that enable greater innovation to surface. It might also enable strategic renewal in the
form of fundamentally altering the university’s relationship with its environment, markets and competitors. CE of this sort would be tightly linked with the university’s strategy generally, and might see it, for example, opening new campuses, operating in new markets, with new programs, in new modes, such as on-line which would introduce it to completely new customers. Finally, CE could provide complete domain redefinition that lifts the organisation out of its current area of competition to another arena altogether, where it is not competing head-on with its normal rivals. This tends to be a ‘first mover’ approach that pioneers a whole new area of operation. Universities would find this latter approach more difficult than private firms, simply because they are normally established by Parliamentary Acts of their home States which define the educational mission and core activities and constrain domain to an extent. Nonetheless, all four general thrusts of CE could have some meaning for a university, and most especially the first of these three (Covin & Miles, 1999).

Clearly, CE is here considered very much about securing or reinforcing a competitive position. It is about creating and expanding markets for and capitalising on the existing intellectual property that the university holds and might generate in the future (Miles & Covin, 2002: 27). It could be seen as entrepreneurship for purposes of ‘creative destruction’ of market equilibrium for competitive advantage (as the traditional ‘Austrian school’ economists would have it (Kirzner, 1997:67)), especially at a time where the higher education in Australia has become a very active and tough competitive marketplace. CE also covers generation of new tacit knowledge, and securing more value from the organisation’s existing competencies. It is therefore about organisational performance, not just culture change for its own sake and very much a ‘strategic lever’ with capacity to amplify both reputational and financial outcomes – ironically for either better or worse, depending on the wisdom of the decisions taken (Miles & Covin, 2002: 21).

Financial gains, or the lure of same, are what is often seen as the driving reasons for CE in universities (Clark, 1998). Universities have good reason to engage with CE to generate greater wealth and financial independence in the face of rapidly shrinking public funding, although the literature urges caution here in that many forms of CE do not generate a great deal of revenue, and may actually carry considerable risk (Miles & Covin, 2002: 34). Importantly, financial returns may take a long time to
materialise, so that short-term desire for revenue is not likely to be satisfied, although longer-term returns may be available. Researchers have struggled with the issue of demonstrating clear financial gain from CE, since so many variables are at work over time, and time lags make it difficult to clearly spot the causal links, as mentioned earlier. In reviewing twenty-five years of research into antecedents and consequences of CE, Zahra et al., (1999:56-7) concluded that there is sufficient evidence overall to indicate that in-firm entrepreneurial activities do lead to superior performance, but they concede the evidence is difficult to access with clarity, and that one should anticipate time lags. Zahra’s earlier work (Zahra & Covin, 1995) more clearly indicated the three to five year financial time lag, whilst acknowledging that some organisational performance improvement of a more intangible, cultural kind would appear sooner. They especially noted the financial gains where organisations were in hostile environments – arguably where many Australian universities currently find themselves.

Ireland et al., (2001:49-51) state that the improved organisational performance will only emerge where the CE activities are clearly integrated with the mainstream strategic management thrust of the organisation, as distinct from being peripheral activity that is considered as an optional ‘extra’. They start with the assumption that the creation of wealth is fundamentally what both strategic management and CE are about, and when they are fully integrated activities, led from the top as such, that they become effective in generating that wealth.

What also seems clear is that CE ‘..represents an effective strategic response to environmental turbulence’ (Morris &Jones, 1999; 72)(italics added by current author for emphasis) and that under conditions of turbulence, a CE orientation is generally positively associated with improved firm performance and an increased likelihood of achieving organisational sustainability.

Morris & Jones make this link even for public sector organisations, which in very many cases also now face turbulent and competitive environments. This turbulence is what Kuratko, Ireland & Hornsby (2004:13-14) say forms the external triggers for CE, as competition intensifies, technology rapidly changes and products tend to have shorter life cycles. Even in the face of those triggers, the internal organisational
environment needs to respond appropriately via structures, systems and processes, and all this tends to activate more effectively if management has anticipated the need for radical change before a crisis emerges rather than in purely reactive mode (Kuratko et al., 2004:14). Even with more entrepreneurial orientations, unless the strategy-structure ‘marriage’ is very well fine-tuned, Jennings & Hindle (2004) demonstrated that performance gains might not be forthcoming, so the causal relationships remain under-researched and not entirely clear. Nonetheless, given the level of environmental turbulence that Australian universities currently face, it is abundantly clear that senior university managers need to be developing strategic management regimes which fully incorporate CE now, not at some future time. It has become virtually a strategic imperative.

If it is accepted that many or most Australian universities will wish to be entrepreneurial for reasons of wealth creation, of independence and reputation, then the issues of ‘why’ become reasonably clear. What is less clear is ‘what’ that might mean in terms of specific activities, and then, more central to this current research, ‘how’ such intent might be enacted.

2.3 Strategic Management and Universities – Some Theoretical Views.

In order to create and lead an entrepreneurial university, senior university managers need to have identified that strategic intent, to firstly fully understand why it might be one of the preferred paths to success. This section therefore commences with a brief consideration of some strategic management issues for Australian universities, since to be effective in the Australian university sector, senior managers and leaders will need to understand the nature of the sector and the options, and have commitment to whichever path they choose. CE is later identified as a logical and desirable strategic choice in present circumstances. Later sections go on to:

a/ review literature on the possible nature of corporate entrepreneurship in universities and the likely antecedents, enablers and impediments to success, and

b/ consider the management roles, responsibilities and actions identified in the literature for achieving successful CE, and successful entrepreneurial universities per se. The aim is therefore to cover some of what is known about the ‘why’ of
entrepreneurship for the university, the ‘what’ it is about and involves, and then, importantly for this current work, ‘how’ it might be created by senior university managers.

The literature is quite purposefully scanned for concepts and clues regarding the organisational and managerial capabilities that senior university leaders would need to hold in mind in order to develop the entrepreneurial university. No significant attempt will be made to provide serious explanation of all the systemic connections and causal linkages between all these capabilities and concepts, since this is not a major theory-building or testing study. Rather, it is a ‘model of practice-elucidating’ study, as will be described more fully in the next chapter. Accordingly, whilst it is acknowledged that many of these capability issues can and do work in complex dynamic ways together, this study will work mostly at the level of trying to identify and extract the key issues and capabilities and to begin the work of mapping them in ways helpful to the practitioner.

Historically, strategic management in the private sector was dominated in the ‘60s and ‘70s by the ideas of Andrews (1971), Ansoff 1965) and later, Porter (1980; 1985) whose fundamental position was that competitive advantage would emanate from an organisation’s better, more skilled reading of its environment and market, its opportunities and threats, and by its taking a ‘design’ view in which it reorganised, restructured and repositioned itself to suit that context. Logical analysis of the context and competitors would dictate which form and strategic position the organisation should adopt to compete advantageously. Provided the environment was relatively slow changing and stable, this advantage could be sustained.

Miles & Snow’s (1978) original work on a strategic choice typology has been enduring and is still the focus of re-testing and refining. De Sarbo, Di Benedetto, Song & Sinha (2005) undertook a large and complex empirical study to see if the basic four types of prospector, analyser, defender and reactor still applied, and whether the types were in any way varied by issues such as a business’s strategic capabilities, its environmental uncertainty and its performance. Notwithstanding that the study was undertaken in a very large sample of US, Japanese and Chinese businesses, all of which were rated on complex scales, there is potentially some
relevance for a university in their findings. They were able to demonstrate that the original Miles & Snow four types still sufficed to cover all cases, although many organisations had developed hybrid or multiple strategic type responses to deal with volatile and uncertain environments and industries. There was also an interactive relationship with the organisation’s capabilities (De Sarbo et al., 2005: 63). Such models are not irrelevant for a university, but since the typology was developed for a much more stable era, the types are apparently increasingly being used in combination to cope.

The above-mentioned models of strategy, whilst not irrelevant for today’s Australian university, do not tend to point immediately to sources of sustained strategic advantage and wealth creation and, of course, environments are not stable now. The later ‘80s and ‘90s, periods of escalating environmental turbulence, saw the re-emergence of an earlier view of strategy, the resource-based view (RBV) that resurfaced with Wernerfelt (1984) and Barney (1991a) as key shapers of the model. Whilst there is need for organisations to analyse their competition, to understand and analyse their markets, to restructure from time to time and to look outwards, as the design views would suggest, there is also much to suggest that looking inwards at an organisation’s inner strengths and capabilities is more worthwhile in such turbulent circumstances. Additionally, we now conceive of sustained competitive advantage as also being essentially the organisation’s capacity for sustained existence. Simply surviving in turbulent and competitive environments is as much a challenge in many respects as thriving.

In essence the RBV says that sustained competitive advantage rests on certain assumptions. It assumes, for example, that “..resources are heterogeneously distributed across competing firms, and…that resources are imperfectly mobile” (Barney, 1991b: 97). This means that one will find resources unevenly distributed amongst competitors, not every one ‘holding the same cards’, and that it is not easy to move those resources around to more evenly distribute them: that is, the party who holds an advantageous set of resources is likely to be able to keep them for a time, or to make it hard for one who doesn’t have them to acquire them. Barney’s seminal work on identifying how competitive advantage arises from having certain resources explained that an organisation’s resources need to be relatively valuable, rare,
inimitable and non-substitutable to enable sustained competitive advantage (Barney, 1991a: 106-112). This is so, whether the resources are of a financial capital, physical capital, human capital or organisational capital nature. The resources and capabilities “...can be viewed as bundles of tangible and intangible assets, including a firm’s management skills, its organizational processes and routines, and the information and knowledge it controls” (Barney, Wright & Ketchen, 2001: 641). Grant (1996) had earlier noted that one of the key ‘intangibles’ is knowledge and the integration of it, and Hitt, Ireland, Camp & Sexton (2001:483) later endorse the view strongly.

This implies that the ways in which distinctive resources are combined and leveraged is actually the key, rather than the mere fact of holding them. In this strategic RBV, an organisation must identify its existing resources and capabilities, recognise competitors’ resource bases also, then leverage maximum strategic value from its resource base. The organisation must also simultaneously build a capability for future advantage. A decade or more of elaboration and exploration, both theoretical and empirical, of this fundamental RBV brought the very important realisation that “...firms that build their strategies on path dependant, causally ambiguous, socially complex, and intangible assets outperform firms that build their strategies only on tangible assets” (Barney, 2001:648; see also Hitt et al., 2001: 483). Hamel and Prahalad (1994:31-33) put this point well as they note that ‘competing for the future’ is very different from other strategy, most especially since the future is a global one in nature, and we are competing as much for opportunity as for current market share. They see that we must actually build competencies or capabilities for the future instead of simply relying on our existing ones. Given the highly global and dynamic nature of the higher education world, the need for strategic thinking of this kind is high.

To understand the full impact of this RBV, it is worth drawing out just a few of the many finer points that have emerged in the literature, and then relating those points to universities as a particular organisation type, even where the original article did not specifically do so.

Alvarez & Busenitz (2001) made a strong case for including entrepreneurial cognition in the intangible resources that might provide advantage. By this, they mean
the “..the extensive use of individual heuristics and beliefs that impact decision-
making” (Alvarez & Busenitz, 2001: 758), referring to the holistic and non-linear way
in which entrepreneurs identify and act on opportunities, whereas managers of more
conventional mindset use more reasoned logic and systematic evaluation of detail.
Some individuals in organisations have this entrepreneurial cognition and it can be a
distinctive asset, certainly one that is rare, valuable, not easily imitated or substituted.
In this view, entrepreneurial cognition within an organisation becomes a significant
strategic asset, but is only thus if both the organisation and the individual
entrepreneur(s) are aware that both cognition and the application of it is a learning
process (Alvarez & Busenitz, 2001: 762). Imperfect knowledge of markets and
imperfect co-ordination of internal resources including knowledge, all point to a
process of learning to see opportunities, and learning to take full advantage of them.
Alvarez & Busenitz point out that “..it is not the market that organises tacit
knowledge, in fact it is often the case that markets are inefficient at knowledge
transfer and integration, it is the firm that efficiently organises knowledge. The
primary role of the firm is the integration of specialist knowledge” (Alvarez &
Busenitz, 2001: 762). Grant (1996), Spender & Grant (1996) and, later, Zahra,
Nielsen & Bogner (1999: 172) concurred fully. The matter of whether knowledge can
logically be held by individuals within an organisation or by the organisation itself, is
a complex one, largely summarised and resolved by Spender (1996a), where he
concludes that we need to think and research at both individual and collective levels
to recognise all forms of knowledge in the organisation, and that we need to utilise
both empirical and other paradigms to ‘tap’ the more tacit processes.

Later development of the RBV, described as a dynamic capabilities view gives
particular emphasis to this notion of tacit and intangible organisational processes
being the most crucial source of sustained competitive advantage, especially when the
environment is ‘high velocity’ intensely changeable (Eisenhardt & Martin, 2000:
1106; Spender, 1996b: 63). Dynamic capabilities are the fluid ways in which various
resources are integrated, combined, taken apart and reassembled to meet emerging
situations and to grasp opportunities. Some organisations have high capacity to work
in this way: others much less so. Since one of the key aspects of tacit knowledge
process is that of entrepreneurial cognition (Alvarez & Busenitz, 2001: 757), it also
needs to be integrated and mobilised well to amount to any advantage at all. This may
be one part of managerial learning that universities need to work hard at according to Clark (1998), since many have little tradition or experience of being entrepreneurial.

Hitt et al., (2001: 481) and, later, Ireland, Hitt & Sirmon (2003: 976) noted that another aspect of intangible assets, sometimes embraced as an ‘organisational resource’, is **social capital**, which is developed through organisations’ experience in operating in networks, and learning trust, exchange, mutual benefit and the value of alliance. This set of relationships is both *within* the organisation and *between* the organisation and others beyond its boundaries. It is a vital resource that ultimately helps the organisation to function, to combine its resource base and to move forward with a degree of integration and confidence. It is an aspect of organisational culture and morale, and a difficult one to establish if trust is not widespread. This points to a senior management responsibility in building such an internal climate. It also hints at the aspect of the RBV that Alvarez & Busenitz (2001:766-7), among others, refer to as *causal ambiguity*. They see this as the ambiguous, unclear causal links between the resources that an organisation controls, and the eventual sustained competitive advantage that it manages to attain. It is often very unclear to outsiders, but more clear to those inside the organisation, exactly *how* the resources are being used and leveraged to achieve the advantage. It is often in the management practices and processes, certain organisational cultural factors and styles that the ‘secret’ lies (Zahra et al., 1999(b): 174). It is therefore very difficult for a competitor to copy the pattern, since they cannot see exactly what it is. Strategically, it then becomes important to develop polished, skilled and effective management practices and processes that are tightly culturally cohesive. These may be the nub of the *causal ambiguity* strategic advantage.

The entrepreneurial talent for opportunity recognition and evaluation is not an especially indistinct or ambiguous resource for an organisation to hold. However, the capacity to allow such talent to run freely, to be creative and to ‘surface’ ideas and innovations is a far less precise aspect of the managerial processes of an organisation. How such entrepreneurial cognition is nurtured and harnessed and how an innovation gets translated into a new venture are issues of managerial style and organisational structure, culture politics, leadership and so forth. These are the causally ambiguous managerial contributions that may be very difficult for other organisations to copy.
Barney et al., (2001) actually noted that one of these causal ambiguities was specifically the know-how for taking innovations into the market place, and then pointedly noted that “Academics may develop novel innovations but may not have the requisite attributes to turn these innovations into firms with a SCA in the market place” (Barney et al., 2001:635). They suggest that universities may even need to find outside help with technology transfer, that is, to locate entrepreneurs who can assist with the task, and it would certainly mean that existing entrepreneurial know-how within a university would be a rare and valued resource to be fully utilised.

The RBV offers a university much food for strategic thought according to Lynch & Baines (2004). Whilst their article tends to fall short on empirical research aspects, it does do an excellent job of pointing to how the RBV applies to a university. They note that resources have inevitably become a more key facet of university strategy-making, since financial resource from government sources has reduced. They see this as sharpening universities’ need to attend to fully utilising that which they do have, and to developing all resources for competitive advantage in the future (Lynch & Baines, 2004: 173). They note the distinction between asset resources and capabilities, as did Grant (1996) and comment that a university has many of both kinds to utilise and develop. In their paper, the dynamic capabilities view (DCV) becomes a refinement of the underpinning RBV, and capabilities of the intangible organisational process kind are embraced within the RBV. They claim that universities are in a competitive environment these days (for both teaching and research funds, and for the best students and staff), and that whilst they may not be profit making per se, the replacement motive of profit maximising for cross subsidy and self sufficiency and sustainability substitutes for this adequately. They also note that the resource bundles of UK universities (and by implication, in other countries) are not evenly distributed, partly by virtue of history, but also due to past performance (Lynch & Baines, 2004: 175-178).

Eisenhardt & Martin (2000: 1118) actually suggest that the ‘bundling’ of resources ought not to be too tight because very volatile ‘high velocity’ markets require a university to be able to reconfigure and re-bundle different combinations to obtain dynamic capability, although, against that is the now frequent government research funding policy framework which does seek critical masses of knowledge resources,
that is, bundles. The issues of tightness of bundles may be an issue in the university context where it would be less of one in other organisations. In the Australian context, a level of tightly bundled intellectual property in the form of a research group is quite likely to occur under RQF policy arrangements. However, the strategic disadvantage could be that such a ‘bundle’ would be difficult to disband and reassemble in other more dynamic appropriate configurations for a presenting challenge or a future potential benefit. Cohesive research centre teams, especially of a uni-discipline nature, may resist unbundling, and can certainly be more difficult settings in which to enable innovations to disperse widely across discipline and organisational boundaries (Ferlie, Fitzgerald, Wood & Hawkins, 2005). However, good team management and low boundaries between disciplines, along with active encouragement of multi-disciplinary approaches and interactions can resolve the tendency to narrow and non-innovative practice (Ferlie et al, 2005:131).

Lynch & Baines then argue that for the RBV to ‘hold’ as relevant for a university, the resources should not only be rare, valuable and heterogeneously distributed but also imperfectly mobile. This implies that the resources should be difficult to acquire and to move from university to university. Once an institution holds a bundle of strategically relevant resource, it is likely to be difficult and slow for another to change that base of advantage by acquiring similar or the same resources (Lynch & Baines, 2004: 178). Whilst there is some movement of academic staff resources between universities, it is unusual (but possible) for an institution to lose at one swoop an entire research team or cluster, for example. It is more likely that they would lose one key researcher to a competitor, but retain some of the team and capability with which to rebuild expertise and since these bundles take years to build up, they can hold some advantage for some years. Of course, in some cases, a university does lose an entire team or a critical mass in a department, and that suggests that imperfect mobility is the one area where the RBV only partly applies. The intangible management and organisational resources and processes are also mobile to an extent, but many universities do hold such expertise for a long period, and the more causally ambiguous intangibles are by definition very difficult for another university to mimic exactly. Leadership is key amongst these (Lynch & Baines, 2004: 173).
Lynch & Baines’ overlay of the RBV onto universities results in the naming of those resources most likely to provide competitive advantage for a university in five categories – reputation, architecture, innovative capability, core competencies (for example, fundraising ability, excellent quality processes for teaching) and knowledge based advantages (both explicit knowledge and tacit processes) (Lynch & Baines, 2004: 180). This analysis represents one of the very few in which a recognised strategic model has been applied to a university as an organisation type, and notably, it indicates that the prime resource that any university holds is its people, who, of course, hold the many forms of knowledge and know-how that can become competitive advantage. Architecture may be important, but in the long run, the people build the reputation, which in turn draws excellent people, and builds excellent knowledge, the ultimate strategic weapon in the possession of any university. This accords with the mainstream strategy literature that also emphasises knowledge as the most critical resource in a service/knowledge based industry (Ireland et al., 2003:976; Hitt et al., 2001:483) and resonates with Kaplan & Norton’s (2004:199) claim that the three main components of intangible assets are human capital, information capital and organisational capital – all of which need to be strategically aligned to give competitive advantage.

The RBV has filtered into research in many disciplines connected with strategy, as various functional specialists within organisations come to grips with the implications of what they can practically do to both utilise and develop the resources. Barney et al, (2001) map out five discipline domains that seem to have benefited strongly from the RBV, and generated their own research to validate and explore implications. They list human resource management (HRM), marketing, economics and finance, entrepreneurship and international business (Barney et al., 2001: 627-630) as particular areas of benefit.

Whilst universities can benefit from a better marketing perspective and understanding of their resources, it is in the fields of HRM, especially strategic HRM and entrepreneurship where the RBV has most to offer, as indicated earlier. Both of these domains deal with intangible assets and knowledge, the most fertile ground for sustained competitive advantage in a university setting and both are fundamentally about the largest resource a university has – its people and the knowledge resident
within them. The DCV also emphasises the organisational processes as the source of SCA, and these inevitably point to people as the drivers and shapers of those processes (Eisenhardt & Martin, 2000: 1108; Spender, 1996a: 60).

In fact, the greatest strategic linkage for HRM is through what it can do to maximize the value of the employees, and to enhance the capability of the management team in fulfilling its role in this pursuit (Collins & Clark, 2003: 740). It can recruit top talent, build up an excellent human capital pool, work at retaining the high capacity, high performing people, train and nurture the talent in the pool, and devise excellent promotion and reward systems to motivate and ‘incentivate’ that workforce (Wright, Dunford & Snell, 2003: 708). Wright et al., (2003) note that there have been great methodological difficulties in demonstrating the RBV link with strategic HRM, not least because HR specialists have been inclined to see people alone as the resource in question. Later studies have been at pains to separate out human, social and organisational capital, which includes many structures, technologies and processes as well as people per se. HR systems that support individual learning, and those that support organisational learning are also different (Wright et al., 2003: 710-714). In fact, it is the combination of changing competencies in both individuals and the entire organisational context around them that ultimately becomes a dynamic capability, which does produce strategic advantage (Wright et al., 2003: 716; Eisenhardt & Martin, 2000: 1106).

Strategic HRM studies in public/private hybrid organisations, or in rapidly privatising public utilities have indicated that agencies have struggled to learn and adopt this strategic dynamic capability-building role (Teo, 2002), tending in the first instance to operate as more routine administrative custodians of the personnel function, and gradually acquiring more strategic grasp and capacity (Teo, 2002; Teo & Crawford, 2005). Collins & Clark (2003) are able to demonstrate from a large field study of high-tech and knowledge based firms, not unlike universities in many respects, that firm performance is directly linked with top management team (TMT) integration and decision-making, and strongly mediated by the network and social capital elements of the organisation. Strategic HRM activities directed to supporting and building those networks within and outside a university would therefore have high strategic leverage (Collins & Clark, 2003: 740). Such studies point clearly to the strategic HRM
contribution that is no longer able to be seen as marginal to organisational performance, but central to it. If we accept that universities are primarily to gain sustained competitive advantage from their people and the complex relationships between them, then HRM is vital to the success. Functional personnel management simply will not suffice, and there is a learning process for organisations to go through to mobilise the full strategic HRM potential (Teo, 2003).

If we therefore accept that strategic management has a range of models and perspectives to offer organisations in very competitive settings, and that the most relevant concepts examine the ways in which the resources of knowledge, people and excellent processes can provide a sustained competitive advantage, it could be asked whether such strategic management concepts will translate readily from the private sector, where they were largely developed, to the public sector and universities in particular.

2.4 Strategic Management and Universities- What About the Public Sector Issue?

Strategy is the fundamental means by which any organisation makes decisions to leverage certain opportunities, to neutralise external threats, to exploit their internal strengths and to chase sources of sustained competitive advantage (Barney, 1991a: 99). Strategic management is therefore the series of ensuing choices and actions that managers make to deliver these benefits. Whilst clearly in pursuit of sustained competitive advantage, the often less clearly stated goal is to create wealth for shareholders, for the organisation’s own reinvestment and future options, and for its employees (Barney, 2001; Ireland, Hitt, Camp & Sexton, 2001). Long held as necessary outcomes for private enterprises, these same outcomes are of increasing relevance for public enterprises and for the many corporatised semi private organisations, ‘national enterprises’ (Nwankwo, 1996) and transitional organisations that have emerged in the past two decades in the shrinking public sector of the Western world. They are most evidently also relevant for Australian universities that are experiencing a reduction in public funding, and that opt to seek private wealth (Slaughter & Leslie, 1997; Shattock, 2000). It does not matter a great deal here whether we take the traditional notions of strategic management being a set of
formulated plans and choices made in advance and then played out (Porter, 1996; Hamel & Prahalad, 1994) for a three or five year time frame, for example, or whether we take the view that strategic management is a highly emergent process of small choices that does not benefit from any ‘grand plan’ (Mintzberg, 1998:177). The fact remains that choices are made by managers in universities, positions are adopted, actions are taken, opportunities seized and threats averted. This is strategic management, even if undertaken as a series of incremental decisions.

Where there is competition, where there is a volatile and uncertain environment that has some known and anticipated threats in it, and where there is a genuine need to generate independent wealth, as there certainly is for Australian universities, it would be difficult to argue that strategic management is not a necessary or fitting concept. Shattock (2000) argues that universities of Australia, the UK and many other nations facing similar shrinking public investment in higher education must address several key issues under the generic banner of ‘strategic management’. He names competitiveness, opportunism, income generation and cost reduction, relevance, excellence and reputation as important elements (Shattock, 2000: 93). Notably, he goes on to point out that cost reduction has gone about as far as it can go in UK and Australian universities, and that this clearly places emphasis on the other aspects that are more aligned with strategic competitive advantage and wealth creation.

Whether organisations that are still at least in part publicly funded and accountable can be fully strategically managed is still a debate in progress. This current research holds the view that they can be strategically managed, within the regulatory degrees of freedom, and must be, given the high potential for losing market share and for diminishing resource bases. Without some clear sense of path and direction, it is held that Australian universities will not manage to adapt to new Canberra policy movements, and risk extinction as sovereign organisations. Australian universities have limited scope to strategically alter the number of funded places they will offer in particular fields, as these are all subject now to profile negotiation with Government. They are not free to suddenly decide to, say, strategically abandon teaching altogether. They are not free to open campuses wherever and whenever they feel inclined. They are not free on a number of dimensions to use Government funds in certain ways. In fact, universities receive some Government funding with very
particular limits on use and lines of accountability. Such funds are generally not fully
discretionary, and therefore not able to be deployed in many ways that might make
excellent strategic sense. Universities’ missions and core activities are also defined by
the various State Parliamentary Acts that establish them. Thus they lack some of the
range of strategic choices that private businesses could make.

However, within these limitations, universities, like many other ‘public’
organisations, are increasingly using once-private enterprise methods and strategies to
thrive (Shattock, 2000; Schulte, 2004; Sadler, 2000). Some examples of such methods
are management-by-objectives, performance based pay for executives, and devolved
single-line budgets to business units. The privately generated revenues and
commercial activities of universities are much more amenable to broader usage of
strategic management approaches. As whole institutions, strategic management
therefore seems a necessary part of ensuring organisational health and survival.

Empirical studies that compare some aspects of the management of public and private
enterprises have gradually built a body of knowledge that suggests that public
organisations now require management that is almost exactly the same as that which
is required in private organisations, with the key differences being around the issues
of greater bureaucracy, stronger desire to promote public welfare and slightly lower
organisational commitment being evident in public sector managers (Boyne,
2002:118). Boyne’s study takes some thirty-four other studies into its sweep to make
a meta-analysis, and whilst it does recognise that human resources management
practices are different between the sectors, and that there are other subtle differences,
it also demonstrates well that the differences are becoming relatively small and the
commonalities far greater through the ‘90s. Ironically, he notes that private enterprise
is still struggling with models that show clearly the determinants of performance of
firms, and suggests that the public sector ought not to feel too ‘far behind’ (Boyne,
2002:118). There is thus no sense in which it is implied that ‘private it better and
more advanced’. Private and public are simply different. But not so very different any
more.

In a study of UK public utilities that had been privatised, Ghabadian & Viney (2002)
concluded that if there is a genuinely competitive market for a once fully public
organisation, then strategic development would be essential and that it could not just be based on ‘price weapons’ (Ghobadian & Viney, 2002: 642; Boyett, 1996: 36). Especially where there remains some degree of government regulatory framework (and there certainly is for Australian universities), then price alone would be unlikely to be a winning strategic edge. Organisations, including universities, must seek to improve their market intelligence (Rindfleisch, 2003), gain greater leverage from their resources (Ghobadian & Viney, 2002: 635), and be willing to structure to meet their environments (Clark, 1998). Some universities find this level of strategic change and re-alignment even more difficult than other public sector organisations, not only because of regulatory constraints but also because of the deep influence of the effects of founding and tradition. Boeker (1989: 51) indicates that strong, long and deep traditions are difficult to change, and many universities have such traditions, quite apart from the well-known academic culture that also makes change a non-trivial and complex task in a university (Meister-Scheytt, 2005).

Although Australian universities are almost all partially funded by Government, they are also partly commercial. That portion is well over fifty percent of revenues in some cases. There is therefore an arguable case that they, like the ‘new’ public sector, deregulated, rendered market driven, often semi or fully privatised, are very little different from the private sector. They also need to develop strategic plans and management, and to identify their own best sources of competitive advantage in order to create wealth. Ironically, given that Australian universities, like many other formerly public enterprises, must and do now generate a very substantial portion of their annual revenue from private fee sources, the traditional divide between the sectors all but disappears any way. Australian universities are all public-private hybrid organisations, moving progressively more to the private mode. Learning about strategic management and leadership becomes an essential part of their transformation and survival. Learning about how to best amass, utilise and build their resource bases and dynamic capabilities is also therefore relevant. Learning about how to operate with productive opportunism (Shatlock, 2000) is also part of the picture, and much of that opportunity is of the entrepreneurial kind.

It is therefore concluded that despite the current limitations of the policy and regulation framework of Australian universities, that they must be strategically
managed, and that conventional market positioning strategies are not likely to achieve a great deal, especially since all other universities can match and often better such tactics. The most strategic scope exists in very innovative use of the knowledge and human resources and the dynamic capabilities that those resources can generate. The most obvious route for those capabilities to take is an entrepreneurial path, where knowledge and human resources are directed toward innovation, creation of organisations, harnessing, leveraging and commercialising knowledge where possible, generating independent revenue and acquiring a self-sufficient confidence, adding value and wealth to the institution and to the society with which it engages and interacts. In the current Australian context, there appears to be almost no other true strategic choice to make, since all others are very easy to mimic and will not constitute SCA for long. This makes pursuit of the entrepreneurial university not a secondary strategy, a ‘style’ or ‘nice to achieve if we could’. It makes it a hard-edged front-line essential strategy for survival.

2.5 Entrepreneurship as Strategy:

Leaving aside for a moment the issue of whether entrepreneurship is a separate field from strategic management, or really a subset of it, there is a good deal of evidence to support the general statement that a level of corporate entrepreneurship, and an entrepreneurial orientation does offer an organisation sustained competitive advantage and wealth creation (Dess, Lumpkin & McGee, 1999: 91; Ireland et al., 2001: 51; Hitt et al., 2001: 486). Many of the connections between corporate entrepreneurship and strategic advantage are of the intangible and difficult-to-research kind. Complex longitudinal studies are needed to ‘prove’ that CE will result in SCA and greater wealth. Nonetheless, the relationships tend to become more evident over time, if not instantaneously (Zahra & Covin, 1995, 43-4; Zahra, Jennings & Kuratko, 1999(a); Dess et al., 1999: 98). It may well be that some of the causal linkages are of the causal ambiguity kind in that they are the product of excellent organisational and management processes. Some may even be more about a general entrepreneurial ethos than any specific initiative or visible CE series of spin-of companies for example. However, if the causal chains do not produce wealth and advantage over time, then they amount to almost nothing of value to an organisation.
Returning to the debate of whether entrepreneurship and strategic management are different fields, or one and the same, it is worth noting that whilst organisation performance is the mainstay or centrepiece of strategic management, it is also “...a non-trivial part of entrepreneurship research” (Alvarez & Busenitz, 2001: 770). Entrepreneurship is perhaps more about “...the discovery and exploitation of profitable opportunities” (Shane & Venkataraman, 2000: 217), but undoubtedly both fields aim to create wealth (Alvarez & Busenitz, 2001: 770, Ireland et al., 2003; Hitt et al., 2001). A corporate entrepreneurial view of the organisation implies that individual employees are resources that could be better developed and utilised. Some may already be highly innovative and entrepreneurial, but rarely able to mobilise their ideas. It also sees managers as resources that can learn to do a much better job of creating an enabling culture in the university, one where entrepreneurship arises from the bottom of the organisation as Clark (1998) says it must. It sees that the knowledge and know-how of the university is its greatest competitive advantage, and that all strategy must see the people of the university as its first priority and point of leverage. This requires a great deal of learning to translate into action, behaviour and processes beyond standard rhetoric.

Universities may have a little more difficulty than some other organisations with this learning. They are notoriously complex, politicised organisations, with widespread defensive routines throughout. This can make them more a “...knowing organisation – which makes it hard for it to transform into a learning one” (Meister-Scheytt, 2005:76). Perhaps it is the fact that universities are filled with highly intelligent, learned, opinionated people, more accustomed to teaching than learning themselves, or perhaps it is a function of the academic tradition of deconstructing all new ideas with a degree of cynicism. Perhaps, as Shattock (2000: 102) suggests, it is the result of years of trying to defensively balance the safeguarding of scant resources, and traditional bodies of knowledge with and against innovations and developments, often initially seen as fads. Perhaps it is simply harder to learn against the weight of a tradition and founding ethos that can retard or shape a strategy (Boeker, 1989: 510; Prahalad, 2004).
Nonetheless, the foregoing links a RBV of the university, with some attention to the processes of DCV, with a strategic HRM flavour, and then to an entrepreneurial capability thrust – all out-workings and aspects of the RBV in its broadest and most current sense. The various models are not distinct, and they combine well if we accept that there is learning to be done in universities about how to more fully utilise the resources that they currently have, and how to develop them for future advantage. If we see a key resource for the university as knowledge, and we see that a capability for corporate entrepreneurship is highly desirable if not essential, then it is hard to argue that both the RBV and the entrepreneurial models of strategy are anything other than essential for a university.

In some respects, the RBV tends to look back at the existing resource base of a university, in order to see how it could exploit that resource base fully at any given time. The DCV and corporate entrepreneurship and learning all look forward to the greater potential for developing organisational processes and knowledge resources. This more combined model of strategic views is described as strategic entrepreneurship by Hitt et al. (2001) and emerges as a plea for the integration of strategic management thinking with entrepreneurship by Ireland et al. (2001) and Ireland et al. (2003). All see that the RBV is at the root of the thinking, but that we now also need to deliberately grow the many resources that foster entrepreneurship to remain competitive. This is a theme emerging very strongly across the more recent literature and one that is likely to generate more research that links the concepts, and ultimately defines better implementation and practice.

Still, universities do not become learning organisations by accident; nor do they develop dynamic capabilities or become entrepreneurial by accident. All this demands choice, focus and excellent strategic leadership that rests on some vision of what ‘being entrepreneurial’ might actually mean in practice for a university.

2.6 A Corporate Entrepreneurship Strategy in the University:

How might a university pursue or enact a corporate entrepreneurship strategy? More specific forms will be looked at later in this chapter, but at this point we simply need
to recognise that strategically, Dess et al., (1999) suggest that sizeable organisations often do better in moving into corporate entrepreneurship if they devise multiple strategies on several models simultaneously, often in unique combinations, “..building layers of advantage” (Dess et al., 1999: 91) by utilising a number of bases of competitive advantage together.

In fact, much of the corporate entrepreneurship undertaken by universities is to do with either ‘in-house’ funded projects that are seen as having commercial potential, or with various forms of joint venture to work with a partner on commercialising ‘course-wear’ or other intellectual property. Only a very few ventures tend to emerge from universities as incubated, gradually developed commercial spin-off companies, usually the result of a research technological product or breakthrough that is patentable and that is seen as having sufficient promise to be able to attract external venture capital funds (Miles & Covin, 2002: 30). Part of the reason for so few making this launch into free-standing operation is that universities often lack the internal management capability to grow the foundling ventures well, and to know how to navigate the developmental challenges associated with all new businesses (Shane, 2002; Kazanjian, 1988: 262-3; Markman, Phan, Balkin & Gianiodis, 2005: 241; Barney et al., 2001: 635). This represents a key strategic challenge for Australian universities. Undoubtedly, some entrepreneurial activity is taking place within and around their boundaries, but compared with some other highly successful international university exemplars (Clark, 1998; Shane, 2002), there is a great deal of room for improvement in most institutions.

Apart from having the managerial capability (especially financial) to nurture new ventures and spin-offs, universities would need to develop a strong entrepreneurial culture, as described earlier, to facilitate both an innovative climate where new ideas are encouraged and welcomed, and where individuals with entrepreneurial cognition can actually be helped to bring those ideas into existence as implemented innovations (Alvarez & Busenitz, 2001: 767-769; Barney et al., 2001: 634; Hitt et al., 2001:484; Ireland et al., 2003: 967; Ahuja & Lampert, 2001). Current researchers are tending to consider that organisational structures, whilst potentially helpful in making for more organic project-based forms to enable entrepreneurial efforts, are not an absolute necessity. Quite large, conventionally structured organisations can become good
corporate entrepreneurs, provided that management exercises some flexibility towards the protection and resourcing of foundling ventures (Dess et al., 1999: 91). The key to corporate entrepreneurial success seems to lie more in \textit{attitudes, \textquoteleft mindset\textquoteright\ and leadership} (Ireland et al., 2003:970-972; McGrath & MacMillan, 2000:1). As Hitt, Ireland, & Hoskisson (2005) put it in quoting and amplifying Lumpkin & Dess’s 1996 work, “..In firms of all sizes, strategic entrepreneurship is more likely to be successful when employees have an entrepreneurial orientation….Five dimensions characterize a firm’s entrepreneurial orientation: autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness” (Lumpkin & Dess, 1996: 135 in Hitt et al., 2005: 390). This is the kind of culture that managers in universities therefore need to create to enable a strategic shift to greater levels of entrepreneurship. In DCV parlance, this is the capability that needs to be created, so that entrepreneurial know-how and processes permeate everything the university does, and can be assembled, disassembled, and re-grouped at will, whenever an opportunity presents.

It is not seen as a culture or style that can be instantly evoked by sheer willpower or executive edict. In fact it is a learning process for all in the organisation, especially when the tradition of the organisation is public sector, with the mindset that has traditionally entailed (Nielsen, 2000:157). Neilsen (2000: 163) recommends that \textit{intrapreneurship}, that is the development of new ideas, products, systems and services within a large organisation for its own internal advancement and improvement, without commercial pressure, is the place to commence learning. He points to many large corporations in the private sector that have begun this way, and to many large public sector organisations, including formerly state controlled enterprises in previously Communist nations, where this strategy of learning has succeeded. From intrapreneurship, academic staff might learn to shift from ‘guardian’ to ‘commercial’ ethics, to de-bureacratise many of their approaches, and to sharpen their commercial sense of which innovations do have commercial potential. They might also be inclined to stay within their university rather than taking their creative talents elsewhere in the pursuit of more recognition and autonomy as Perlman, Gueths & Weber (1988:3) observed more than a decade ago when the ‘entrepreneurial university’ was in its infancy. Academics might also learn the process of entrepreneurship, leading progressively to greater launching of actual new
ventures in the external marketplace (Nielsen, 2000:163-164). The learning process helps gradually shift the ‘blinders of the dominant logic’ (Prahalad, 2004: 172), to break the organisation’s old patterns of habitual ways of seeing and acting, which are often deeply embedded, especially when they have formerly served the organisation well.

Others have also suggested that seeing ‘entrepreneuring’ as a learning process is helpful. Lounsbury & Glynn (2001) describe how an entrepreneurial culture needs to help people within an organisation develop a strong story telling capability to advance the credibility of their would-be venture. Without such language skills, they note, few entrepreneurs would ever convince anyone, internal or external, to support an innovation or provide resources whether for a corporate or individual entrepreneurial venture (Lounsbury & Glynn, 2001: 554-555, 560). They see that confidence, trust and integrity, that is, telling stories that turn out to be true, are important elements of the learning process. Hitt et al. (2001: 483-485), Ireland et al. (2003) and Lumpkin & Lichtenstein (2005:466) all see there is learning to be done at both individual employee and management levels, as well as at the collective organisational level. They note that some small initial entrepreneurial successes lead to a culture more disposed to greater entrepreneurial efforts, so that the whole organisation learns to be entrepreneurial from its own successes and mistakes. Zahra et al. (1999(b)) actually suggest that not only do organisations need to learn about how to be corporately entrepreneurial, but that they will learn from the activity, getting better at it as they go. Politis (2005:415) examines the nature of learning about entrepreneurship and discovers that it is largely experiential in style. Beyond some basic entrepreneurial conceptual knowledge, the true learning happens in a variety of learning-by-doing ways that probably partly explains the phenomenon of serial entrepreneurs. They get better at both opportunity recognition, venture analysis and implementation as they go. The strategic managerial vision, will and skill to establish such a learning culture is the essential starting point.

2.7 The Entrepreneurial University: a Spectrum of Activities:

Having been plagued by ambiguous and conflicting terminology for two decades, by the late ‘90s, several key publications emerged from the entrepreneurship literature
that placed a clearer framework around CE and related phenomena. Sharma & Chrisman’s work (1999) made significant headway, as indicated previously, and others followed, largely accepting this platform of definitions. Consequently, it has become easier to see a lexicon of CE possibilities, and to describe what organisations could do by way of becoming more entrepreneurial. Both researchers and practising managers can use some terms with greater confidence and consistency of meaning.

Shane (2002) sees that CE is one part of a possible four-dimension set of relationships between universities and firms, all of which build an entrepreneurial interaction. He lists industry-sponsored contract research as one dimension, consulting as the second, technology licensing the third and technology development and commercialisation as the fourth (Shane, 2002: 538-539). In his view, each supports the other, and each in some way produces the academic entrepreneurship many modern universities seek.

Corporate venturing is one of the key manifestations of a CE orientation, in fact a combination of the third and fourth of Shane’s (2002) dimensions. Described by Sharma & Chrisman as able to be focused either internally or externally, they define external venturing as “...activities that result in the creation of semi-autonomous or autonomous organizational entities that reside outside the existing organizational domain”. By contrast, internal ventures are ‘...activities that result in the creation of organizational entities that reside within an existing organizational domain (1999:19-20). The common thread here is that new businesses are created.

One of the more useful typologies of corporate venturing (CV) activity is that put forward by Miles & Covin (2002). They utilise the internal-external dimension and overlay it with a distinction between those ventures which are direct investments of capital by the parent organisation in the smaller new firm, and those which are in some way indirect or mediated via investment of capital in a separate fund or financing agency This leads to a four cell typology or classification with possible CV activities being direct-internal, indirect-internal, indirect-external and direct-external (Miles & Covin, 2002:23). In an empirical study that interviewed many senior executives and policy makers and reviewed the CV efforts of eleven major corporations with significant CV track records, the nature of ventures in each of the four types was elaborated, confirming that the typology embraced all known form of
CV. Such empirical work is a necessary part of theory testing, and there is still much scope and need in the entrepreneurship field for such empirical work.

Miles and Covin (2002) describe *direct-internal* venturing as ventures funded through direct use of operating or strategic budgets, developed and located fully ‘in-house’. Generally, employees with a business idea are encouraged to develop the concept to the point where it can be commercially launched as a new venture entirely using the organisations existing resources. In a university setting, this might mean for example, a technological product innovation which is deemed to have an external market, and that requires limited capital which can be excised from existing funds to establish a separate trading entity within the university’s domain. Such ventures tend to require heavy time and attention commitment from senior managers, and of course, like all CV efforts, carry some financial risk of loss, but the gains from this type of venturing can be substantial. More probable than great financial gain, which may only come in the long term, is the high likelihood of culture change amongst existing university staff as a generally more entrepreneurial climate tends to emerge where models of commercial thinking and success are close at hand. Staff are able to develop their capabilities whilst remaining within the university, and to provide maximum strategic leverage off existing intellectual capital. It also generally allows a university to protect its existing ‘brand value’ by utilising a different trading name for the new product or service. In all respects, the new venture is within the institution’s direct control, a factor that the governing boards of many conservative organisations of public origin may find more comfortable. However, unless rewarded well for their efforts, new venture champions whose innovation is at the core of the new internal venture, may well decide to leave the university. They will also need to feel relatively free of fear of consequences (should the venture fail) to even commence in the first place, but this will be explored later (Miles & Covin, 2002).

*Direct-external* venturing is where the organisation chooses not to access dedicated new venture funds, but draws from its existing available funds to acquire or take equity in an external venture. The objective here is often to “...facilitate the transfer of technology, resources or capabilities between the business entities” (Miles & Covin, 2002: 29). This partnering is likely to have strategic benefits with or without major financial benefits being a certainty, and it can give access to new markets, new
technologies and other learning gains. A university might, for example, purchase a major equity in a company that has developed an innovative software product that could potentially underpin major development of distance or on-line learning delivery. By partnering in this way, the university would be seeking to learn about and gain use of the technology, and to secure strategic advantage over other institutions that do not have ready access to the software at that stage. It could also joint venture with a partner in a related business, either on or off shore. Choice of partner is crucial, since an inappropriate choice may actually damage the university by association. It is also important that university staff do not perceive the institution as pointlessly depleting available capital or squandering scarce resource when they themselves could make very good use of the funds if they were retained internally (Miles & Covin, 2002: 30).

*Indirect-internal* venturing involves the creation of a distinct venture capital fund which is usually held and managed within the organisation to a large extent, and is used to encourage employees to develop internal ventures. The fund may be held in partnership with another venture capital fund, or entirely by the corporation, say, at head office, but the existence of this separate intermediary capital fund distinguishes this type of venturing from the direct-internal type. In having to apply for seed funding from the fund, employees are potentially able to get innovations into commercialisation more quickly, are protected from undue line manager intervention and excessive fear of failure and are therefore generally more encouraged to create a ‘bottom up’ entrepreneurial culture. The process of *quasi*-independent assessment of the proposed new venture by the fund administrators is a positive element in developing commercial thinking, although a risk is that conflict may emerge between the new venture and the organisation’s remaining staff. Universities need to take particular care in this type of venturing, since ownership of intellectual property (IP), patents, licences etc can be unclear and generate major conflicts regarding whether the IP rests with the new venture, the parent university, or both, and whether the financial gains are being appropriately shared between all parties (Miles & Covin, 2002: 32).

Miles & Covin’s final type of venturing is *indirect-external*. Here the organisation invests in a separate and independent venture capital fund that in turn invests in
external ventures that may have little to do directly with the parent body at all. This is sometimes done to expand or create markets for the organisation’s products and technologies, at other times undertaken instead of investing in internal R &D. Risks can be contained by the amount that the corporation chooses to invest, but gains are potentially large if the investment speculation is successful. A potential gain is securing readier access to another firm’s IP or other inside information of use (Miles & Covin, 2002: 33). Australian universities rarely have the financial capacity to venture in this slightly arms-length way and are constrained by government regulation in terms of risking public funds. They are more likely to undertake joint ventures via direct-external modes that offer strategic leverage from their existing IP and capabilities.

The first three of these forms of CV could each involve business incubators, located in or around the university, possibly in a ‘science park’ but possibly also on-campus. The issues of ownership, and source of finance are what would determine which type an incubated business is. Incubator programs are certainly seen as a desirable part of a university’s research/technology development strategy, and indeed wherever a concentration of technology-related firms is sought for local economic development reasons, it conversely helps if a university is at the heart of that cluster of firms (Mian, 1996).

Irrespective of which form of CV a university might undertake, each venture will typically face development problems of particular kinds as the venture grows from product conceptualisation to organisational maturity (Kazanjian, 1988: 261). In a study based on technology-based new ventures, the most likely early ventures mounted by universities who are new to CV, Kazanjian was able to identify patterns of dominant problems according to stage of development of the venture. Although now somewhat dated, and not based on university spin off new ventures per se, this study does work specifically with single product technological start-up ventures and is therefore of particular relevance to universities. There is no reason to assume that the growth cycle of ventures spun out of universities would be very much different from ventures created by venture capitalists, and if anything, the university instances would tend to be, on average, less-skilled and less managerially experienced than those emanating from a venture capital fund. Later work by Shane (2002, 2004)
confirms many of these issues specifically in the university context. In embarking on any type of CV, inexperienced universities would need to understand that certain issues are likely to arise which must be actively managed and not necessarily cause panic which leads them to desert the CV effort prematurely.

Kazanjian suggests that the first stage of conception and development is often plagued by concerns of resource acquisition and construction of the product prototype, along with almost all activity being focused on the technical development, especially by the researcher-academic who is the focus of the start-up. Structure and formality can be low, but should not be so low that the resourcing and basic organisational issues go unaddressed (Kazanjian, 1988: 262-3). Universities would need to ensure that sufficient management expertise is involved with the early stages to steer development and attention beyond the laboratory bench (Shane, 2004: 243).

The second stage of commercialisation is mostly concerned with developing the product or technology to commercial production. Normally, functions such as manufacturing and engineering will be established by this stage, with other functions such as marketing still underdeveloped. The organisation is usually still small, and may be driven predominately by its ‘founder inventors’. Leadership is an issue in that it is extremely difficult for the founder-leader to drive both the technological development and refinement and the emerging business and marketing needs (Shane, 2004: 243-251). If left handling both development issues, the emerging company is likely to be moving forward very slowly. Finance and administration matters are at risk of insufficient attention (Kazanjian, 1988: 264). At this stage, universities would need to take particular care to include, even on a part-time basis, sufficient expertise on the marketing, finance and administration fronts, since traditional academic technologists and scientists may actually be both individually and collectively quite ill-suited to and very inexperienced with these functions.

The third stage is predominantly about growth, a point at which sales and marketing issues are crucial, and where the small organisation may well be expanding rapidly enough to need more formalised structures and processes to stave off chaos. Sales and distribution concerns require major attention and quite likely need functional specialists. If the venture has grown thus far under the general management of its
founder-inventor, it is often at this point that a more professional management team is needed, normally full-time if the venture is to capitalise fully on its growth potential (Kazanjian, 1988: 265, Clarysse & Moray, 2004:57). For universities, this often means employing trained specialist managers to handle the development and increasing formalisation of the venture. It may be a difficult transitional stage if the grasp of the founder researcher(s) is strong and emotional identification with the innovation very strong (Shane, 2004:156-161). It may also be a significant crisis time in that without more professional and skilled management, in the form of a CEO, or a competent managerial team, external venture capitalists may simply not be willing to risk buying into the venture (Clarysse & Moray, 2004:60). It is possible that such skilled managers are resident within the initial research team, but significantly more likely that such a management team needs to be assembled from beyond the university, and in fact, a team is preferable to a single CEO, given the diversity of roles involved in managing both the technological development and the business development in parallel (Clarysse & Moray, 2004: 60).

It becomes vital for IP and contract issues to be well resolved by this stage, or conflict about ownership of IP, revenue sharing and ‘letting go’ will stall the venture’s growth. Even if the IP issues are well-handled, there are cultural issues between the university and the emerging new venture. Academics sometimes do not support a spin-off venture, resenting, or possibly envying the assistance that the entrepreneur-academic who instigates the innovation is receiving. Some see it as a diversion from or dilution of true academic work. Some resent the financial resources that inevitably go from the university into the earlier stages of new venture development (Shane, 2002: 543-544; Shane, 2004:277-288). These interface issues must be carefully managed in order not to have wide hostility surrounding every new venture, thus destroying the broader potential for an entrepreneurial university. Shane (2004: 83-86) sees that entrepreneurial role models are vital here. He notes that one well-managed spin-off venture that emerges successfully and having balanced the various tensions between university and new business cultures, is likely to promote more new entrepreneurial ventures. Quite simply, if it is done well, and the interface issues are well-handled, it is more likely to be repeated again and again, the early success becoming a role model for later initiatives.
Finally, a *stability* stage is reached in normal venture growth patterns. Matters of overall profitability, and future growth potential will need to be considered and resolved as the growth rate slows to more usual market patterns. The key questions are whether there is more scope for profit and expansion, or whether the venture has reached its maximum potential, causing the parent organisation to ask whether it is actually worth continuing. New products may need to be developed or later generation ones on the old technology. Internal business controls may also be issues of concern in the established venture (Kazanjian, 1988: 266). Universities might need to review whether the technology can actually be taken further, whether the margins of profit are healthy enough to justify past and possible future investment, and whether the venture is perhaps ready to sell off in order to clear organisational ‘space’ and resource for further ventures.

In part, the success of university CVs depends on the successful transfer of technology from the university’s laboratories to start-up firms, whether they exist in a university-owned technology park or not. The offices within universities normally charged with technology transfer and commercialisation are a key part of this apparatus, what Markman, Phan, Balkin & Gianiodis call ‘technology intermediaries’ (Markman et al., 2005). In a large study of university technology transfers, which included both business incubators and technology parks in university settings, it was established that university technology transfer offices tend to take one of three different forms. They may be organised as a *traditional university structure*, an integral department within the university, reporting to a vice president or similar, tightly supervised with limited autonomy, and generally funded by a research office. Alternatively, they may take the form of a *non-profit research foundation* that sits just outside the university administration. Such an entity is expected to licence the university’s IP, deal with patent issues and the like and is often managed by a board, which may well have the Vice Chancellor/President of the university as its chair. This slight organisational separation makes it a separate legal entity, safer for the university in case of legal IP and contract disputes (Markham et al, 2005: 247). The third form is a *for-profit private extension* that is only rarely used as it requires a separate CEO and board, a whole independent infrastructure. This form has the best focus on economic development and creating start-up companies and high capacity to raise independent venture capital, or pursue government grants and the like, that is to
act in a fully entrepreneurial way to create businesses from the university’s technology innovations.

Markman et al., (2005) established that “for-profit structures are positively related to new venture formation, (but) traditional university and non-profit technology transfer office structures are more likely to correlate with the presence of university-based business incubators”. They also established that “licensing for-equity strategy is positively related to new venture formation while sponsored research licensing strategy is negatively related”. Importantly, the strategy of licensing for (short term) cash is the least likely to lead to new venture creation. This is described by the authors as an “overemphasis on (royalty income and an underemphasis on entrepreneurship” Markman et al., 2005:241). Clearly, whether a new venture emerges from the university door at all depends on which strategy the technology transfer office uses and which of the office structures it employs. In this study, both traditional and for-profit structures are positively related to the licensing strategies that favour creation of new ventures, but for-profit structures overall produced the strongest support for direct formation of new businesses (Markman et al., 2005; 243). By implication, it also depends on the extent to which the technology transfer mechanism can work in ways other than the tightly controlled bureaucratic mode of the parent university.

How successful the possible spin-off venture may be also depends on how the incubation process has been tackled. In a not dissimilar study to that of Markman et al., Clarysse, Wright, Lockett, Van de Velde and Vohora (2005) studied seven established and successful European research institutions (some of which are universities) in order to see what incubation strategies they had employed for that success. This study identified three basic incubation approaches, the first of which is Low Selective model requiring very few people or resources of any kind, no formal organisational structure outside the host institution, and only a small amount of public money and provision of facilities. The second type, Supportive model, requires a well-functioning IP department and a good contract research unit. Once a project has a critical mass of approximately twenty employees and high levels of academic staff commitment, the technology transfer unit should be well placed to arrange some external funding and spin off the venture, often initially in a public-private form. The
third type identified is the full *Incubator* model where spin-offs are seen as a better option than on-going contract research in that they are more likely to generate revenues long term. Often taking up to three years to reach this momentum, and involving very careful assessment of the IP and of the potential of the technology, this type of spin-off becomes a formally separate venture usually involving external venture capital funds (Clarysse *et al.*, 2005: 184).

The study goes on to validate the three types on a bigger sample of European research institutions of various origin, and, importantly, discovers *two additional types* of spin-off processes or models that neither the original typologies of Markman *et al.*;(2005) nor the earlier stage of the Clarysse *et al.* work identified. These two types, described as *Resource-Deficient* and *Competence-Deficient* potentially have much to do with universities. Universities are often very eager to see spin-offs as attractive ways of generating revenues, and have high ambitions but lack the human, financial and institutional autonomy resources to make it happen effectively. The study demonstrates that it is a very common state for university-originated spin-offs to be under-capitalised, forced into a too-short incubation period and therefore struggling to ever reach critical mass. Many potential spin-offs either fail or limp on in a state well short of their true potential.

*Competence-Deficient* types are a little less common in and around universities but suffer from an inability of the new venture to assemble key competencies at needed times, this often referring to key managerial and financial expertise (Clarysse *et al.*, 2005:209-210; Shane, 2004:243). Some very specialised competencies can only be developed over time, and it is therefore unrealistic for a university to expect to launch into venture incubation and know all it needs to know in the first instance, or to be able to acquire all needed competences at the outset. There is clearly a learning process, and a need for organisational tolerance of some mistakes and failures to reach an incubation rate and success rate that makes the whole process worthwhile. This challenges many traditional bureaucratic notions of tight control and does reiterate the earlier point that *CV may be for better or worse*, since exposure to risk can be extensive, and the learning process cannot afford to be too haphazard or long without the university experiencing negative consequences. This might partly explain why there are actually so few university spin-offs, even in the USA where the climate
for entrepreneurial university ventures is generally more favourable (Shane, 2004:17). Of course, another fact that limits CV in Australia is the very much smaller (than for the USA) market with smaller number of prospective joint venture partners and investors generally. Australia also has a generally less technologically sophisticated industry base (Slaughter & Leslie, 1997:186).

It is perhaps the financial risk issue that causes Clark (1998) to consider that corporate venturing per se may not be entirely what universities need to do since they have limited resources with which to take financial risk, or rather that they may need to do some of it, but that ‘being entrepreneurial’ is in many respects more about a broad culture of being enterprising, innovative and self-sufficient that also includes some CV activities. In fact he later declares that ‘.. entrepreneurialism in universities should not be seen as synonymous with commercialization’ (Clark, 2004b:358), a recognition that financial self-reliance and a vibrant innovative culture, both key parts of his entrepreneurial university, may not necessarily come entirely from a highly commercialised set of ventures.

In fact, Clark identifies five elements of behaviour in his intensive case studies of some successfully entrepreneurial universities of the ‘90s. He notes that the successful examples have all ‘expanded the developmental periphery’, which involves joint ventures, spin-off companies, large contract research centres with industry links and so forth and have also ‘diversified the funding base’ by seeking deals with government funders, philanthropic foundations, independently generated revenues from students services and other sources (Clark, 1998:6-7). Both of these elements have parallels in CV activities and forms outlined previously. He also lists a ‘strengthened steering core’ in the university, a ‘stimulated academic heartland’ and an ‘integrated entrepreneurial culture’ as the other key parts. These are not about specific CV activities at all, but about a broader organisational style and approach, which clearly helps deliver the CV agenda, and which might also deliver a good deal of what is often called intrapreneurship. Defined as entrepreneurial behaviour within an existing organisation, where an employee both designs or originates a product, project or process innovation and carries it into implementation for internal organisational consumption, intrapreneurship may not ever lead to external new ventures, or even to new ventures seated within the corporation or university.
However, it can at least add strongly to an ethos of innovation and value creation for the organisation (Pinchot, 1985; Jennings, 1994: 192).

This five-element approach from Burton Clark has had deep impact on thinking about entrepreneurship in the university systems of the developed world. In many respects, it is the ‘touchstone’, the seminal work, of the entrepreneurial university movement, describing as it does why a university might move in this direction, and then attempting, to identify what must be done to achieve the transformations by drawing from five detailed case studies. Clark’s initial work of 1998 explored the ‘what’ of the entrepreneurial university, rather more than the detail of ‘how’. His subsequent publications (Clark, 2003, 2004a&b) have attempted to unpack these earlier broad-brush and what he calls ‘middle range’ concepts (Clark, 2003:99) in order to offer more practical guidance to university leaders. He admits to trying in 1998 to find a ground between ‘grand generalisations full of remote fogginess’ and ‘the gritty messy details of each university’s complex reality’ (Clark, 2003:101), and has subsequently tried to consider more detailed ideas of implementation.

2.8 Clark’s Work as a Starting Point for Making the University More Entrepreneurial:

Clark is very clear that all five of the entrepreneurial university elements need to interlock and interact to give a truly entrepreneurial style and set of outcomes to a university. He describes the ‘..perpetual momentum’ that is required to really transform traditional universities into this new style (Clark, 2003:111). If we examine each of his five elements and note his later refinements that point to some of the managerial and leadership practice implications, a picture should at least start to emerge of what Clark, as one of the major thought leaders in this field, thinks should happen in universities to make them entrepreneurial, and most specifically, what senior managers should do.

In relation to the diversified funding base, Clark states that a university seeking to become entrepreneurial must move from sole dependence on government block grants, and whilst seeking to increase its share of government research funds that are competitively won, must nonetheless work extremely hard to develop the ‘third
stream’ of funds in particular (Clark, 2003:102-108). This third stream of ‘all other sources’ can be made up of such components as:-

- government sources other than from education ministries, such as industry development funds, medical research funds, defence research contracts etc.
- private organisational sources such as professional associations, philanthropic foundations, and businesses
- university-generated income from tuition fees, alumni donations, endowments, earned income from campus operations and services (e.g. housing provision), royalties, licensing fees and IP profits (Clark, 2003:102-108).

Clark notes that in pursuing this revenue, a university is seeking self-reliance and discretionary income. It must take care in this pursuit that it takes and makes revenues from ethical sources, rather than ‘..turn(ing) the university into a shopping mall’ (Clark, 2003: 108). This relates to the earlier discussion in this chapter on strategy and clarity of purpose in senior university managers. They must hold a clear concept of the primary mission of the educational institution, and encourage only those forms of revenue generation that do not corrupt that mission, even whilst diversifying it. Ultimately, this is a matter of values and beliefs and Clark assumes that university leaders will embody, uphold and articulate those with regularity and clarity (Clark, 2004b: 361).

Clark does warn that diversifying funding bases almost inevitably means an expansion and proliferation of certain parts of a university bureaucracy. In a sense, the institution needs to build a ‘..bureaucracy of change’ (Clark, 2003:108) to handle the functions of, say, international student recruitment, legal offices, technology transfer offices, continuing and outreach education units, grants and contract administration offices, and conference and project management operations….the units who do the income generation enabling for the academic faculties. Ironically it is doing this at a point where it is simultaneously trying to de-bureaucratise itself culturally to some extent. Administrative specialists are needed for these functions. Senior managers will need to facilitate this inevitable growth of ‘bureaucracy’ in the sense of extra non-core employees by creating realistic budgets for that expansion, and selecting genuine experts to staff such specialised roles, often requiring people with considerable commercial experience beyond universities who come at high
price. They will also need to ensure that the academic units fully understand and appreciate the need for such expansion of central administration without seeing it as a huge diversion of resources from the ‘real work’ of the university. Managing a potential tension of this type requires excellent budgetary skills, negotiating skills and capacity to communicate well with all parties.

The second of Clark’s elements is that of strengthening the steering core. Here, he sees that universities must be pro-actively, intentionally and wilfully entrepreneurial, rather than passively waiting for it to happen or simply hoping it will. This requires a strong administrative backbone that runs from the top of the university, through faculties and ultimately to departments, institutes or academic units below that. A reasonably clear managerial chain of command that is able to plan strategy, make decisions and implement with some clarity and authority is the essence of that backbone (Clark, 2004b:357). A central management group needs to have sufficient executive capacity to steer with speed and flexibility, rather than letting the university drift sluggishly where it will (Clark, 1998). This requires a talented management capability at all levels that can make decisions, and having plotted a strategy, is also capable of implementing it with vigour. It does not at all imply lack of collegial participation in those decisions. Clark is at pains to stress the need for collegiality in getting good decisions and in then getting full ‘buy in’ from all. Effectively, the central managerial values must be reconciled with traditional democratic academic ones (Clark, 2003:109).

Neither does this imply a highly centralist style, and Clark points out that it becomes very important to ‘..balance interests across multiple levels’ (Clark, 2004b:359), so that all levels are actively empowered and aligned with the collective will to be entrepreneurial. This means that faculty academics must participate in central councils, boards and committees, and that a large amount of genuine devolution takes place. It also means that academic and administrative personnel must be closely integrated and mutually collaborative and supportive. The careful balance between levels, and the exact structures for decision-making and devolution that will achieve that balance are very individual to each university according to Clark. He therefore notes that it is especially unhelpful when government level policy makers and
bureaucrats prescribe structures, forms and even processes for all universities (Clark, 2004b:359).

In the current Australian setting, there is a relatively high level of government intrusiveness to this domain, as was noted earlier. This suggests that the strengthened steering core of Australian universities may actually be working in slightly over-regulated circumstances, not entirely free to do things precisely as they would like. It does not suggest that working on a strengthened steering core is not possible. This second element demands excellent managerial and leadership skills of those at various levels in the university, and especially implies skilful devolution and empowerment, so that a strong steering core does not equate with a highly centralist control style, which Clark signals is anathema for the entrepreneurial university (Clark, 2004b:359). In fact it puts more emphasis on persuasive leadership than on controlling management. Whilst much of the university’s routine administrative operations can be process driven and fairly bureaucratically managed, it becomes essential for the senior management to recognise those aspects that simply must not be bureaucratically managed, and that must be able to handle innovation, creativity, change and the entrepreneurial style and quest.

Clark’s third element of expanding the developmental periphery of the university suggests that a considerable amount of boundary blurring needs to occur, between disciplines, between academic units, and between the institution per se and the organisations that it spawns, or with which it works in joint venture relationship or similar. Clark notes that teaching outreach work, innovative programs and research projects often come in transdisciplinary niches, and there must be very low barriers to those nexus points being occupied quickly (Clark, 2004b:360). An expanded developmental periphery is therefore likely to have a number of partnerships with business, industry and government at any given time. It is likely to result in many non-traditional units that cross old boundaries. It is also likely to have some part-owned interests in ventures or projects (Clark, 2004b:360), to be actively seeking outside connections and networks to aid development, and it is likely to be highly engaged with its community at various levels.
Although Clark does not embellish this element much further, it is implicit that he sees that the management of these points of developmental contact requires the expanded administrative capability that was mentioned earlier, as units for teaching outreach, alumni engagement etc all require sufficient staffing and resources to be effective. Managers at all levels are likely to need excellent negotiating skills to engage in the work at the university periphery, and strong interpersonal skills to build the working networks that ultimately create many opportunities.

Fourthly, Clark’s element of stimulated academic heartland is one that seems essential to his observations of how an entrepreneurial university is created and maintained, even if is not easy to translate to practical application. Clark states that keeping academic departments and units vibrant, dynamic and motivated is vital. He notes that management must take care to involve the ‘academic heartland’ in participative ways whenever possible, and that those who are best positioned to generate revenues for their university, must be strongly encouraged and ‘incentivated’ to do that, for the benefit of all in their institution (Clark, 2004:360). He indicates that a stimulated heartland will seek to achieve world class quality in their work, whether research or teaching. He does not elaborate further on how this stimulation might best be done.

Finally, the fifth element of Clark’s framework is that of creating an integrated entrepreneurial culture. He sees it as involving a widespread commitment to entrepreneurial change and development by everyone in the institution. He notes that culture change takes time and is necessarily ‘..incrementally fashioned’ (Clark, 2003:111) to eventually create its own perpetual momentum or dynamism which is what must happen to succeed as an entrepreneurial university. Ideas, beliefs, attitudes and values are all part of the entrepreneurial culture, and all staff must ultimately be aligned to a high degree on these aspects for good entrepreneurial results (Clark, 2004b:361). A self-image as a prestigious entrepreneurial entity ultimately also engenders a community image as prestigious and entrepreneurial according to Clark. He cites some good examples of the power of this positive self-image in Monash and Warwick Universities (2004b:363-364). How do managers build such integrated cultures? Clark does not elaborate here.
Clark’s work from 1998 onwards has certainly established a concept of the entrepreneurial university, and outlined some dimensions or elements involved in bringing it about, although specific practice detail is not plentiful. Others in higher education have also added some ideas on how the university might be made more entrepreneurial in day-to-day practice, most building on Clark’s framework.

2.9 Making the University More Entrepreneurial – Other Educationists’ Contributions:

Harman & Harman (2004:160) have noted the rapid expansion of the sources of income into Australian higher education in recent years, observing that by 2000, 58% of all revenue into the system was from sources other than government block operating grants. It is higher now in 2006. In their article on the state of play in research commercialisation in Australian universities, they note that there is still large potential for research-based revenue to exceed the current $100 million per annum, and to build on to the existing main source of income that is student fees of various kinds. They, like Lazzeretti & Tavoletti (2005), Jacob, Lundqvist & Hellsmark (2003:1556) and West (2001) observe that developing the diversified funding base requires a substantial investment in university infrastructure, and usually means special units and expert positions must be established or expanded to help generate those revenue flows and to create a system for the commercialisation of the university’s knowledge. A system that is co-ordinated is essential, or very fragmented efforts tend to arise from various academic units. This greatly diminishes any potential entrepreneurial gains (Jacob et al., 2003:1563). The funding therefore requires a series of infrastructure investments that university management must make, justify and defend in the face of generally lean budgets.

Notably, some of the sources of revenue are best sought and found in the local context, and the example of the University of Twente in the Netherlands is given as very clear example of how a would-be entrepreneurial university can hitch its purposes to that of the local regional economy and industry, generating graduates expressly for local industries, researching in collaboration with those industries, and in so doing, actively incubating many spin-off ventures. Twente is listed in 2005 as having now spawned a total of 437 spin-off companies, 68% of which are successful.
and survive to employ thousands (Lazzeretti & Tavoletti, 2005: 482). This simply confirms the most self-evident of the five Clark elements of the entrepreneurial university. Economic independence of government funding is a vital component of ‘being entrepreneurial’, quite arguably the most essential component of all, and the most basic of the thrust towards entrepreneurialism. It provides autonomy, greater freedom from government accountability, and discretionary wealth with which to build the institution. None of the writers adds very much more on what this means for senior university managers, nor on what they might need to do by way of leadership practice to enhance the thrust, although it seems reasonably clear that regional universities have something of a head-start in building such a network of economic relationships and transactions. Urban universities must work very hard to create the same network of connections but have, in some instances, the prestige of being established ‘sandstone’ establishments with large alumni bodies to help them along.

Many other writers and researchers have something to say about the second of Clark’s elements, that of strengthening the steering core of the university. In the eyes of many (Lazzeretti & Tavoletti, 2005: 479-480; Marginson & Considine, 2000:4; Askling & Stensaker, 2002:114; Sotirakou, 2004; West, 2001:35-36), what is needed is a delicate balance between the need for tighter, more corporate, managerialist lines of authority and command, and the simultaneous need for a degree of participation and involvement by academics at all levels, people who feel that they have a degree of devolved responsibility and of commitment to the cause of ‘being entrepreneurial’. The balance is fine indeed, easily tipping into an overly controlling executive bureaucratic centralism on the one hand (Marginson & Considine, 2000: 8) and into an ineffectually loose and unco-ordinated management effort on the other, likely to be labouring under a system of ‘democracy’ that empowers no-one to decide anything likely to change the status quo (Harley, Muller-Camen & Collin, 2001:337). If the shift is ‘too managerialist’, too alien from the traditional academic values, too much of the bureaucratic ‘top-down’, then it risks undermining every aspect of potential progress towards the entrepreneurial agenda (Jacob et al., 2003: 1567). Genuine devolution of many aspects of power and decision-making, genuine participation in senior management forums (West, 2001:36), matched with good sensible management accountability, and a careful avoiding of repressive control all seem to be part of a successful balance (Paradella, 2001:11).
In this second element of creating an entrepreneurial university, many seem to sense that the ‘balancing act’ is the critical hub of success or failure. Senior managers must somehow work out how to get this right, especially in a context where Government policy is inclined to shift management within universities to more corporate models (Marginson & Considine, 2000), and where the internal bureaucratic traditions of universities are inclined to draw control to the centre in times of difficulty or emergency. In fact, many of the routine operations of the institution are probably quite sensibly bureaucracy and process-driven, but the danger is in seeing all managed this way. Rather than leaving a sense for academic staff of being ‘worked on’, it is essential that they have a sense of being ‘worked with’ (Askling, 2002:121-123).

Clark’s third element, the expanded developmental periphery, gets a great deal of embellishment and support from later education writers. Lazeretti & Tavoletti, (2005:486) described the embedded nature of the university in its broader community and regional context, whilst others note the enormous number of incubated ventures, spin-off companies, science/technology parks, project offices, teaching outreach units and so forth which tend to proliferate and ‘blur’ the boundary between the university and the environment. Most also note the tendency to blur boundaries between disciplines, creating multi-disciplinary teaching and research and development units within the entrepreneurial institutions, as practical, applied solutions emerge for real world problems. It is observed that whilst research tends to become more strategic and industrially aligned, more consultancy and further education also characterises the periphery development and activity (West, 2001:34; Grudzinskii, 2005; Vickers, Salamo, Loewer & Ahlen, 2001; Jacob et al, 2003; Meyer, 2003; Paradella, 2001; Harman & Harman, 2004; Shane, 2004). Exemplar institutions such as Chalmers University in Sweden, Twente in the Netherlands, Warwick in the UK and even Arkansas in the US and the Russian Nizhnii Novgorod State University are described as transformed places, universities that have amply confirmed Clark’s concept of expanded periphery. There is little mention of what management practice per se the university senior managers would need to adopt to best facilitate this expansion, although Vickers et al (2001) do note that this development seems to require managers who are good at business plan evaluation, able to collaborate both with
each other in a team fashion, and with external contacts as well. They must also be able to display excellent team leadership skills as the units and ventures emerge and to operate resourcefully so that new projects and ventures get ‘bootstrapped’ up from very humble beginnings (Vickers et al., 2001:619-620). Linked with the expanded bureaucracy described in the first element of diversified funding sources, several writers make the point that the parallel building of periphery development mechanisms and sub-organisations is also costly and important. Meyer (2003) notes that incubated ventures will do poorly if not given enough skilled management help early in the piece, and also notes that if the infrastructure develops without a lot of ‘buy-in’ and incentive for academic staff, then the ventures are semi-doomed from the outset, since an anti-entrepreneurial culture may start to emerge (Meyer, 2003:107).

Clark’s concept of the stimulated academic heartland is not especially well developed in his own work (Clark, 2003, 2004a&b), and not especially developed by later writers either. By implication, it is mentioned more usually as a ‘lift’ in quality of output, be it teaching or research related, and a genuine passion and commitment by academics to doing world class work (Lazzeretti & Tavoletti, 2005:482). Of course, this implies that the academics are personally wedded to solving the problems that are being presented to them, and have an intellectual passion for their resolution. Where a research agenda is imposed on an academic community, there is a risk that the heartland, far from being stimulated to do outstanding work, could become cynical and resistant to change, and be inclined to pay mere lip service to the various quality assurance and assessment systems that their university then imposes (Sotirakou, 2004:349; Jacob et al., 2003:1564; Harley et al, 2004:334-336). It also implies a degree of departmental focus, since excellence is unlikely when the academic group tries to do everything rather than selecting fields of desired excellence. Another aspect of the ‘stimulation’ element is the kinds of disciplines that appear more entrepreneurially disposed. For many writers, business, information technology and science/technology/engineering are the fields most easily amenable to entrepreneurial activity (see for example, Vickers et al., 2001; Powers, 2004:10; Slaughter & Leslie, 1997:207; Lee & Rhoads, 2004:744-745), although others see that entrepreneurial activity can emanate from humanities and social sciences as well, notwithstanding the sometimes more traditional values held in those disciplines.
(Harman, 2005; West, 2001:34; Lazeretti & Tavoletti, 2005). Beyond managing for focused high quality output of all types, there is not a great deal of practical direction for senior university managers on this aspect of creating and maintaining the entrepreneurial university.

Finally, the element of integrated entrepreneurial culture is endorsed by other educationists in global terms as pivotal to creating the entrepreneurial university, although Marginson & Considine (2000:238-241) note that the Australian university system is by-and-large very poor at actually managing for integrated positive cultures, and for stimulated heartland whilst being much better at the first three of Clark’s five elements. Harman & Harman (2004:168) and West (2001:35) see that the university culture must in every way support and offer incentive to entrepreneurial and commercial activity without compromising or offending core academic values. Indeed, the university must develop a positive sense of its own identity as a successful and innovative force. The key shaper of such identity and culture is generally indicated as being values-sensitive, low-key ‘leadership’ (Askling & Stensaker, 2002; Vickers et al, 2001; Jacob et al., 2003; Sotirakou, 2004). The practice advice appears to be in the direction of attempting to make all levels of the university committed to and active towards the entrepreneurial goals. There is some doubt about how easy this might be for middle level managers to do, especially those at Head of Department level. They are seen as the most conflicted and the most paradoxically disempowered in current system wide terms, having on the one hand lost some power to the higher levels on issues of governance and strategy, and on the other, lost much operational power to individual academics (Slaughter & Leslie, 1997:231). The Heads of Department are noted as having acquired rather a lot of the ‘drudge’ work of academe – that of scheduling, managing sessional labour and large instructional loads (Sotirakou, 2004:348-350).

2.10 The Best Available Advice to Practitioners?:

The foregoing parts of this chapter describe why senior university managers might opt for a strategy of entrepreneurship, and what that might mean for the institution’s activities. The issue of how that entrepreneurial university might be managed and led
is then addressed, seeking out whatever advice the literature can offer for practising university managers. Thus far, it becomes clear that the education literature has good broad-brush frameworks for thinking about how to manage for entrepreneurial success, but that it tends to be somewhat sparse on detail and specifics, especially in the elements that Clark lists as his fourth and fifth element, namely, *stimulating the academic heartland* and creating an *integrated entrepreneurial culture*. All also note the great complexity surrounding Clark’s second element of *strengthening the steering core*. It is perhaps not entirely co-incidental that the greatest difficulty in providing practical advice to managers appears to be on elements requiring what is often called ‘people skills’.

The next sections of this chapter look to the more generic business and management literature on *how corporate entrepreneurship is best managed* in organisations other than higher education ones, in order to see what additional practice advice might be imported from the wider business world to help Australian senior university managers develop good models of practice and to help this study map the major capabilities.

### 2.11 Structures, Processes and People:

Beyond Clark’s generic advice, there is much to be ‘borrowed’ from the mainstream entrepreneurship literature in thinking about how universities could consciously transform themselves into much more entrepreneurial entities. First, it needs to be accepted that a formerly public sector organisation can in fact be relevantly ‘entrepreneurialised’. There are two issues here. As was argued earlier, it needs to be borne in mind that Australian universities, are in fact now substantially private, not totally public, that they are now required by various regulations to be significantly more accountable for their performance and that out of sheer necessity, they must generate a large portion of their funding needs to remain viable and sustainable. As public-private hybrid organisational types, and not purely public sector at all, there are also some excellent role model exemplars of entrepreneurial universities around the world, which suggest that it is a relevant and achievable construct (Clark, 1998). Here we take ‘entrepreneurial’ not only to mean commercial activity, but to also
include a more general spirit of innovation, and of positive wealth creation some of which might come in a form other than dollars.

Additionally, authors such as Morris & Jones (1999) have researched the relevance of private sector, commercial concepts and processes to public entities and concluded that in the modern public sectors of the UK and Australia, and various other developed countries, there are few differences. Granted, public sector managers are slightly less materialistic than their private counterparts, and public organisational structures are slightly more bureaucratic. On matters such as complexity, openness to environmental pressures, instability and many other variables, there is no significant difference. If there is a difference, in fact there is more challenge for the public sector manager than the private sector one given that they have less autonomy and more red tape with which to wrestle (Boyne, 2002). Morris clearly supports the relevance of entrepreneurship for the public sector whilst noting that the main obstacle still seems to be excessive control by top management (Morris & Jones, 2002: 86). It therefore seems very possible to extrapolate from the entrepreneurship literature to establish greater clarity about the ‘how?’ of creating a more entrepreneurial university.

A considerable amount of research has been undertaken to identify the antecedents of corporate entrepreneurship, the many aspects that either help or hinder its development and also its ultimate consequences for organisations (Zahra et al., 1999). Whilst earlier comment has been made regarding the extreme methodological difficulty of fully ‘proving’ positive longitudinal outcomes of CE, the same difficulties do not seem to apply in identifying aspects of organisations which genuinely predispose it to successful CE or help it along once underway. For example, Jennings (1994) described the kinds of organisations where CE would most flourish. He identified a correlation between greater participativeness and successful CE, noting that high levels of centralism were unhelpful. He noted that more specialised parts of organisations with high levels of particular expertise (and universities are full of areas with such professional expertise and knowledge) are more likely to have successful CE. He also found a correlation between clearly established performance objectives that are ‘owned’ by organisational members and greater amounts of CE, especially when linked with excellent reward systems that acknowledge and value innovation (Jennings, 1994: 205-7).
Kuratko et al. also agreed that structural and cultural matters within the organisation are crucial since “...evidence suggests that value-creating innovations result only when the firm alters the conditions of its internal environment in ways that result in co-alignment with the realities of its external environment” (2004:14). Such external environmental triggers are of little use unless the internal character of the organisation re-aligns, and better still, anticipates the need before it is critical. Structurally, this normally means more devolved and organic structures rather than highly centralised bureaucratic ones and normally means a good alignment between structure and the organisation’s driving strategy. In their excellent empirical study of organisations in the electrical industry, Jennings & Hindle (2004:105) were able to demonstrate that the fine-tuned relationship between strategy, whether Miles & Snow’s defender, prospector, analyser or reactor, and structure is crucial to success. Whilst a simple connection between prospector strategy and organic organisations was expected, the study revealed some very complex and contingent relationships beneath the expected and obvious. They concluded that the principle of equifinality means that there are numerous possible combinations of strategy, structure and successful CE, and that the key issue is fine-tuned matching, rather than simple edicts (Jennings & Hindle, 2004: 131).

The desirable organic structures might well take the form of ‘opportunity based’ designs, where new project groups and teams are assembled for specific purposes or clients, slightly separate from the mainstream parent organisation and with a remit to think and act as entrepreneurial resources. This places some stresses on the human resource functions of a large organisation, since staff both ‘belong’ and yet ‘don’t belong’ for a temporary period, before returning to the mainstream at a point where the project has developed the opportunity into a new venture, or has ceased and been folded back into the mainstream. It might also be described as ‘loosely coupled systems’, where a balance of loosening and coupling needs to be struck, and can be partly achieved by creating specially commissioned employee project groups within existing organisations (Heller, 1999; Brazeal, 1996:56). In any case, the ultimate challenge in such structures is to maintain a delicate balance between too much structure and control that would stifle all innovation and too little that runs the risk of
generating conflict and waste and ill-directed effort (Eisenstat, Foote, Galbraith & Miller, 2001: 57-58).

Besides the issues of structure and rewards policies, Kuratko et al. also listed other key dimensions as antecedents to good CE. They pointed to the necessity of having strong managerial support, a supportive organisational culture which actually encourages and values creativity and innovation and permits some risk, mistake and learning, high levels of work discretion and autonomy especially for middle managers. Williams (2004:202-3) has demonstrated that there is some evidence that supervisors and managers who have anti-creative attitudes and behaviours can cause employees to have lack of creativity and interest in creativity. It is therefore at least essential that the management culture does not actively hold anti-creative elements, and even better if there are positive attitudes and comfort with it.

Not surprisingly, a significant degree of available resource, not only financial is also needed. Slack time is cited as one of the key resources, since staff under extreme pressure are neither creative, nor motivated to be innovative, the core of CE, and ultimately CV (Kuratko et al., 2004: 21; Prather, 1996: 6; Woodman, Sawyer & Griffin, 1995: 313). The issue of incentives and rewards is expanded to indicate that entrepreneurial behaviours in the organisation need to find both intrinsic and extrinsic form. Rewards therefore need to be tailored to suit the individual organisation members, and could include equity or equity equivalents in ventures, salary increases for intrapreneurial or entrepreneurial innovation, promotion, bonuses, recognition and awards (Kuratko et al., 2004: 30; Brazeal, 1996: 57). For university staff, all of the preceding could be effective, especially given the academic tendency to value recognition and status rather more than money itself. Additionally, Russell (1999: 70) notes that a number of studies have shown that heterogeneous environments tend to produce more CE. They have multiple market segments, diverse customer needs and therefore tend to provide a lot of scope and opportunity for innovative actions, all stimulated by competitive environments. This could well describe any Australian university at this time, suggesting that some of the antecedent and facilitative factors for CE are actually in place already.
Culturally, an innovation-friendly organisation will have a vibrant, risk-taking, style to it, with strong elements of trust and openness (Prather, 1996), and a ‘Silicon Valley’ style of resource attraction rather than an obsession with the downward process of resource allocation, along with a very active market for talent (Hamel, 1999: 76-81). Such a talent market involves doing all things possible to give good creative people challenging work, ‘room to move’ and a real financial stake in the CE gains. It must involve keeping them highly motivated via whatever incentives will work, since the innovators are very inclined to decamp to a competitor organisation if not well-supported and fully kept in key information loops as a part of the decision-making processes of the organisation (Woodman et al., 1995). That is, the staff must be fully engaged to be their most creative and innovative. Of course as Legge & Hindle (2004) point out, “One way to increase the number of corporate entrepreneurs is to widen the source of them: every employee of a corporation has a brain in which ideas ferment” (2004:261) and informing and empowering all staff is one of the factors that ultimately generate more CE. As they note, innovators are often low in the hierarchy, and every idea also needs a champion and mentor in the middle organisation to carry the idea up the line for resourcing support and such like (Legge & Hindle, 2004: 263). Additionally, the culture must be well-led enough to contain any petty jealousies and resentments that could arise from some faculty getting rewards and perhaps being diverted from what others might see as ‘the real work’ of educating students. There are potential conflicts of interest to be managed and values and forces to be balanced. A culture that cannot encompass these potential tensions generously, will struggle (Shane, 2004: 277-288).

Budding entrepreneurs will also develop better and learn the behaviours and values of entrepreneurship faster if interacting face-to-face with other more experienced entrepreneurs in a kind of ‘community of practice’ (Down & Reveley, 2004:249). This is well within the reach of virtually any university to orchestrate if the will is there. There is also a case for universities to deliberately experiment with novel, emerging and pioneering technologies where possible, since these help break organisation’s ‘learning traps’, the habitual responses learned by established and large organisations which can deeply restrict innovation. Ahuja & Lampert (2001) see this as a key way of helping established organisations make ‘breakthrough inventions’. Although their study was set in manufacturing, given the conservatism which
characterises many universities, and the deep traditions of learning, teaching, and academe generally, there is a good case for deliberately seeking to inject some experimentation, possibly via communities of practice, to overcome the learning traps.

The question must be asked as to whether it is actually desirable or possible for everyone in any organisation to be entrepreneurial at all times. At the same time as teasing out the key elements for making an organisation more entrepreneurial, many researchers are also indicating that the answer to the question is ‘no’. We do not actually want everyone to be entrepreneurial all the time, and it is not possible for everyone to be of this character and behaviour. Ahuja & Lampert (2004) and Van de Ven & Engleman (2004:53) are clear that organisations must simultaneously pay attention to the task of managing existing capabilities for maximum efficiency and strategic effectiveness, whilst also exploring potential future capabilities which will be the competitive advantage and renewal of the organisation’s future path. This means that not everyone needs to be seeking innovation all the time. A balance is required which keeps the enterprise out of inertia, building new capabilities and ventures, yet not neglecting to manage the on-going operations. Some employees are better at one of these aspects than the other, but both are essential. Some managers are also better at the bureaucratic stability aspects than at the innovative flexibility aspects. Balance is a key concept that Clark (1998: 4) sees as being needed to protect and preserve academic values as a university pursues entrepreneurial transformation. He points out that unless academic values shape and contain the transformation so that leaders and managers do not corrupt or devalue the institutional reputation by seeking revenue at any cost, then all is potentially lost. This role of managing the quality, the reputation and the present is as vital as the roles that work actively on innovation and CE.

In any case, there is ample evidence that not everyone can be entrepreneurial. It is not in the make-up of all people (and certainly not all academics). Shane & Venkataraman (2000: 221-223) note that there has been much research on this topic, and see the fact that not all people have sufficient background information or knowledge to see entrepreneurial opportunities, and not all possess the cognitive qualities. By nature, some are not as optimistic, not so biased to action, not so
generally self-efficacious, and not so able to overcome a fear of risk-taking. These are
the attributes which entrepreneurs tend to exhibit and need. The literature is divided
as to how much of this might be trained and developed in people, and how much is
either innate or learned very early in life (Baron, 2004).

Academics may be a special case here. By nature, many are detail-minded, used to
working in relatively stable, hierarchical structures and used to working in a solitary
rather than team work fashion for large parts of their professional life. They are also
used to working to very traditional and predictable criteria for promotion, and reward
systems that do not directly provide incentive. It is therefore quite possible that
academics en masse are not generally well disposed to being entrepreneurial.
Entrepreneurs in large organisations have been shown to have a far higher tendency
to use biases and heuristics to make speedy risk-taking decisions without detailed and
laborious analysis of all aspects of an opportunity. This is how they often identify and
commit to an opportunity. Managers by contrast tend to employ highly rational
decision making rules, and be so acutely aware of the risk in a poor decision, that they
may actually ‘miss the moment’ or send the decision further up the line until it gets
lost there too (Busenitz & Barney, 1997). The academics’ tendency may well be to
overanalyse the decisions. Their training and nature may have failed to nurture the
entrepreneurial mindset in the past, and it would be logically easier to develop it in
some than in others, even if management decided to invest significant resource in so
doing. Experience has suggested that science, technology and business academics
tend to become entrepreneurial more readily, whilst social science and humanities
departments find the shift more difficult and tend to come to it slowly and less fully
(Clark, 1998: 141), but that many are quite capable if given the right development
assistance.

2.12 Leading the Strategically Entrepreneurial University:

There are some messages for leaders of organisations who wish their enterprise to
become more entrepreneurial as part of building and leveraging its resource base for
greater competitive advantage. The first is to understand the differences between what
Rowe (2001) describes as managerial leadership, visionary leadership and strategic
leadership. He contends that managerial leaders are involved with stability and order, preserving the order of day-to-day activities and necessarily and suitably more short term oriented (Rowe, 2001:84). Such individuals are often inclined to control the flow of information and the work of others, and there is a place for such capability in some areas of larger organisations, especially those where some tendency to disarray is acknowledged. However, they do not create wealth, being cost-cutters at best. By contrast, visionary leaders shape ideas, inspire, take risks, present ideas to others, tend to think in non-linear holistic ways, are not dependent on their organisation for their sense of identity or self-worth and proactively think of futures and options for their organisation (Rowe, 2001:85). They are prone to exciting initiatives that can expose an organisation to deep risk and wealth destruction if unchecked and need to be balanced by managerial leadership.

Rowe sees the ideal style in strategic leaders, who can synergistically combine both of the other styles with emphasis on dreaming, and then doing something about the dreams- translating them into operational activity (Rowe, 2001:86-87). Rowe is at pains to emphasise here the need for ethical, values driven behaviour in such strategic leaders, since their personal example is one of the compelling features of the leadership they can provide. Being able to think holistically and in linear ways, to offer some impetus for change as well as see the need for stabilisation at key points in the system is the needed talent, and there are few people who can actually provide this synergistic combination. Presumably, Rowe’s ideas would apply equally to the leadership that a university council or senate might provide, just as much as it does to the senior executive leadership within the university. Unfortunately, Rowe also specifically cites government departments and universities in particular as frequently systematically crushing both visionary and strategic leaders out of existence so that managerial leadership is all they have or promote to higher levels (Rowe, 2001: 91). This does not have to be so. There is nothing to indicate that universities must inevitably be peopled by managerial leaders, and there is every environmental reason to wish to change that fact in the Australian context at present. Even if there are a few excellent strategic leaders in those universities, there are good grounds for wishing for more.
Beyond Rowe, others have placed more emphasis on the need for leadership *teams* to constructively drive the strategy. Ireland *et al.* (2001: 58) says that the top management team is really the instrument through which strategies are selected and driven, especially in a large and established organisation that is seeking to become more entrepreneurial. In his large study based on transformation in public hospitals, not unlike universities in many ways, Young also pointed to the need for leadership teams (Young, Charms & Shortell, 2001: 947-948). Apart from anything else, teams bring, or should bring, a level of *social capital and network* to the organisation, which has already been established as important to building the resource base of an organisation. Ireland *et al.* (2003: 971), in pointing particularly to the demands of *entrepreneurial leadership* within larger organisations, describe it as the ability to get others to manage resources strategically, so that a combination of opportunity-seeking and advantage-seeking actually takes place.

This is not a prescription limited to chief executives but applies to managers at all levels, most especially those at senior and upper middle levels, where control of resources usually rests. Six imperatives for entrepreneurial leaders to address are listed. They are:- *nourishing an entrepreneurial capacity*, especially creativity amongst the employees who are the greatest resource; *protecting innovations that are potentially destabilising* to the status quo; *making sense of opportunities*, which involves a lot of communication, optimism and ‘selling’ a vision to others; *questioning the dominant logic*, which means being able to query both others and oneself reflectively about the current logic of certain actions; *revisiting the ‘deceptively simple questions’*, which means challenging such elementary assumptions as basic business missions, basic market parameters and often-accepted constraints; and lastly, *linking entrepreneurship and strategic management* by specifically placing entrepreneurship as centre stage in the strategic plan, instead of marginalizing it to the status of ‘nice to achieve if we could’ (Ireland *et al.*, 2003:971-972).

The leadership messages for universities are no different, except for the known difficulties of transforming anything within such a complex, tradition-bound organisation type. In transformational leadership of any strategic intent, leaders are urged to pay particular attention to their use of language and rhetoric. Language not
only identifies the reason for change, the source of the ‘push’, but it also identifies the
‘pull’, the attraction of the new organisation that is sought (Chaharbaghi et al.,
2005:11). Within universities, where forced change often produces unintended
consequences and unforeseen resistances, language is a critical leadership tool, and
any leadership plea to ‘be more entrepreneurial’ that comes as a management edict
will surely falter especially if it rests on economic rational argument about cost
efficiencies, or suchlike (Meister-Scheytt, 2005:94). Academic institutions often
respond better to the language of potential, of learning and of wealth creation, rather
than the more negative message of financial desperation and constraint. They also
respond better to initiatives that arise bottom-up with full top down support (Shattock,
2000: 103) but support needs to be carefully distinguished from control.

2.13 The Management Contribution in Entrepreneurial
Universities:

Implicit in all of the foregoing framework for creating the structure, culture, strategy
and conditions for CE, is the role of leadership. Burns describes the role as different
from that of actually being a solo entrepreneur, and rather more a collective task of
creating “..systems, processes and structures” (Burns, 2005:14). In the university
setting it is the leaders who organise structures and strategy, who allocate resources,
actively create and reinforce certain value systems, and who have the capacity to
shape a much more entrepreneurial mindset which would lead to CE. At various
organisational levels, there are appropriate roles managers need to play in order to
create the entrepreneurial university.

Jennings (1994) identifies the work of the group of team leader as being
predominately and importantly about encouraging a technical innovation (or similar)
and championing it sufficiently to bring it to the attention of more senior
management. They may also need to help encourage ideas and cleverly create some
resource ‘slack’ at times to foster a new idea, and to question some status quo
assumptions to help stir the innovative culture at the grass roots.

Middle managers are primarily charged with building strategy, and championing
innovations across the organisation. They may also be able to steer more substantial
resources toward emerging innovations, coach and protect the innovators where threat is imminent, and to negotiate with senior managers for better arrangements to bring new entrepreneurial ventures forward (Jennings, 1994: 218). In fact, much research points to the role of the middle managers as being most crucial for CE and embellishes Jennings’ themes. Hornsby, Kuratko & Zahra, (2001) identify *five issues for the middle managers*- appropriate use of rewards to shape desired behaviours, gaining top management support, making resource available or bidding for it elsewhere, devising supportive organisational structures to evaluate and foster good project ideas, and taking reasonable risks and tolerating failure when it inevitably occurs at times. Middle managers are seen as a crucial conduit between front line managers and senior executives. “Not only can middle managers stimulate interest in corporate entrepreneurship but they can also influence their subordinates’ commitment to these activities” (Hornsby et al., 2001:255). Whether they are able to fully deliver this crucial linking and stewarding role depends in large part on the level of devolved autonomy and policy and resource discretion within the organisation. For universities that are highly centrally controlled, this would be deeply problematic.

Middle managers’ contribution to CE requires reasonable budget and policy authority, and a senior tolerance for some experimentation and ‘mistakes’. Middle managers need to be the integrating force and the enabling layer between management, and the ideas and intentions that come forward from the academic or operational front line (Kuratko et al., 2004: 10), and they must be able to do this in ways that remain resourceful but not outright rule breaking, although Ramamurti (1986:153) actually advocated a degree of calculated risk taking and rule breaking for successful public sector entrepreneurs. Clearly, some level of political understanding of cultural limits is the key. At worst, such resourceful cleverness can become the unethical ‘rogue’ behaviour that Kuratko & Goldsby describe. (2004:13). They note that middle managers are crucial to the CE effort but their efforts need to be *team based* and *ethical* rather than highly individualistic for changed cultures to occur around them (Kuratko & Goldsby, 2004: 26).

The role of senior executives in the organisation seeking to be more entrepreneurial is not only behaviourally important but also highly symbolic. Their key role is in defining strategy, selecting projects and ventures that fit that picture, arranging macro
organisational structures that enable good CE, potentially steering or brokering larger resources if needed (Kuratko *et al.*, 2004:10) and rationalising and selecting from the various options which may emerge in a fertile innovative culture. In manipulating the structural context and selecting best projects, they are in fact more reactive than genuinely proactively entrepreneurial, but it is vital that they appreciate and respect what is needed to get the initiatives ‘out of the door’ (Jennings, 1994: 240). It is they who need to establish a balance between potentially sluggish traditional academic collegial decision-making and more managerial speedy decisions (Clark, 1998) and it is also they who need to build the final and essential bridge between the ‘academic heartland’ and the administrative bureaucracy of the university that is charged with the legalities and financing of technology transfer (Vogel & Kaghan, 2001:358).

In some respects the senior executive role is ideally a key transformational leadership one in style. This transformational entrepreneurial role has been researched in fast-growing private entrepreneurial firms (Wakefield-Semmens, 1998), but not often in educational settings. One study, admittedly at lower educational levels and *not* at higher education level, does suggest that whilst one might tend to assume that a strongly charismatic transformational leader would be best able to shape a vital entrepreneurial culture, it is not always so in education (Eyal & Kark, 2004). In this respect, senior executives in the university may take more of a ‘servant leader’ stance than an heroic one, but even that requires great vision and commitment with the humility (Greenleaf, 1996:41). There is some scope for more conservative transactional leadership styles to succeed at driving innovation and supporting CE. This seems only to be the case where the leaders of the institution are at least prepared to take cautious incremental entrepreneurial steps, and to actively support the work of middle managers to make the primary running on CE leadership (Eyal & Kark, 2004).

More research is needed to be fully clear about the necessity in effecting entrepreneurial transformations for senior leaders to be completely transformational in style in various settings. However, the key seems to be that senior executives do fully understand and support CE, even if they do not drive the agenda totally. Elements of emotional intelligence so evident in transformational leaders are clearly desirable at the most senior levels, as for middle managers, in that such intelligence
facilitates monitoring and responding to subordinates’ feelings appropriately (Palmer, Walls, Burgess & Stough, 2001: 6).

The most powerful leaders of CE, and the most clearly responsible for its activation sit in middle and upper-middle levels in most organisations. In universities, that would suggest that Vice Chancellors and Presidents are likely to be significant, but that Deputy Vice Chancellors and Deans most assuredly are pivotal to successful CE.

2.14 Conclusions:

From this review of some relevant literature, we know that the Australian context, now highly centrally regulated, is a relatively inhospitable setting in which to develop outstanding strategic and entrepreneurial leadership since entrepreneurial cultures generally thrive when there is minimal central control and where the prevailing condition tends to be one of opportunity rather than threat. This does not mean that good strategic management cannot happen: it simply acknowledges that it is more difficult in the context. It also acknowledges that Australian universities are not entirely strategically free. They are regulated with reference to the number of funded student places, regulated regarding fee levels, fields of courses, and on many matters of course and student administration. They cannot suddenly expand or contract without extensive negotiation with Government. They cannot strategically do very much other than to seek competitive advantage from the many knowledge and dynamic capabilities and resources that they hold, or can develop. Most other market positioning strategies are likely to be easily replicated and short term in nature.

It has therefore been argued that universities’ strategy must increasingly look towards full utilisation of the key knowledge resources they hold. It seems clear that the average university can learn a great deal more about crafting strategy if it places the RBV at ‘centre stage’, and pursues the logically connected strategies of knowledge and capability building via both strategic human resource management, and purposeful pursuit of entrepreneurial activity. Most Australian universities currently make platitudes in their strategic plans regarding both ‘valuing people’ and ‘being entrepreneurial’, and very probably, most have yet to either fully understand what the strategic competitive advantage might really be, or to understand the full implications
for how their leaders and managers might need to behave to ‘get there’. *This research is choosing to examine more closely the aspect of pursuit of entrepreneurship as a university strategy*, rather than examining the aspects of human resource management *per se*, although it is acknowledged that this is probably an equally important issue for greater research and understanding within the university sector for genuinely strategic management to be successful.

It is argued that Australian universities are in circumstances and an environment that call for expanded entrepreneurial action as *a strategic imperative*. Taking that as a given direction, it then seeks to explore and better understand that ‘how’ of making an Australian university entrepreneurial, viewed from the senior managerial perspective throughout. To get entrepreneurial action inside and around universities, it is necessary to develop an entrepreneurial mindset and culture, and to learn the processes of encouraging innovation, and translating the best innovations into projects for internal development as new ventures, or for eventual spin-off into more free-standing ventures on the university periphery. Some CE initiatives might also be completely independent of the institution after an incubation period and a partial connection with it. All CE is fundamentally about maximising the strategic leverage that can be obtained from the IP that the university has and can create, and all is fundamentally about creating wealth and vitality for the institution.

In seeking to understand what is already known about creating and leading the entrepreneurial university, this chapter has examined some frameworks, in particular that of Clark (Clark, 1998, 2003, 2004a&b), that point in certain directions, for senior university managers. They give some direction to what such people could and should do to create the entrepreneurial university. We do have some loose descriptions of ‘entrepreneurial leadership’ (DuBrin, 2001:132-3), but that is not pitched to the complex public-private university context. We also have more general descriptions of academic leadership in higher education (Ramsden, 1998). But we have little behavioural and action-oriented advice for the practising university senior manager who seeks to shape a more strategic, entrepreneurial university in the Australian context.
By combining the work of Clark, other educators and the corporate entrepreneurship literature at large, we can identify some capabilities and some reasonable practice models that give substance and some detail for the first three of Clark’s five elements, as seen earlier in this chapter. The second element is noted as something of a minefield if badly handled, so ideally, one would seek more practice advice than seems available. But there is more to know about all elements and certainly the last two, both of which seem very indistinct in their practice advice.

Table 1, viewed in the following chapter, attempts to summarise the combined practice advice that emerges from Clark and others’ work. This combined model forms the starting point for this current research project.

The lack of more detailed practice guidance remains a research opportunity, and filling the gap would potentially provide models of practice not only for university managers and leaders, but also potentially for those in any public enterprise making the shift to a more private sector mode of being. We do not know that universities that have made some forays into entrepreneurial activity have actually yet learned enough about the processes to be building a dynamic capability in that direction. Some Australian universities appear to have dabbled, made mistakes and retreated, crying out for a more confident leadership approach to strategic entrepreneurship (Marginson & Considine, 2000). Others have ventured into the field much more confidently and successfully (Harman & Harman, 2004).

This current research, posits that there is still a great deal of potential for CE in the broadest senses, and for corporate venturing per se as yet untapped in these institutions. There is much to be done to release that potential, and it should also release a generally more innovative and energised culture in the university, besides simply adding to the commercialisation goals. The emphasis in this research will not be on what university strategic plans say, nor what senior executives say, since the rhetoric of ‘being entrepreneurial’ has turned out to be easy. It is focused on actions that will produce behavioural change and tangible outcomes, even if the pay-off takes some years to really become clear. This is, it is interested in what managers might actually do to create and lead entrepreneurial universities in this current Australian context. It is about the practice of that management and leadership and
how such individuals’ practise is, in turn, driven by the kinds of mental maps that they carry in their own minds to understand the range of actions and options.

There are many structural, strategic, financial, and cultural things that need to be brought into play to expand the CE activity of a university and it is leaders and managers who must create those circumstances and re-shape behaviours, including their own. The various roles that managers at different levels in the university must fulfil in order for CE to thrive remain difficult in the traditional university organisation, and in some respects, universities are difficult organisations to render truly entrepreneurial. Their mission, the nature of some of their staff, their necessary internal structures and character often mitigate against CE, and yet, these are hurdles that many other organisations have learned to overcome. It is a learning process.

Research that helps elaborate a model of university management practice for entrepreneurship within the institution would therefore be very helpful, since it is a context in which only a very small amount of research into entrepreneurship has been undertaken to date. Many universities in Australia and elsewhere in the world have made significant progress down the entrepreneurial path. Whether they have fully understood what they have done and exactly how they have done it is questionable. Whether there is sufficient understanding of the leadership and management mechanisms and roles to inform and improve the performance of other universities and individuals is very questionable indeed. Clark’s (1998, 2003, 2004a&b) broad directions form part of a successful practice model, but are insufficient to help others routinely succeed and to offer a kind of ‘map of the territory’.

Whilst not attempting to develop deep understanding of all the causal and systemic linkages between the many capabilities it identifies, this study aims to develop a more practical and detailed model of leadership practice to help fill this gap. Instead, it flags for the practitioner those issues that need to be addressed and will attempt to indicate how each might be engaged with in order to get improved practice.
Chapter 3 The Study – Its Approach and Methods

This study is undertaken for purposes of building improved models of organisational and managerial capability for the entrepreneurial university in an Australian context. It seeks to build and develop conceptual models, a form of ‘map’, that can inform and assist improved and more informed practice for senior university managers.

It aims to do this by working with concepts that can be elucidated and synthesised from the literature and then by presenting these to experienced university managers and related experts in order to improve the emerging model. In the process it will elicit the mental models that those senior university practitioners currently hold to inform and drive their own practice. This is a striking and potentially interesting data set in its own right.

3.1 Epistemological and Ontological issues

This qualitative study is ontologically a constructivist one. It takes the view that the phenomena of organisational life are by and large not ‘out there’ and independent of the observer, but that they are a construction of the humans who create and populate the organisation (Gioia & Petre, 1990: 585). The study does not attempt to be in any way a scientific or positivist account of what is happening across all Australian universities. It does not seek to objectively identify a reality, and to then describe it and use it in predictive ways. Rather, epistemologically, it chooses to take a clearly interpretivist stance, what is sometimes called a humanistic or hermeneutic stance. In this it aims to understand our ways of knowing about certain organisational phenomena (Gummesson, 1991: 14; Gioia & Petre, 1990:585). It will seek to understand the ways of thinking of those who participate in the study, and that, as will be seen later, is not comprised of people from all Australian universities. It offers interpretation of meanings as made by both the social actors and by the researcher (Miles & Huberman, 1994: 8).

Historically, most research on organisational entrepreneurial capabilities has been conducted by way of empirical research, many of them large scale surveys or extremely
laborious and detailed longitudinal case studies (Hindle, 2004: 577; Gartner & Birley, 2002: 387; Zahra, Sapienza & Davidsson, 2006; Davidsson, Low & Wright, 2001). Some are entirely approached by conceptual/theoretical analysis and discussion (see for example Covin & Miles, 1999; Lumpkin & Dess, 1996; Kuratko & Goldsby, 2004; Daily et al., 2002). Past research has generally emerged from the wider entrepreneurship and strategy literatures, which are markedly biased towards the positivist and empirical traditions, only rarely opting for qualitative methods, and still less often for distinctly interpretive methods (Gartner & Birley, 2002; Hindle, 2004). Little, if any, interpretive work has been done on the issues of organisational capability for entrepreneurship. In a recent extensive review of capabilities studies, all the studies surveyed are either empirical or conceptual (Zahra, Sapienza & Davidsson, 2006: 934-936). None mentioned in this review is interpretivist in stance, and yet it is clearly evident and accepted that organisational capability is a strategic issue (Hamel & Prahalad, 1996).

This means two things with regard to this present study. Firstly, when considering the model building and mapping thrust of this study, it must be noted that theories of entrepreneurial capability have been generated almost entirely from either an empirical or conceptual basis. They have assumed to a large extent that some capability processes actually exist in a sufficiently static manner for them to be identified, studied and named. They have neither taken the mental models inside the heads of the organisational members into account, nor what sense those members make of the identified phenomena in their everyday practice.

Genuine theory development has various building blocks within it, according to Whetten (1989). He lists elements of what? how? why? and who, when, where? as essential. He also notes that the what and how elements are fundamentally about a framework for understanding and interpreting observations or data. Issues of context are also important when building a theory, since we need to appreciate fully where certain phenomena are occurring and take that into account in building our understanding (Whetten, 1989:490-492). Theory building also leads to model building, since a set of complex understandings and ideas can be, and often is, represented most simply by creating a graphic model or map that in some way explicates the
relationships between parts, the possible flow of sequential phases and so forth (Whetten, 1989: 493). The value of a model that partly represents a set of theoretical understandings is that it is likely to be more practically relevant and usable leading to the long-standing truism that “..nothing is so practical as a good theory” (Lewin, 1945, cited in Ven de Ven, 1989: 486). In this study, the conceptual work with various theories is therefore in the tradition of theoretical enquiry, although aimed at developing a more complete model of practice rather than deepening the knowledge of the precise theoretical constructs and relationships. The interpretivist stance of it is intended to acknowledge and add the mental models of the practitioners to the model building process.

Secondly, the interpretivist orientation of the study will inevitably access some of the frameworks and experiences held within the minds of the participants. This is a unique data set in its own right, since much of the pre-existing work on organisational capabilities for entrepreneurship has neither explored the views of the leaders of Australian universities and the unique context that they have, nor, for that matter, explored the views of leaders and associated senior management identities at all. This aspect of the study is rather more in the research tradition of co-operative enquiry since it elicits responses from the participants, in dialogue with each of them and interacts with them in order to embellish and refine the model or ‘map’. There is actually limited knowledge of how senior university managers think about entrepreneurship, how that might shape their practice, and limited understanding of what internal models practitioners carry regarding capabilities for corporate entrepreneurship, especially in the unusual university setting. The dual traditions of both theoretical and co-operative enquiry are seen as a useful way to attempt to fill this gap. Figure 1 illustrates how both strands of the enquiry work together.

Empirical research is unlikely to be able to capture a sense of how these capabilities are conceptualised and implemented ‘from the inside’ (Miles & Huberman, 1994: 6), and unlikely to be able to develop an understanding that is essentially holistic rather than reductionist (Hindle, 2004: 584; Bygrave, 1989). Whereas empirical research often seeks to isolate key variables in causal chains, ascertaining what causes each and why, interpretive research such as this study tackles any phenomenon in situ as a part of a
**Theoretical enquiry process**

*Step 1* – Model building by extrapolation from literature on entrepreneurial universities, esp. that of Clark, combined with literature on corporate entrepreneurship capabilities. ‘Desk-top’ research.

*Step 2* – Creation of interim model for exposure to participants. Generation of questions for Round 1

*Step 3* – Round 1 Field interviews with participants. Recording, coding and analysis of qualitative data. Refinement of model by extracting clusters from coded data. Devise ‘map’. Model development and simplification for practitioner utility.

*Step 4* – Round 2 Field interviews with participants. Further elaboration and iteration of draft model. Further eliciting of views on key capability issues.

*Step 5* – Finalisation of Capabilities Model and Map with input from literature and from participants.

**Co-operative enquiry process**

*Step 1* – Identification of participant group of current and recent ex-vice-chancellors, industry experts and bureaucrats and technology transfer managers.

*Step 2* – Presentation of introductory paper, draft model, and explanation of study aims and processes. Ethics and consent clearance etc. Arrange fieldwork.

*Step 3* – Round 1 Field interviews with participants. Further elaboration and iteration of draft model. Further eliciting of views on key capability issues.

*Step 4* – Round 2 Field interviews with participants. Further elaboration and iteration of draft model. Further eliciting of views on key capability issues.

*Step 5* – Summary of Participants’ views taken into analysis and conclusions of study, and copy of final model returned to participants who assisted in development.

**Figure 1. Diagrammatic view of Theoretical and Co-operative Research Design**
whole organisation-in-its-environment system, taking a more naturalistic approach to how one issue exists in the context of others (Denzin & Lincoln, 2003b: 4-5). In fact, some suggest that “the meaning of a part can only be understood if it is related to the whole” (Alvesson & Skolding, 2000: 53). This is seen by researchers such as Bygrave, (1989) and Hindle (2004: 585) as particularly relevant for entrepreneurship research, as they claim that context appears to have great bearing on the actions and thoughts of individuals.

This study therefore seeks to gain the views of a selected group of senior university managers and experts in order to, primarily, build a conceptual model of organisational and managerial capabilities for the entrepreneurial university in Australia. Secondly, it will note how they think about entrepreneurial capability in their own and others’ universities and how they see themselves as operating organisationally and managerially. The study not only seeks to gain insight into their view of the business of building capability for entrepreneurship, but to additionally draw out their views on the entrepreneurial university per se.

Neither in respect of the model building, nor the investigation of views does this research attempt to identify with any accuracy what the senior managers actually do in their practice, or what really happens in their institutions. It quite simply and necessarily (as part of the interpretivist paradigm) takes their self-reported experience and observations and actions as the material for building the models of capability. Importantly, this study does not attempt to make very detailed theoretical exploration of how and why each capability is connected with each other aspect in potentially causal chains. In this sense, the work is not theory building or refining, but a model that loosely maps most of the key capability issues in a way that makes the key information available and meaningful to practising senior university managers. Many complex and dynamic relationships are likely to exist in many aspects of the model, and much of this theoretical exploration is readily explored in other literatures, say, for example, in that on organisational culture and leadership. This model-building is not seeking to elaborate all the complex connections, but rather to assemble the key capabilities in a way that helps practitioners ‘hold’ the picture in mind sufficiently to be able to work with it.
By choosing a sizeable group of varied participants each with slightly different perspectives on the issues, it is presumed that a range of views will be obtained and a picture will emerge from the self-reported data that has its own inherent validity. Since we are interested in how senior university managers might think about certain entrepreneurial phenomena, then the self-reported thoughts are valid data in and of themselves, given what is being studied.

Herr & Anderson indicate that there are normally three distinct interests of research in the pursuit of knowledge generation – the first a technical interest of cause, effect and control of a domain; the second, a practical interest of a hermeneutic and interpretive kind, and the third an emancipatory drive to release human potential (Herr & Anderson (2005: 27). It is the second sphere of interest at the heart of this present study, since it is “interpretive understanding (that) seeks to generate knowledge that informs and guides practical judgements” (Herr & Anderson, 2005: 27). In this view, a ‘Habermasian’ one, the practical interest in practical matters, or matters of practice, therefore is best served by interpretive methods to generate understanding of issues, since it is assumed that “objective reality can never be captured” (Denzin & Lincoln, 2003a: 8).

Additionally, this study is one of both description and explanation, to some extent of ‘theory’ verification and of ‘theory’ generation (Punch, 2005: 16), although in this case, the theory is being explored only to the extent that it signals capabilities for entrepreneurship. It examines what is the available relevant information to shape a model, and takes that literature-based model to the field for validation, further refinement and elaboration, testing relevance and accuracy in the context of Australian universities. It aims at describing what presently occurs and how the participants think about certain issues, and then to generate improved maps and practice models and frameworks that would assist practitioners in similar situations. Whereas description says what is the case, explanation attempts in part to address ‘why and how’ and to extend the reader’s understanding and practice.

An interpretivist approach is therefore preferred for research of this current kind, taking the view that an objective reality is likely on this question to reveal merely that some
universities _are_ more entrepreneurial than others, measurable perhaps by data on revenues sources, commercial successes, spin-offs, patents, joint measures and other performance indicators. However, whether such data, potentially quite objectively measurable, can reveal exactly what the organisational and managerial capabilities for entrepreneurship might be is more open to question. In order to develop and construct a notional model that _will have meaning_ for the practice of university management to the Australian managers themselves, the choice has therefore been made to attempt to conduct this research by sliding into the realities within the minds of a number of practitioners, in order to ascertain how they think and see themselves and their institutions as acting. It is also a choice to utilise this data as part of the building and refinement of the conceptual model, the main goal of the research.

The individual participants’ subjective constructed realities can form a range of views, or could coalesce to some extent to form a kind of consensus of view (Denzin & Lincoln, 2003a: 260). In either case, one of the subjective realities in this naturalistic style of research is that of the researcher, the person who is charged with interpreting all participants’ data with a degree of validity, since they are located in the world that they seek to both observe and question (Denzin & Lincoln, 2003b: 4).

### 3.2 The Researcher

Hindle (2004:578) takes the view that an author’s perspectives and general philosophy of research should be declared. Maxwell (2005: 38) agrees, noting that every study is undertaken from some observer’s perspective, and that it is generally better to identify one’s own as a researcher, so that one may consciously correct for excessive bias at the design stage, and also later tentatively use one’s own experiential knowledge for both evoking data, and then making sense of it. It also allows a more transparent and productive reflexivity in the research, where researcher reflection might make a significant contribution to fathoming the complex and ambiguous data that is often obtained in qualitative studies (Alvesson & Skoldberg, 2000: 2).
This author’s personal background and experience is of some significance in this study, and it would be ill-advised to ignore it. She is a senior academic who has held management roles at head of school, dean and, for a time, deputy vice chancellor levels for a total period of over ten years. She is a practising manager within the Australian university system, and therefore has certain views about the matters under investigation here. She also has a history of teaching, research and consulting within the organisational behaviour and management domains, and thus has some expertise, some prior knowledge of the expertise generally required to function well in a university setting and in a large and complex organisation of any kind. It is inevitable that the author would have some views on the current focus of research, and that her own experiences of entrepreneurial activity within a university setting would in some way influence the study, and its conduct even if not its outcomes. Gummesson calls this experience and knowledge “pre-understanding” (Gummesson, 1991: 12). He sees it as the researcher holding enough theoretical and conceptual understanding plus practical experience to be able to ‘read’ what is being said or what is found in the study, and that it assists the development of valid insight in management research in ways that are helpful, rather than negative.

The author’s personal philosophy of research might be labelled as “mild positivist with intuitivist leanings” (Hindle, 2004: 578), holding that many things can be relatively objectively known and measured, but that a systematic interpretation of qualitative data in particular is an excellent way to generate theories, models or propositions that can then be further validated and refined. This is especially so when we are considering the social and organisational worlds. Given that the interpretive approach accepts that “in the moment of asking a question and listening to the answer, the researcher has created, collected and already commenced the process of interpreting the data, and may even be in the process of developing a theory about it” (Cherry, 1999: 72), it is important that the researcher’s personal world view be at least acknowledged in the research process.

The fact that this researcher is potentially able to be seen as a colleague, a peer of sorts, by participants in this study, raises issues of relationship between the researcher and the researched. On the one hand, she is likely to be seen by participants as an ‘insider’ to some extent, someone from within the sector who knows about how Australian
universities operate and knows the total national context. Being familiar with the culture, policies, constraints and organisational nature of a university could in fact be advantageous to the gathering of relatively accurate data. Arguably, participants might feel safer and more able to describe in depth what they think and understand, especially under the cover of research confidentiality and anonymity. On the other hand, she may be seen as an ‘outsider’ from another institution in a situation where strong competition drives and limits much of what is willingly shared between universities. This issue was considered in the design of the study, to be elaborated later in this chapter.

The researcher’s background may in this case also facilitate the co-operative nature of the study. As will be seen in the next section, this study is designed with at least two opportunities for co-operation between the participants and the researcher. These are co-operative exchanges of both model verification and model generation (Punch, 2005: 16; Cherry, 1999: 74-75). This kind of co-operative, dialogic enquiry is relevant where ..”several persons in the setting under study are assumed to have knowledge and expertise valuable to the research enterprise. Their input and the dialogue between researchers and research participants is expected to enhance the authenticity and utility of the research findings” (Herr & Anderson, 2005: 99) A dialogical style of interaction, where the researcher is engaged in two person, two-way exchanges with each participant also relies on a level of trust and openness to collaboration with the researcher, especially where the researcher becomes in effect a ‘passionate participant’ (Denzin & Lincoln, 2003a: 261). These aspects of design will be elaborated later.

Whilst not a grounded theory, ethnographic, or action research approach, reflection and a degree of researcher self-awareness are both necessary in this study, as with any qualitative and interpretive research (Cherry, 1999). This researcher is a mature aged professional with training in interviewing skills, self-awareness and psychological self-analysis, and whilst it does not guarantee awareness of all bias in interpretation, it may allow the researcher’s reflections to contribute to the data gathering, data analysis and model validation and generation with a degree of validity.
3.3 The Design

In aiming at developing a model of organisational and managerial capability that will be of use to practitioners within the senior management levels of Australian universities, this study draws from both the literature and the practitioners themselves in order to elicit and synthesise both those models and partial elements that are available within the literature and those held within the senior managers’ minds as a result of their experience and perceptions.

3.3.1 The Preliminary Model

To do this, the study commenced with a drafted model. This was developed and synthesised from the available literature as discussed in the preceding chapter. It purposefully set out to combine two sets of literature. Firstly it gathered material on capabilities, both those explicitly noted and those more tacitly implied, for corporate entrepreneurship in organisations other than universities. It then blended this with what is known about the working elements of entrepreneurial universities, most particularly, the framework of Clark (1998, 2003, 2004a&b) as his could be seen as the seminal work in this field. The synthesis also noted some additional capabilities that could be drawn from other educationists’ works on entrepreneurship in universities (see Chapter 2).

The resulting draft model, that attempted to identify a composite picture of key organisational and managerial capabilities, emerged as Table 1. The Table was organised into Covin and Miles’ (1999) four types of corporate entrepreneurship, initially for clarity and to simplify the large amount of information in order to aid its comprehensibility. It was presented as a large spreadsheet summary of the literature, and can be viewed on the following pages. It was intended to act as a prompt, a stimulus for discussion with the participants of the study by pulling together what is already available in various strands of literature around various entrepreneurship frameworks.
Unlike a pure grounded theory research approach, that tends to commence with a metaphorical blank page, this study acknowledged that there is a literature on entrepreneurship in universities, and a much bigger one on corporate entrepreneurship generally. It was therefore considered inappropriate and unnecessary to begin with the ‘blank page’ (Luke & Verreyne, 2006: 4) of grounded theory work. It was considered as helpful to make a synthesis of the capability implications within that literature, largely for purposes of speeding the process of model development and refinement. This is especially important where the participants to be targeted for this model-building research are extremely busy people, and would be unlikely to consent to giving any more than a few hours of their time. The dominant and most important aspect of this study is the interpretivist work on model building to produce a practice model, and, as a secondary process, to gain some insight into the views of the participants about various aspects of entrepreneurial universities. However, there are small aspects of ‘nested’ or ‘embedded’ methodology within the main design, where one method (in this case model verification, a more traditional positivist style) is nested within the much more dominant design. The small nested elements are given less importance than the predominant interpretivist approach (Hesse-Biber & Leavy, 2006: 337).

It was deemed impracticable to gain sufficient access to senior university managers to conduct a participant-observer-style ethnographic study, although this method might have allowed a model development once the deeper cultural understandings and behaviours of the participants had been observed for long enough (Punch, 2005: 152-153). This study is ethnographic only to the extent that it seeks informants’ views, and notes their language and approach to a number of issues (Silverman, 2001: 54).

Since the agenda was not to work with each university in order to change its current practice, and the competitive nature of the university ‘industry’ in Australia would have made it unlikely that the researcher would have been admitted on this basis, an action research design was not undertaken. It was also quite impractical logistically to assemble all participants as an action research community. However, there are some small elements of an action research approach in the design to the extent that the study is intentionally co-operative, even if not fully collaborative and participants all agreed
to work within the study’s framework to ‘build a better model’ that might inform their own and others’ work in future. They were given the draft model of Table 1 as a way of potentially adding value to their own work, and were also given a re-cast model and progress report after Round 1, to prime the second iteration. In this sense they did have the opportunity to learn and reflect to some extent on their own and others’ contributions throughout the study. When this current research is concluded, participants will also be sent a final version of the model and related papers, so that they might share in the combined knowledge. This cyclic learning and understanding, deliberately entering a change process in a natural setting and normally taking place as a whole work group, is the essence of action research, as is the issue of control and ownership of the data and process. In this case, the researcher held sufficient control of both to mark this as ‘not action research’, and no intentional intervention or change was planned (Cherry, 1999; Freebody, 2003: 86; Herr & Anderson, 2005: 3).

In the same vein, whilst this study was not designed as an intentional and thorough discourse analysis, an approach intended to be about the processes of social construction, the talk and texts that make up our reality (Phillips & Hardy, 2002: 2), it did at least contain elements of attention to discourse during interviews and the analysis of that material. By trying to note some of the fluid and dynamic ways in which participants were inclined to use language, attribute meaning and categorise phenomena and concepts, the research was, in passing, noting the ways they construct the world in which they work and how they hold the boundaries of each of the categories they utilise in a dynamically changing higher education sector. However, this was a marginal approach and not a key part of the design as it also would have required very much more substantial access to participants than was going to be practicable.

The study was designed to tackle the model development in two stages or ‘rounds’. The draft Table 1 was sent to the identified sample of participants (details to follow in next section) by post or email, along with a letter of approach (see Appendix 1) and a brief introductory paper that framed the issues under investigation (see Appendix 2). Participants were then contacted by telephone or email to ascertain whether they would in fact consent to participate, and to arrange an interview a first interview time if so. Consent forms, in accordance with Ethics requirements (see Appendix 3), were also

<table>
<thead>
<tr>
<th>Covin &amp; Miles’ (1999) Typology of Corporate Entrepreneurship</th>
<th>Clark’s (1998, 2003, 2004a&amp;b) Elements of the Entrepreneurial University with Additional Factors from Corporate Entrepreneurship Literature Relevant to Australian Universities</th>
<th>Diversify the Funding base</th>
<th>Strengthen the Steering Core</th>
<th>Expand the Development Periphery</th>
<th>Stimulate the Academic Heartland</th>
<th>An Integrated Entrepreneurial Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustained Regeneration</strong></td>
<td>Culture, structure &amp; systems support innovation. A stream of new products, programs and services gives broader market presence, attracts new clientele and expands market share. e.g new trans-disciplinary PG course taps new professional market.</td>
<td>Devolved budget with high incentive, accountability. Outstanding business planning models for financial analysis and decisions. (Implies full academic unit understanding of all component costs).</td>
<td>Clear strategic entrepreneurial intent. Cohesive senior mgt team make fast decisions with appropriate consultation and participation. Programs culled as required. Strong market intelligence. Core/non-core clarity.</td>
<td>Adequate admin. &amp; specialist support staff/ systems for projects, contracts etc. Speedy accreditation processes. Low discipline boundaries. Flexible HR reward arrangements.</td>
<td>Top quality IP &amp; regular review of academic units. Learning org’n orientation and tolerance for initial errors. Perf. targets for everyone. Incentive at all levels &amp; for everyone. Management rewarded for inter-unit collaboration.</td>
<td>Culture actively supports innovation &amp; has HR reward/ incentive systems. Entrepreneurship education for all staff. Empowerment of middle managers (i.e. Heads of Dept, Deans). Organic structures &amp; capability for new projects.</td>
</tr>
<tr>
<td>TABLE 1 (Cont)</td>
<td>Explanation &amp; Examples</td>
<td>Diversify the Funding Base</td>
<td>Strengthen the Steering Core</td>
<td>Expand the Periphery</td>
<td>Stimulate Acad Heartland</td>
<td>Integrated Entrep’l Culture</td>
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<tr>
<td><strong>Organisational Renewal</strong></td>
<td></td>
<td>Revenue generation focus, not cost-cutting.</td>
<td>Devolution, delegation &amp; empowerment to all levels with good academic participation.</td>
<td>Build generous &amp; skilled technology transfer, legal and project office capability.</td>
<td>Recruit/retain people with top intellectual property.</td>
<td>Focus on empowering ‘middles’ e.g. heads and deans.</td>
</tr>
<tr>
<td></td>
<td>Strategic choice of new and improved processes and structures enable greater innovation to surface. Organisation <em>per se</em> may be target of renewal. e.g. Business incubator program, New Venture proposal competition, Entrepreneurial education for all staff, Intrapreneurship ideas scheme, improved infrastructure for change &amp; innovations.</td>
<td>Top intellectual property sought and cultivated.</td>
<td>Excellent policy frameworks &amp; management info systems as control systems.</td>
<td>Support &amp; incentive for external networking, esp. by managers.</td>
<td>Budgetary support for all networking, inc. conferences.</td>
<td>Flexible organisation structure capability.</td>
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<td></td>
<td></td>
<td>Student/support services commercial where possible.</td>
<td>Budgetary provision for corporate venturing and seed funding.</td>
<td>Coaching/mentoring of novice staff entrepreneurs in new projects/ventures.</td>
<td>Acknowledge &amp; learn from staff entrepreneurial role models.</td>
<td>Review all centralist policy &amp; practices &amp; devolve, delegate where possible.</td>
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<td></td>
<td></td>
<td>Venture capital &amp; seed funds created and/or accessed.</td>
<td>Performance targets and accountability for all at all levels.</td>
<td>Flexible HR &amp; employment systems to support incentive &amp; altered time fractions etc in movement in &amp; out of spin-off ventures.</td>
<td>Management development to: a) build pro-creativity attitudes &amp; to b) ensure managers learn supportive styles for new ventures, containing envy, conflict etc.</td>
<td>Leaders displaying humility, emotional intelligence, valuing quality, ethical work &amp; respecting collegiality.</td>
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<td></td>
<td></td>
<td>Extensive interaction with business &amp; community.</td>
<td>Close relationship between academic &amp; general staff and sections.</td>
<td>Liberal consulting policy to promote consulting linkages.</td>
<td>Especially encourage Social Science ent’ship.</td>
<td>Internal &amp; external networking given prominence, resources &amp; rewards.</td>
</tr>
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<td></td>
<td>Education &amp; skill dev’t on innovation and business planning for all staff.</td>
<td></td>
<td></td>
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<td></td>
<td>Team leaders &amp; managers trained in innovation management with entrepreneurship trg. for all staff.</td>
</tr>
<tr>
<td>Strategic Renewal</td>
<td>Explanation &amp; Examples</td>
<td>Diversify the Funding Base</td>
<td>Strengthen the Steering Core</td>
<td>Expand the Periphery</td>
<td>Stimulate Acad Heartland</td>
<td>Integrated Entrep’l Culture</td>
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<td></td>
<td>Alters/redefines university’s relationship with external environment, markets and competition as new strategy is implemented and new positioning is deliberately sought. e.g. New campus, new operations off-shore with new partners, on-line delivery mode to reach new markets ahead of competitors or to serve target market differently.</td>
<td>Outstanding market intelligence and analysis capability, both domestic and international. Well-developed links with professional associations, alumni groups, local business groups and government etc to locate opportunities for partnership and new market openings.</td>
<td>Excellent policy &amp; regulatory framework to control &amp; guide dev’t without excessive central bottlenecks and decision points. Top quality leadership and management development/ training/mentoring for all managers. Some elected representation of academic constituency at all management groups, including senior executive meeting to ensure participation. Intentional entrepreneurship plans for uni.</td>
<td>Ensure very strong a)negotiation skills &amp; b) interpersonal skills in all managers. Spare infrastructure capacity for support of projects/contracts Middle &amp; Snr. Managers good at identifying opportunities &amp; ‘selling’ them. Liberal consulting policy to encourage external engagement to locate opportunities Flexible HR policies for reward, employment arrangements etc for staff moving between uni and outside ventures.</td>
<td>Actively encourage and support participation in external networks and internal cross-disciplinary collaborations to boost social capital. Budgetary rewards &amp; incentives for individuals and units/teams who can and do find new markets, and breakthrough developments to serve them. Recruit and retain talented people to boost market attractiveness and capability.</td>
<td>Respect academic values and openly discuss any conflicts with commercial values. Promote &amp; develop highly strategic leaders, not rule-bound managers. Recognise entrepreneurial role models &amp; exemplars. Support &amp; reward new initiatives with high potential to normalise. Reward good cross – unit collaborative effort. Promote positive and successful entrepreneurial self-image as institution to inside and outside world.</td>
</tr>
<tr>
<td>Domain Redefinition</td>
<td>Shifts the university out of its current area of competition to another arena where it does not compete head-on with normal rivals. A ‘first mover’ position into a different line of business. e.g. major shift to teaching-only delivery in online and distance mode only</td>
<td>Rare for Australian universities as they are constrained by both the State Parliamentary Acts that establish their educational mission, and by the profiles annually negotiated with DEST. i.e. There is limited capacity for corporate entrepreneurship of this radical kind at present.</td>
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included in this initial approach package and duly signed and retrieved for all participants.

3.3.2 The Questions for Round 1

A list of questions (see Appendix 4) was devised that would generate dialogue between the interviewer and the participants and encourage the dialogue to cover the main features of the current Australian context for universities, the views held by the participants about certain capabilities issues related to the entrepreneurial concept in the university, their views on their own and others’ best practices in this domain, and their response to - either endorsement of or disagreement with - the prompt Table 1 document. The questions were intentionally semi-structured, and were generally able to be tackled in whichever order that the participant wished to respond and cover the territory. Whilst the researcher raised the questions more or less in sequence, it was expected that highly articulate senior managers would tend to take the discussion where they wanted it and cover the territory in their own way. The list of questions was always used as an anchor to which the researcher returned whenever a further prompt was required in interview, and additional questions of clarification were also posed as needed. This semi-structured approach did ensure that all questions were put, but not necessarily in a standard sequence for all participants. This is entirely consistent with Silverman’s (2001: 229) views on flexible and adaptive interviewing and with the broadly held view of qualitative research as a whole that both the design and the execution of good qualitative work requires a degree of flexibility, a willingness to move from a pre-determined plan as a result of the interaction with participants, a certain willingness to follow as well as to lead (Maxwell 2005: 3; Freebody, 2003: 133). Semi-structured methods ensure that a core of issues is covered but also allow space for other related and sometimes unexpected issues to also arise.

3.3.3 The Participants and Sampling Issues.

In qualitative research, sampling is not usually intended to be fully representative of a larger population for purposes of attaching probability to any finding and thence to any
predictive capacity of the study. Neither is it intended to be purely a convenience sample (Maxwell, 2005: 88). It is usually a more purposeful selection of subjects or participants based around certain criteria and intended to capture some of the heterogeneity of the population(s) under study, to make certain comparisons and to capture some especially pertinent ‘critical cases’, and to perhaps achieve a degree of representativeness or typicality (Maxwell, 2005: 89). It should be a sample that can speak with sufficient authority about the issues under examination, having a good grasp of the theoretical, conceptual and, possibly, operational levels of the subject under scrutiny. It may also involve the deliberate selection of certain groups or locations as well as people to provide some of that authority.

For this study, a sample of seventeen was eventually located. This number was considered sufficiently large for an interpretive study to offer balance and diversity of views, whilst still generating a manageable volume of data. The sample was comprised of nine (9) current or recently retired vice-chancellors, the chief executives charged with strategic management and leadership of Australian universities. These senior practitioners were selected as the prime shapers of entrepreneurship goals and methods within a university, those who carry any council intent into internal organisation action. They also carry the significant authority of having ‘lived’ experience as leaders and managers of Australian universities in recent times as those institutions have undergone many transformations and adaptations that have taken them closer to ‘the entrepreneurial agenda’.

The sample also included four (4) higher education experts and commentator/researchers, two of them senior bureaucrats from the Australian Government Department of Education, Science and Training that provides policy and administration to the public universities of the nation. This group of four was chosen specifically for their outstanding and well-respected wide over-view of the sector and their extensive knowledge and understanding of its policy frameworks and general performance. Such people were also well-placed to know of some ‘best practice’ instances of entrepreneurial capability within Australian universities, and some had international benchmarks with which to compare those examples.
The third part of the sample included four (4) senior technology transfer and commercialisation managers from larger universities, those charged with the daily task of ‘being entrepreneurial’. In many ways, these practitioners were seen as being at the coal face of the entrepreneurial work and therefore probably well placed to say what organisational and managerial capabilities they thought their institutions would need to develop to fully support entrepreneurial intentions and outcomes.

In total, the seventeen participants who agreed to join the study provided a range of perspectives on the same issues, and a level of authoritative ability to contribute meaningfully to the conceptual work of developing a model of practical use, and to offer related comment on their experiences of working within the universities towards being more entrepreneurial, whatever their preferred language around these phenomena.

This purposeful sampling also deliberately targeted participants from a diverse range of university types (Miles & Huberman, 1994: 28). The researcher opted to contact participants from the State of Victoria and from the Australian Capital Territory only. This was fundamentally a matter of convenience and limited funding support for travel. However, within those states/regions, the range of university types is wide, and in fact, the ‘convenience’ sample also has almost maximum possible variation of type within it. There are small, narrow profile universities, large generalist institutions, multi-campus, regional, rural and urban types, research intensive and teaching intensive, all represented in this sample. Despite the fact that there was no design intent for this study to be empirically representative and predictive of the whole of Australia, in fact, the diversity of the sample is very substantially reflective of the kinds of institutions and issues that would occur across the entire country. The choice of a ‘mixed’ sample of vice-chancellors, industry experts and technology transfer managers is also consistent with Miles & Huberman’s (1994: 28) notion of a stratified sample with a degree of in-built triangulation capacity that can both illustrate sub-group views and potentially help establish a more consensual model or view in the final analysis. The sample for this study would therefore be described as having maximum variation, a level of stratification, being largely convenience based, being typical of a purposeful sampling
technique and above all, being both willing and eminently able to participate in the co-operative task of model development.

It is perhaps worth noting here that such a sample is not perfect in that it does not allow triangulation with, say, other senior university managers beyond the vice-chancellors who might equally have had very relevant views on organisational and managerial capabilities for the entrepreneurial university. It does not capture every vice-chancellor’s views in every university in Australia. Equally, it does not incorporate the views of more junior academic and administrative personnel within the universities, those who could hold very clear and relevant views about capabilities, having experienced the best and perhaps worst of the senior management’s practice. The sample limitations were of two essential kinds: practical limits of costs and scale for this study, and limits of access to participants. In some ways, the most senior participants were also the most easily accessible for a study of this kind, being able to self-authorise their participation in the research and being directly approachable. More junior participants would have required a complex negotiated access and ethics clearance with their own managers, and it was decided not to do this. In fact, the focus of the study on the models of practice built and understood by senior managers did allow the sample to be comprised mostly of people from that group and still provide a rich range of responses.

### 3.3.4 Round 1 – Interviews and Early Data Analysis.

Most interviews were conducted in the participant’s place of work, with four exceptional instances out of the total thirty-four interviews where the participants offered to come to the interviewer, seeing this as more convenient at that time and on that date. Each interview was of approximately one to one-and-a-half hours’ duration and each interview was tape recorded in full. Few written notes were taken during interviews, leaving interviewer attention free for maximum listening and observation, and to be more fully engaged in the dialogue. Although all participants had signed consent forms and agreed to join the study, as with any qualitative research, they retained substantial control over what they actually chose to say by way of response to
questions. None was observed to be uncomfortable with the research interview process, and many appeared to enjoy the dialogue and the nature of the exchange, often treating it as a chance to air their views with passion. Many were curious as to what responses had been received from other participants, both in Round 1, and more so in Round 2 later. It was therefore assumed that participants were generally comfortable and in control of the collaborative process sufficiently to give candid responses. Much of the material gathered in this Round 1 suggested that they did indeed feel free enough to be very frank, about both personal and institutional strengths and weaknesses.

Tapes were replayed after the interviews and extensive notes taken at that time, transferring key points and quotations to a template (see Appendix 5). This did allow for some excerpts of verbatim transcript, but much of the material was noted as points and lines of argument or opinion. Some reflective comments by the researcher were also included on each template, noting the general tenor of the interview, the non-verbal and paralinguistic cues that the participants seemed to demonstrate, and the researcher’s sense of what the participant’s responses may mean or indicate beyond the precise words said (Maxwell, 2005: 94-95). That is, a small and preliminary interpretation was recorded. Gummesson recommends this ‘notes after’ approach as he sees it leaving the researcher more alert and available during the interview, and more able to capture some of the non-verbal and intuitive impressions, generally less likely if the researcher is furiously taking full notes throughout (Gummesson, 1991: 109-111). This is also consistent with the data reduction stage that is often the first stage of data analysis (Miles & Huberman, 1994: 4), since qualitative research often generates massive amounts of data, especially if full interview transcripts are employed. By transferring notes, reflections and only selected pertinent direct verbatim quotes, the volume of data was considerably reduced. It is also in effect a first data interpretation step, since there is undoubtedly some researcher selectivity in both choosing to note certain aspects and ignore others and then in making choices to ‘fracture’ the data in particular ways at point of initial coding. However, one of the goals of this fracturing is to begin the process of interpretation and the search for some meaning in the otherwise solid mass of aggregated data (Maxwell, 2005: 97).
Once all tape recordings from Round 1 had been transferred to notes, the material was analysed by coding and seeking out themes, the second stage of data reduction according to Miles & Huberman (1994: 4). To achieve this, each set of notes taken from the taped interviews was manually examined by the researcher. Each and every point, quote or section was given an initial code. The process was open-ended (Punch, 2005: 208), allowing as many codes to occur as were needed to capture the range of all ‘items’. It is generally considered that this stage of analysis has run its course when all the incidents/items have been classified, and recurring patterns emerge but no ‘new’ categories or codes arise (Lincoln & Guba, 1985). Only one revision to the initial codes took place, where one category was later split into two codes, as it appeared that the breadth of item falling under the initial code made the code inadequate and the instances became too bifurcated. This resulted in a total of twenty-five (25) codes. The labels applied to each code were devised without reference to any theoretical base, and simply categorised items or pieces of data that appeared to have a similarity. Responses to a question about examples of best practice within Australia, along with views about why they are such, were grouped and listed separately and not included in the more general coding.

Several data displays were devised to sort and show all data in the coded categories. One method of display laid out the key points of response for each participant, grouping the three sub-sets within the sample in order to see whether vice-chancellors would be making very different comment, say, from technology transfer managers or bureaucrat observers or experts, that is, whether perspective made an evident difference. Another display simply showed points and comments aggregated according to the coded categories. All data will be presented in later chapters.

In a further step of data reduction, but also this time involving axial, theoretical coding, (Punch, 2005: 209), the coded data was again manually sorted, this time into clusters where each of the codes within each cluster appeared to have some similarity or evident link with the others in that group. That is, some higher-order, overarching categories emerge from the open coding, and they are interconnected with each other, sharing some axis of conceptual connection. This is effectively another level of interpretation,
as some researcher interpretation and perception may shape the clusters actually identified (Miles & Huberman, 1994: 55). Five clusters were established.

The five (5) clusters were then displayed visually, forming a diagram or ‘map’, where some possible linkages between clusters were flagged, and a more conceptual ‘whole’ theorised. This is what Miles & Huberman (1994: 134) refer to as ‘cognitive mapping’. A considerable degree of interpretation was attempted at this point to identify the five clusters and to make sense of the clusters in the light of what participants had been saying, and in the light of what the literature indicated might be the key capability issues.

3.3.5 Round 2 Interviews and Later Data Analysis.

The emerging model revealed in this cluster cognitive map was compared with the original categories of Clark’s (1998) framework for the entrepreneurial university, and some differences and similarities noted. A re-working of Table 1 was made, sorting all points about capabilities from Table 1 into the new five clusters in order to see what levels of detail and clarity existed for each cluster in terms of models of organisational and managerial capability. (This re-worked version is called Table 3 and it appears at Appendix 6).

An additional list of semi-structured questions was devised to explore some of the differences and especially those elements of the emerging model that seemed less clearly detailed in terms of capabilities (see Appendix 7). These clusters were loosely referred to as context and strategy. Questions sought to draw out more meaningful practice implications from the participants for the model of capabilities, and to elicit either some endorsement of the emerging model, or a differing interpretation that could help refine or refocus it.

Participants were sent a summary of the findings to date (see Appendix 8), a copy of the diagrams (presented in later chapters) and a copy of the re-worked Table 1, now called Table 3 (see later chapters). Round 2 interviews were then arranged and conducted.
These interviews were designed to be (and in fact were found to be) of shorter duration than those of the first round, each taking from twenty-five to forty minutes. Owing to difficulties in setting up some appointments and to contain field costs, one Victorian participant was interviewed by telephone, as were three Canberra-based participants. The telephone interviews were done using speaker, hands-free facility and a tape recorder placed next to the telephone to capture sound recording. Participants had all the pre-sent papers in front of them at the pre-arranged time of the telephone call from the researcher. Whilst this did not allow visual cues to be noted, in all other respects, the nature of the interviews of this type was not detectably different from those that were conducted face-to-face. Participants, all well accustomed to working via telephone hook-ups and speaker ‘phone calls by virtue of their jobs, had no evident difficulty with the mode.

Again, all interview data tapes from Round 2 were replayed by the researcher for detailed note-taking. A template (see Appendix 9) was developed to assist in this process. Coding was again undertaken, on this second iteration, using the same codes where additional points and comments were clearly endorsing or adding to the thread established in Round 1. Where a new concept or issue emerged, more clearly related to the particular focus of the Round 2 questions that placed special attention on the context and strategy clusters, it was identified by a new code. Given that most questions had been very much more specific in this round, it was not expected that a large number of new codes would be required. In fact, responses were mostly quite concrete and focused, and coding became difficult to do on a thematic basis. All data that could not readily be related and attached to the codes used in Round 1 analysis was therefore treated in a slightly different manner.

Remaining flexible and ‘true’ to the nature of the data, participants’ remaining responses were assembled on a question-by-question basis, as this better enabled an overview of what was generally being said and helped inform the emerging models better than a coding process. Where data is already ‘fractured’ to some extent, it is generally suggested that one ought not to be overly obsessed with further splitting into coded themes, as this may actually mitigate against a more holistic sense of meaning (Maxwell, 2005: 97-99). In this study, better interpretation of the remaining data was
possible by leaving the remaining data assembled around the questions that had prompted the responses and devising a ‘key points’ supplement to summarise main issues (see following chapters).

3.4 Final Analysis, Synthesis and Interpretation.

The study was concluded by consideration of all materials from both Rounds 1 and 2 as a whole. A master model of organisational and managerial capabilities was described, noting that issues of implementation within universities appear to depend on some aspects beyond the model itself. Qualitative research can often identify issues and consequences that are unintended, as well as those that are intended (Freebody, 2003: 41) and this study appeared to do just that. A number of issues emerged that had not been the primary focus of exploration, and yet appeared to have high levels of significance for the capability issues that are the substance of the model being developed. These issues are discussed in later chapters along with the implications for Australian universities.

In all of the foregoing, it can be seen that methodologically, the study is thus formulated to be a fundamentally interpretive one, based on a literature-informed initial model that is developed by dialogical processes with a sample of practitioners and related people with knowledge of entrepreneurial processes in Australian universities. The contributions of the practitioners to the model development represent their own interpretation of the entrepreneurial issues for universities. The re-developed and refined model that identifies the main organisational and managerial capability issues for universities in the current context represents the interpretation of both the practitioners, the literature and this researcher. It also signals a number of other related issues of high significance for Australian university managers and leaders, issues that may actually underpin successful capability development or are seen, at least, to be connected with it.
Chapter 4 ‘Round 1’ Results and Analysis - An Emerging Model

4.0 Chapter Overview

In this chapter, the first section will give a general overview of the data summaries, displays and tables that have been generated from the Round 1 interviews. It will make brief note of the nature of the data and the sources and locations of each part to assist the reader in referring to detailed data displays and appendices where necessary.

It is followed by more detailed description of each of the themes that emerge via the coding processes undertaken that identified patterns and themes within the data. This description is done in several sections, each according to the question or questions that most prominently (but not exclusively) generated the data appearing under that code. The chapter then explores and interprets some of the implications of this data, making some observations and reflections about both the data itself and about the process of
enquiry and co-operation. This then concludes with a final section where the emerging model is reconfigured and simplified for the Round 2 data gathering and validating stage of the study.

4.1 Aggregated and Coded Data from Round 1 Interviews

As the preceding chapter indicates, this study attempts to construct a model of organisational and managerial capabilities for the entrepreneurial university in Australia, doing so from the available literature and then developing it further with and for senior university managers and practitioners. The data gathering commences with presentation of a synthesised model, Table 1, organised around Covin and Miles’ (1999) typology and drawn from the literature, especially Clark and corporate entrepreneurship material as described in Chapter 3.

The list of indicative questions for Round 1, shown at Appendix 4, drew participants into dialogical exchanges where they not only provided responses to the questions asked, but also embellished on a number of related but unasked matters. They commented on the presented model with a view to making it more comprehensive, accurate and practically usable for senior university managers.

The extensive notes drawn from the taped interviews were then manually sifted and coded to assign a code to each and every point. Many verbatim quotes were transcribed, but not all dialogue in all interviews was transcribed in full. The coded data, eventually sorted and assembled around twenty-five initial codes, is shown at Appendix 10, and the full list of codes created for purposes of sorting all Round 1 data is listed in Appendix 11.

The large data display of Appendix 10 does several things. It gives each code a name and briefly describes the nature of the thread or theme in the first column. It then lists the key points and ideas that emerge from all seventeen recorded interviews, and notes the numeric label of each of the participants who responded in this way. Neither quotations nor points and ideas are attributed to a particular individual, so the listed participant numbers simply provide anonymity for participants and signal how many
participants had something to say about this particular issue. On the right hand column of Appendix 10, verbatim quotes taken from various participants are set out. The researcher has seen these as having some potential relevance to the theme being identified and specifically transcribed them for possible later inclusion in analysis and discussion. Codes were assigned to ideas that appeared to the researcher to have a recurring theme, recurring language or meaning or general intent. Thus each code represents a theme.

Data extracted mainly from responses to Questions 1 to 5 (codes R, DevE, Cons, GES, CultO/C, Enab, CD, ExecTC, ExecTC(Lead), OutL, BusP, MarkK, Pers, Dec’n, and AcEx) are shown in Appendix 11 and generated fifteen (15) different coded themes. (Note that both the specific codes and what they might reveal are discussed in the following sections. Note also that the remaining ten (10) codes were generated largely from responses to other questions. In all cases, whilst certain questions tended to predominantly evoke certain kinds of responses, relevant comments to the themes also appeared as response to other questions and were coded according to that theme, wherever in the interview they had risen). The fifteen codes/themes emerging mostly from the first five questions were largely issues connected with various capabilities that were either fully or partly encapsulated in Table 1 and about which the participants chose to comment further.

In almost all cases, the organisational and managerial capabilities that were either explicitly or implicitly resident in Table 1 were endorsed by participants. Very rarely was an item challenged, and on the one or two occasions where a participant took exception to an item in Table 1, once meaning was clarified and some conditions or provisos attached to it, the point was accepted as worthy of inclusion in the capabilities model. That is, Table 1 did not provoke significant disagreement and actually provoked a degree of consensual interested and approving comment. Many participants overtly used Table 1 as a kind of checklist by which to do a rule-of-thumb check on their own institutions’ current practices, capabilities and mechanisms for entrepreneurship. Some noted where they could see that their university still had more work to do: others noted where they felt they were already holding substantial dynamic capability for entrepreneurship. A degree of genuine co-operative research appeared to have occurred in that most participants had genuine interest in what was emerging, and some had very
evident interest by the time Round 2 interviews were taking place, being quite engaged enough to be curious about how others were responding. More will be noted later about the varying levels of co-operation and engagement.

Questions 7 to 9 tended to deliver responses that generated a further five (5) codes (GFC, RQFI, TP, GEMI, and OPP), and a considerable amount of animated and wide-ranging discussion about the ‘state of the nation’ generally for Australian universities. The questions specifically probed the impact, present and likely future, of the government policy and regulatory frameworks, matters about which all participants held strong views. They provided some of the significant context within which various capabilities are needed. However, the views did present considerable consistency across all participants, so that only five codes appeared to ‘trap’ the range of responses.

Questions 10 and 11 were very specifically about the planned Research Quality Framework (the Australian Government’s foreshadowed approximate equivalent of the British RAE) and its likely impact on entrepreneurial activities in universities, and the responses were readily sorted into just two additional codes (RIS and TEI).

Questions 12 and 13, were designed to draw out the participants’ understanding of the term ‘entrepreneurial’ in their university context, and to explore the meaning and place they attached to the concept. Whilst this material did not so specifically relate to the capabilities model itself, it most certainly helped locate the participants’ understanding and perceptions of capabilities for entrepreneurship within the wider university strategic thinking and planning. These questions, as well as some other earlier parts of the interviews, delivered a rich range of responses, revealing great complexity in the views of what entrepreneurship is about for universities, what its correct role and place is, and whether the language of entrepreneurship can find a place in senior university managers’ lexicons, quite separately from whether the concepts and practices can. Three codes (ELC, ES and EStrat) were developed to cover and capture these ideas.

The remaining codes (HT, MT, LT), additional to the twenty-five that were generated around interview content, were developed simply to find a coding system to note the interviewer’s observations about the extent to which the participants seemed to engage with Table 1, and to what extent they seemed animated by and engaged with the topic.
itself. These are more in the vein of collected interviewer observations and process reflections, along with a smaller number of relevant quotes from participants. They were recorded in case they would help to interpret the content patterns at a later stage. They are listed at Appendix 12.

One code (BC) was especially reserved for aggregating all items where Clark’s (1998) seminal work on entrepreneurial universities was specifically mentioned in some way – either to endorse those ideas or challenge them, since his model was being used as the springboard, the main basis for the capabilities model. These are shown at Appendix 13.

Question 6 prompted perceptions by participants of best practice examples within Australia, or elsewhere – their view of where the universities had ‘got it right’ regarding entrepreneurship. They were invited to explain why they thought these were good practices. These responses appear at Appendix 14.

Whereas Appendix 10 sorted interview data into coded themes, an additional attempt to sort data was made that listed key points according to the three parts of the sample of participants – namely – those responses of vice chancellors and recent ex-vice chancellors, those responses of higher education industry experts, bureaucrats and commentators, and lastly, the comments of technology transfer and commercialisation managers. These re-sorted data appear at Appendix 15. This display and summary of the data was intended to identify and explore any significant differences in the three constituent ‘groups’ of the sample, beyond those that might have been expected to originate purely from their differing levels of contact and familiarity with the day-to-day management of a university, and their role duties in general. Whilst not a focal part of the study, it was considered a potentially useful way to examine some of the diversity of response without any attempt to screen out difference, or to ‘average’ responses, a data handling approach quite at odds with the interpretivist mode of the entire study.

4.2 Themes in the Data.

Having confirmed virtually all of the material in the Table 1 synthesis of the literature, Appendix 10 identifies some fifteen themes in the coded interview content data. Each is
listed and described below, along with some summary observations about the nature of the comments and ideas presented by the participants in relation to this theme. For a comprehensive listing of all points and quotations, the reader should go directly to Appendix 10.

4.2.1 Code R– Risk, Risk Management issues (either disposed to or averse to)

Eight of the participants made comment about matters of risk management, generally highlighting the balancing act that Australian universities face when they seek to be entrepreneurial. Many noted that governments at both Federal and State levels were inclined to over-control and audit, placing restrictions and substantial accountability requirements on all public funding. The consequences of a public financial failure (as in the terms used by Murray & Dollery, 2004) were feared quite plainly by many, and there are enough recent examples around Australia to make the fear a realistic one. This tends to make senior university executives cautious and anxious about what they perceive as excessive risk. Undoubtedly though, there is an acknowledged need to place some framework around decisions within the university that curb excessive risk whilst still enabling some entrepreneurial initiative to survive. On balance, the comments suggest that most saw that risk aversion was winning the balancing act at present, and that entrepreneurial initiative was probably losing.

In terms of organisational and managerial capability, the theme suggests a need for good and swift risk assessment procedures, which of course, relies on some business planning and financial modelling skills. Additionally, a leadership climate is needed that encourages initiative, does not paralyse senior managers with fear of failure, and recognises that some risk-taking needs to be built into the senior management team’s temperament, if not driven fully by the vice-chancellor, then at least close to that level. This points to matters of executive selection and appointment within Australian universities. One of the key criteria for suitability at very senior level could very reasonably be a demonstrated capability for risk assessment and containment, whilst simultaneously enabling significant entrepreneurial initiative to occur.
4.2.2 Code DevE- Devolution, Delegation, Empowerment

Twelve participants offered comments that are grouped under this theme and many had very well-articulated views. Table 1 contains many points about empowerment most especially of middle managers (such as deans and heads of department). It also pointedly identifies the need for delegation of financial responsibility and discretion coupled with the high need for academic participation, all of which emerges clearly from the literature in Chapter 2. Participants’ comments around these issues signalled a very high level of agreement with the literature and Table 1, and also pointed to a more-or-less ‘make or break’ quality embedded within this issue.

Where empowerment and delegation is well-handled, with clear guidelines and limits, and with high levels of trust and mutual respect, then entrepreneurship could feasibly thrive within the university. Where there is limited trust, and excessive control held at or near the top of the university, it is noted that staff will soon generally lose innovativeness and motivation, and have low commitment to whatever challenges are being tackled. The preferred control device that was endorsed by the comments and quotations is that of clarity of strategic vision. Where university members know and feel committed to the mission, the vision and the strategies for working in that direction, then they can be safely empowered and ‘licensed’ within that framework. Where they either do not know what the chief executive’s vision is, or do not agree with it, or feel deeply mistrusted to do the right thing, they are likely to exhibit counterproductive behaviour and to innovate less.

The capability issues arising here are vital. On the managerial front, much points to the ways in which senior university managers deal with power and control. If they have an inclination to be the ‘control freaks’ that several participants mentioned as entrepreneurial anathema, then no amount of delegation policy or rhetoric will be effective. Senior managers therefore must have a capacity to trust, to tolerate a level of loss of direct control and to learn to rely on structured delegations, limits and ‘rules’ to prevent poor decisions. They must have excellent trusting and respectful relationships with their key middle managers in particular. This underpins empowerment. So too does the low ego-needs that can allow senior executives to share power and not feel diminished by their middle managers’ power, ability and success. A desire to hoard all
credit and to give little acknowledgement to others’ talents and successes is potentially what drives much ‘control freak’ behaviour. A corollary organisational capability issue is for the university to have well codified delegations that give managers clear guidelines about how far they may act unilaterally, and what issues require consultation and participation, so that people are more likely to feel ‘in the loop’ rather than sitting powerlessly outside it.

4.2.3 Code Cons – Consulting activity, consulting policy

Only three participants expressly commented on this issue despite the fact that it was in fact specifically mentioned in Table 1. They generally felt that the key issue with such a policy was to provide sufficient incentive for academics in particular to want to undertake consulting work, especially as this often leads to developing highly valuable relationships with the outside world. The few comments hinted at the difficulty this has been in the past, both from a structural point of view, that is, by whom and from where in the university will consulting be managed, and then from a monetary point of view, ‘who gains’? Who is allowed to keep surplus, own contacts, authorise time to be spent on consulting and so forth?

The capability issue is one of capacity to write well-thought out organisational policy that is developed collaboratively so that it meets multiple stakeholders’ needs and is not resented. It must also balance the desires of individuals with the institutional needs.

4.2.4 Code GES- Good Entrepreneurial Staff

Seven participants had some comment to make under this theme. The general thrust of their contribution is that they note that some individuals are naturally more entrepreneurial than others, have more ‘raw talent’ and that those very capable people need to be used as role models, and given sufficient scope to enthuse and inspire others who may learn from them. It is acknowledged that some people in universities will never be highly entrepreneurial, but it is seen as very important to find and retain some who are that way inclined, and then, importantly, to support them with good incentives and encouragement, and to perhaps avoid making life so well-resourced and
comfortable that they lose that entrepreneurial drive. At least one comment specifically suggested that academics did need to feel a little ‘lean and hungry’ to be motivated enough to chase their own resources outside the university.

Finding and retaining naturally entrepreneurial staff implies an organisational capability at recruitment and selection, to both identify, retain and ‘incentivate’ such talented individuals, and these capabilities largely lie within the strategic human resources area. It also links back to the earlier theme relating to empowerment, a more directly ‘line managerial’ capability.

4.2.5 Code CultO/C – Culture of openness, confidence, trust, positive for innovation.

All seventeen participants made some comment that could be aggregated under this theme. Culture is an admittedly broad concept, and one that the literature also treats quite broadly, with many items in the Table 1 synthesis (both from Clark (1998) and other sources) ranging from issues of human resource management policy for promotion, reward and professional development through to issues of organisational structure and flexibility, and even to values.

Many of the participants believed that an entrepreneurial culture would need most of the people in an entrepreneurial university to be entrepreneurial, whilst others held that only some would need to personally act this way, although they would certainly need senior support for that behaviour. There was strong general view that the culture needed to be positive, outward-looking and engaged with the world as viewed from outside the institution, and that it would need to be trusting, communicative, rewarding, open, with low and easily crossable boundaries between units (both laterally and vertically), and motivating for all levels when viewed internally. This was contrasted with the most adverse culture for entrepreneurship, in-turned, bureaucratic, negative, dependent and blaming, obstructive, fearful, segmented (again both laterally and vertically) and distrusting of senior management.

Some participants thought that they had achieved a positive entrepreneurial culture internally, but others clearly thought that there was some distance to go, believing that
their university was still driven by other agendas, and that entrepreneurship was just barely ‘skin deep’. The issue of being outward looking as a whole culture appeared tangentially here for the first time, and was later given strong emphasis in another of the dedicated codes. This issue indicates a number of organisational capabilities are needed to facilitate the outward focus, and equally, a number of managerial and attitudinal capabilities are required to even register the desire and compelling need to do so.

The required capabilities for creating an open and trusting culture that is oriented towards entrepreneurship are very wide-ranging. At very least, the strong implication is that leadership is possibly the most crucial capability, since it is leadership that generally has the strongest hand to play in shaping organisational cultures, even though leaders do not ‘own’ the culture. It is a kind of manifestation of every university members’ actions and beliefs. However, leaders do have the power to set and control communication patterns and reward patterns and this also points to a strong need for a strategic human resource management capability, one that can devise reward systems that enable and support entrepreneurship. ‘Leadership’ does not imply only the single senior vice chancellor as leader. In the diverse and organisationally loose structures that are universities in Australia, it must imply leadership team or group. The entrepreneurial culture will be the product of a senior management team who can all provide unified leadership to generate that open, trusting and motivated culture that looks out and seeks to engage. Again, managerial and leadership quality is the product of a capability for superior executive selection and, to some extent, training and development. A university needs senior people who have the personal qualities and the professional managerial skills to create the most appropriate entrepreneurial culture. Without that leadership capability, the culture may well be of the obstructive and unhelpful kind.

4.2.6 Code Enab – enabling infrastructure including legal and technology transfer capability, organisational structure, internal flexibility.

Fifteen of the participants offered comments that were grouped under this code, which described many of the internal organisational systems and structures that would enable
a university to be entrepreneurial. Whilst there was little disagreement with the many enabling components captured within the Table 1 synthesis, the extensive number of points and quotations in this code did tailor the enabling ideas specifically to an Australian university context.

Much of the response pointed to a need for technology transfer and commercialisation specialist expertise close to the academic coal-face in universities. It was often seen as most desirable in a ‘hub and spokes’ configuration with central co-ordination and more local out-posted experts who could work alongside academics to assist with identification of intellectual property of all kinds and help locate external outlets for it, suggesting that “. . . academics often need interpreters or go-betweens to identify what they have to offer the outside world” (see Appendix 10). This is seen as especially useful for humanities and social science academic areas where commercial potential and awareness is not always plentiful.

Also seen as necessary were commercially astute and service-oriented legal specialists who could speedily provide patent, licensing, contract and other advice as ventures and commercial opportunities were being explored and locked into place. Expert financial analysis and advice were also seen as highly desirable, and especially helpful if senior finance people were expert as devising some ‘slack’ resource options to utilise for seeding certain options. Some spare financial capacity was seen as necessary, since trying to ‘bootstrap’ all entrepreneurial initiatives without any small start-up funds was viewed as likely to fail. Resource ‘slack’ in the form of time was also mentioned as an enabler of academic initiative and innovation generally. In fact, several participants made the point that enabling entrepreneurship in the university would be exceedingly difficult if there was not already a bed-rock of plain good, skilled management. One commented that “Compared with the private enterprise world I knew, there is a lot of plain bad management in universities, just plain amateurish. It doesn’t help get entrepreneurial things happening.” (see Appendix 10).

A required capability for external engagement appears several times in this ‘enabling’ theme, and the implication is that such infrastructure needs to be built both physically in the form of ‘shop front’ facilities and excellent physical buildings, but also in the form of expert human resources who know industry and the markets well. Many
indicate that a minimalist investment in such infrastructures and enabling devices will be inadequate and ineffective. It requires a serious commitment, an investment well ahead of immediately foreseeable returns of an entrepreneurial kind. A number of the participants also pointed out that the apparatus of engagement is actually the entire academic staff of the institution, from top to bottom. There was particular reference to the need for senior managers to role model this outward facing stance, and a recognition that the absence of a strong knowledge of and relationship with the external stakeholders of the university at and close to the vice–chancellor level, would be detrimental to any university’s entrepreneurial intentions. More will be said later under the code OutL regarding this.

Apart from the centres, units, systems and experts that are clearly part of entrepreneurial enabling, the other issue most discussed by participants was one of internal organisational structure and internal flexibility and responsiveness. It is a non-bureaucratic willingness and capacity to work across disciplines, across faculties, to assemble teams and project groups at short notice and to share information and opportunities for the best possible client value. This is seen as both structural and a cultural aspect of enabling.

4.2.7 Code CD – Course development, including speedy accreditation processes

Only seven of the participants made comments that could be grouped under this code, and each was in some way referring to the need in the entrepreneurial university for deep and leading edge knowledge banks, and for the speedy and nimble capacity to arrange and re-arrange that knowledge and curricula to meet emerging market needs and trends. They also referred to the need to be able to package and deliver excellent course material in new ways, finding new markets or offering existing ones a better or more convenient alternative. In the worst case scenario, ossified courseware might be taught by academics who are no longer in touch with the needs of industry or with the leading edge of their field. They might perpetuate existing courses and resist all internal efforts to change courses, to renovate them, to close those that are moribund, or to institute a brand new one quickly to capture an emerging market niche. This would represent not only bureaucratic inertia, but also academic morbidity, the antithesis of
this development capability. Such vigorous course development inevitably relies on streamlined internal organisational and consultation processes as one aspect of capability, and additionally relies on an academic culture that is confident and vibrant as a baseline capability. The managerial ability to make decisions to stop certain activities is also implied, since it is difficult to swiftly and nimbly start new things when old things continue to consume resources and limit possibilities. The Australian university history of several decades of development predicated on growth and proliferation have perhaps made the capability for decisively stopping things and focusing a profile a significant challenge for many senior managers.

4.2.8 Code ExecTC – Executive team capability, including general managerial ability

Fourteen of the participants made comments or added ideas under this theme to the material contained in various parts of Table 1. This code referred particularly to the executive group, the senior management steering group as a group in general. The ensuing code was reserved for comments more specifically about the Vice-Chancellor, the figurehead leader.

When thinking about the executive team capability, many pointed to motivation and communication skills that would help the team inspire staff generally, and enable them to actually work as a united senior management team together. It was noted that good management was something of a necessary but not a sufficient precursor to good entrepreneurship within the university, and that many academics were frankly not good managers or leaders by nature or training. Several indicated that there is a need to build and nurture that quality managerial capability and to do so more systematically via training, mentoring and placements in external organisations if we are to have enough managerial capability in the senior team. Strategic ability, integrity, decisiveness and a knowledge of and respect for entrepreneurship, even if not having personal natural entrepreneurial ability, were all named as key aspects of the team capability. The managerial capability was most certainly seen as complex and multi-dimensional by the participants, as are the challenges they face, but a strong, fully-functioning senior executive team was widely seen as the essential ‘steering core’ that Clark (1998)
proposed. None of the participants differed from Clark’s basic view and a number expounded further on what they thought it might mean for a senior team.

4.2.9 Code **ExecTC(Lead)** – Executive team capability (leadership), more specific reference to the Vice Chancellor and vision.

Nine participants made more pointed comments about the issues of leadership that could refer to the whole team, but rather more signalled the capability issues for the vice-chancellor as an individual. Notably, not all of the comments came from the vice-chancellor portion of the participant group.

The participants collectively noted that a vice-chancellor in particular needed to have a high strategic thinking capability, and to be able to plan a path through the many complexities and options that Australian universities face and might explore. More importantly, they held that it is imperative that the leader be able to inspire others with that clear and positive vision. One put it thus: “We need a VC with strategic commitment to making the whole place entrepreneurial, not just a couple of individuals. It’s not a small side issue. It needs to be seen as the main game at the top. Vision is essential and belief in the entrepreneurial concept” (see Appendix 10). Various other facets of the leadership capability at the top included ability to build a tight and cohesive team around the incumbent, and a need for role modelling, of respect for academic values and for entrepreneurship, even if the chief executive personally was not naturally highly entrepreneurial. Several mentioned ‘vision’ and ‘strategy’, these seeming to form the basis of the capability they had in mind.

4.2.10 Code **OutL** – Outward looking orientation, engagement with outside world.

Under this code, fifteen of the participants made comment. There was a very high degree of consistency in their collective comments and ideas. Many considered that being outward-looking and engaged as a university was a pivotal pre-cursor requirement for entrepreneurship, in that a university could not be entrepreneurial without being engaged, and perhaps *vice versa*. Outward engagement means that the
university forms working relationships with other organisations that can convert to joint ventures, research grants and contracts, locates various opportunities and services real needs in the business, industry and government community, whether locally and/or internationally. It makes itself relevant this way, very much in the ‘triple helix’ language of Etzkowitz (2003, 2004). Many noted that the engagement was only partially about revenue generation, and rather more about adding value in the long run to the wider community.

Getting such an outward-looking and oriented culture from ‘top to bottom’, which is what most indicated is necessary, requires some role modelling at and near the top of the university, and some good strategic human resource management reward systems that build in incentives and expectations for academics to be outward focussed in their research and teaching. Such culture change is acknowledged as difficult and requires a longer-term view, especially since several participants made a point of mentioning that they regard Australian universities as being especially inward-facing and resistant to such engagement in recent times. Whilst vice-chancellors and other very senior managers might readily demonstrate engagement with the outside world of government and the policy environment, it was noted that fewer regularly interface with industry in a figurehead way that is likely to help open doors for other staff. A more systematic approach to engagement was mentioned by several participants, who now see it as strategically important. Most were at pains to indicate that they did not think the end goal of such engagement was financial gain in and of itself, but is about value-adding and being relevant in the broadest terms. One suggested that such relevance would eventually result in greater financial support from the community the institution served, and several participants suggested that the main goal was more to do with profile raising and reputation-building.

There are multiple capability issues implied here. Certainly having reward and performance expectation systems that are geared to supporting outside engagement are needed, and so is a strong leadership commitment to that kind of culture change. Additionally, some of the external interface mechanisms mentioned under other codes have a role to play.

Twelve participants chose to comment further beyond those points that were incorporated in the Table 1 synthesis. In endorsing the points of the table, they emphasised the need for excellent, accurate and responsive finance records systems and good commercial expertise in senior finance executives.

But perhaps most importantly, they pointed to the need for the university to act in more business like commercially astute ways. This was presented as especially important in relation to accurate costing of labour and overheads and proper calculation of margins and so forth, something that universities have not traditionally been good at. Whilst it was not suggested that profit was an end goal for all academic activities, it was certainly felt that “you need good activity based costing, so you can choose knowingly what you cross subsidise and to what extent” (see Appendix 10).

Business planning and financial analysis capability were seen as being able to be bought from outside if they were not well-developed within the university, but all respondents on this theme were sure that universities need to be more business-like in their decision-making, and that their internal models of budget allocation really needed to leave sufficient incentive with an academic unit to want to operate in a business-like way for their own well-being. Financial considerations, and profitability was not seen as the key driver of entrepreneurial capability in the comments on this theme, but it was definitively felt that “We might still choose to do things that aren’t profitable but need to know that we are choosing to do them, not doing them without awareness” (see Appendix 10). One of the participants simply used the term ‘commercially savvy’ to describe what they meant by better business planning and judgment. To attain this degree of awareness, the organisation must have the capability to allocate costs and then surpluses in some meaningful and transparent way, or very little business ‘nous’ is developed in very few people within the university.
4.2.12 Code **MarkK** – Marketing knowledge and intelligence

Eleven participants made comment about *Table 1* that was aggregated under this code. For the most part, their comments added even more emphasis to the need for top quality market intelligence than *Table 1* itself had done. Many noted that markets are both local and international, and that considerable skill and market intelligence is needed to refine a university’s information sufficiently to identify market opportunities and niches, and to assist decision-making about which things to pursue. This was seen as especially important in the teaching field, locally and off-shore, where courses may be able to find new markets or be configured to do so, but only if the university truly understands the needs in that market.

Again, the issue of engagement emerged at the margins of this code, since it requires a high level of engagement to form relationships that are capable of delivering some of this intimate knowledge of needs and trends. This capability for market knowledge and analysis has traditionally been limited in universities within Australia but is clearly now much more present and necessary. Some of the high level very expert advice can be bought from outside the sector on a needs basis, and that does occur. However, the comments from participants suggest that Australian universities who want to locate and meet market needs quickly, adding value and gathering revenue and who have a desire to be successfully entrepreneurial, really need high levels of this capability on tap internally almost all the time.

4.2.13 Code **Pers** – Personnel/HR policies including HR development/training, reward systems and performance management practices.

Twelve of the seventeen participants made comment on *Table 1* that has been grouped under this code. A theme regarding reward structures was evident, but not with entirely consistent views. Several talked of the need for appropriate rewards for the desired entrepreneurial and outward-looking behaviours at all levels of the university, rewards that would reflect the university’s values and aspirations. However, several also cautioned and doubted that there would ever be a reward system that could build *all*
desired values into performance management regimes. Nevertheless, none believed that 
the emphasis in Table 1 on relevant incentives and flexible employment arrangements 
that could actually support participation in, say, joint ventures or spin-offs, or in 
industry for periods, was an inappropriate capability for the university in these times.

A capability for professional development of university staff was listed as important, 
particularly the development and education relating to entrepreneurial attitudes and 
skills. This education was seen by one as “...a serious staff development task to get this 
[outward focused, real world application orientation] understanding in middle 
managers” (see Appendix 10); another noted that little training for innovation or for 
managers generally was actually happening in systematic ways.

This points to a strong need for a strategic human resources management capability 
beyond mere personnel administration. Strong and innovative policy is needed to match 
the strategic goal of entrepreneurship, and beyond that, to help create a total culture that 
supports entrepreneurship, given that monetary rewards alone do not appear to do that 
in academe.

4.2.14 Code Dec’n – decision making processes and speed

Ten of the participants noted that speedy and strategic decision making is not the forte 
of universities traditionally, and that many are still struggling with this. All agreed that 
decisive management capability was an important element of being more 
entrepreneurial since there would be ‘go-no go’ decisions to be made and opportunities 
clearly lost if management is too slow.

A clarity of delegation and devolution was alluded to as an important element of the 
capability, since it is important to know whose decision it is to be made. The traditional 
collegial and quasi-democratic culture of many institutions lingers sufficiently for at 
least several of the participants to feel very frustrated with this slowness and messiness 
of decision making. One saw the desired style merely as a more managerial, corporate 
style that had been in place through much public sector reform in recent decades but 
noted that the same reform had come to universities late, and still did not eliminate the 
collegial ethos entirely, and perhaps should not. Some noted that universities are
generally a little better at deciding to start something new, but especially weak at
deciding to stop something, apparently because “...they [management] seem very
cconcerned not to upset someone” (see Appendix 10).

4.2.15 Code AcEx – Academic excellence of intellectual
property, academic values at forefront, gathering top
intellectual property and top people to generate it.

Supporting the ideas in Table 1 that refer to a ‘stimulated academic heartland’ (Clark,
1998), nine participants had further comment to make that has been aggregated under
this code. In total, they gave strong importance to the issues of academic integrity and
quality, noting that even the most entrepreneurial university could not afford to
prostitute or corrupt academic standards if it wished to establish positive reputation and
prestige. Additionally, it was felt that the very best intellectual property was needed to
give deep knowledge stocks, discipline excellence, research excellence and to generate
material that could readily be commercialised. As one participant put it: “Nothing will
succeed if you don’t have something to offer that will meet the needs of outside parties.
Excellence in academic work really matters.” Another added: “You must have some
serious intellectual capital to leverage off. I mean have some really good people who
generate top class knowledge and transfer it. It’s the oldest and most basic university
mission” (see Appendix 10).

The capability for attracting and retaining such outstanding academic talent is clearly
more related to strategic human resource management and to the university’s capacity
to pay competitively, but there is also implied a cultural issue of striving for excellence
and settling for nothing less. This capability is also partly strategic, in that senior
management of the university need to commit financial resources to acquiring and
nurturing such academic excellence, or they will surely lose it, and there must also be a
strength of vision for quality that outlasts short-term temptation for fast money.

4.3 Codes arising largely from Questions 7 to 11.

This section contains comments and issues identified largely from interview responses
to Questions 7 to 11 on the Question list for Round 1 interviews (see Appendix 4).
Because the questions were a little more concrete and focused, and less dependent on a response to, or addition to the tentative model in Table 1, the codes that emerged from this part of the analysis of the taped interviews were either more focused and specific, or more ‘macro’ level and pitched at a strategic overview, unlike Table 1 itself.

4.3.1 GFC – Government (Federal Government, DEST or State) financial and other controls including audit, accountabilities, regulations.

All participants had some comment to make that could be assembled under this code. This is not surprising given that questions 7, 8, 9, 10 and 11 had quite intentionally sought to tease out participants’ views on the government policy and regulatory context for higher education in Australia, and to explore how some foreshadowed policy changes might have impact upon universities. In many respects, none of the participants could avoid having some manner of response to the policy environment.

Much of the comment comes through with unmistakable passion and intensity. Probably the strongest thread to this code is that of bemoaning the extent of over-regulation, over-control and micro management that university senior managers believe they experience in the interests of public accountability. None appeared to resist the concept of accountability for public funds per se, but most felt that the current regulatory environment had effectively limited much entrepreneurial potential. Only one thought that some accountability and formula-driven transparency was probably a positive thing, since historically there had been too many special ‘behind closed doors’ deals done with institutions.

The extent of critical comment about what is generally perceived as excessive control and micromanagement indicates that participants feel thwarted in their desires to run in a more genuinely market-driven way. As one put it: “Lots of the changes in governance, management requirements and accountability are about good ‘new’ public management. They aren’t intended to make us more entrepreneurial”. Another commented that it is nearly impossible to be entrepreneurial and market driven when simultaneously being given almost no discretionary funds, forbidden to set one’s own priorities, one’s own fee levels, and one’s own institutional profile (other than in the
medium term if at all), or use much of the federal grant in chosen ‘untagged’ ways. Even choices about how often to run subjects, whether and when to move student places from one course to another, and whether to stop or start a course are now regulated and limited choices. Most felt that this effectively paralysed institutions to a high degree, saying on the one hand that they are to become market responsive, whilst on the other effectively preventing them from doing that. Several experienced this control as fundamental mistrust of senior management by the government, and possibly mistrust of market forces by the government despite the stated policy positions.

Several commented on the ways in which this controlling context also tends to drive internal processes operating within the organisational boundaries of the university. Executive fear of an audit scandal or financial failure tends to restrict delegation and devolution. Councils often micromanage chief executives for the same reasons. The reporting requirements of government agencies necessitate layers of administrative bureaucracy to be built inside the institution, simply to service the reporting demands. This seriously erodes what can be spent on core academic businesses.

Capability issues were less evident in this code, since strong opinions were clearly being expressed about what is largely seen as being ‘wrong’ somewhere external to the university. More will be said about this aspect later in this chapter.

4.3.2 Code **RQFI** – Research Quality Framework implications and impact (policy level)

Three participants’ comments were seen as being linked to this code, fundamentally aggregating comments about the foreshadowed RQF policy. Each thought that the policy impact would inevitably steer academic interest towards top quality publication, and very probably away from a more outward facing stance where relationships with industry and business were encouraged and possible given time limits. One went so far as to suggest that “. . . the RQF will be anathema to commercialisation and entrepreneurship. ‘Quality’ will be defined by traditional academic peer reviewed publications and the impact dimension seems so woolly that it’s not likely to have much weight compared with the quality of publications. It will drive people away from the real world and into their writing” (see Appendix 10). Given that some of these same
participants had expressed strongly pro-engagement and entrepreneurship-positive views, they were especially concerned about what they perceived as counterproductive and contrary policy impact.

A capability implication would be for organisations to internally find ways of maintaining an engaged stance in the face of a government policy that might actually tend to reward traditional academic publication more.

4.3.3 Code TP – Teaching profile and teaching administrative issues.

Six participants offered comment on aspects of government policy with more impact on teaching matters. Most commented on the extent to which their teaching and course options were currently being limited by various government policies. They noted the degree of in-built inflexibility that the policy framework and regulation gives them. As one put it: “..we are quite simply not free to start, stop and move courses.” Another said: “I should be able to make a case to shift load from campus to campus, to renegotiate or change some elements of the profile, not to make a fast deal and pocket the money, but to help students where they need it” (see Appendix 10).

One higher education expert participant lamented the absence of really strategic initiatives that entrepreneurial universities could take on the undergraduate teaching front, but which appeared to happen all too rarely. Noting that universities tend to be more entrepreneurial about international and post-graduate teaching opportunities, he also noted that in fields where professions were not highly attractive at present, where universities are struggling to fill places with quality students, that clever deals with secondary schools and employer groups might create market demand, but that few have been tried. His view was that there is much more scope for entrepreneurial action in filling undergraduate places in languishing disciplines and there were no government regulations that would impede such developments in the teaching domain of the universities.
4.3.4 Code **GEMI** – Government entrepreneurial and market intent.

Fifteen of the seventeen participants had responses that were coded under this label. In some respects, the issues overlapped with one or two earlier codes, although this code seemed to identify more specifically the matter of what the government *wants* to have happen compared with what the participant group thinks *is* happening.

Virtually all understood the government intention to make Australian universities more globally competitive, to improve the general quality of what they do, and to do this by creating a market for higher education within the country where market forces could drive improvement and shape differentiation and excellence. They also understood the desire to spend less of the limited public funds on the expensive sector of higher education, and the desire to have a more broadly based set of user-pays funding arrangements that includes both students and the wider community who benefit from the knowledge. They saw this as a definite desire for Australian universities to be significantly entrepreneurial in terms of both independent and diversified revenue streams, and in terms of engaged activities with society where value could be added in both directions. None actually disagreed with this agenda, although at senior level, it would be unlikely that many still feel resistant about this trend, given that they have achieved senior managerial posts within that policy regime, and in full awareness of the ‘rules of the game’.

The responses and comments were of a highly consistent nature and very strongly expressed. Participants generally felt that government intent was clear and acceptable. What they agreed on was that this intent was not actually materialising, nor able to happen given policy and regulatory impediments and contradictions. Several pointed to excessive controls on the market itself and on internal institutional choices as the problem. Others signalled that the government policy seemed to assume that universities have vast amounts of globally competitive research-generated intellectual property sitting ready to commercialise. However, the participants from all three segments of the sample perceived that little IP is actually of that competitive calibre, and few universities anywhere in the world actually make anything other than a very small percentage of total revenue from such research commercialisation anyway. A
further theme in this set of responses pointed to the limits on diversification in a system that tends to evaluate and reward performance uniformly across the thirty-nine Australian publicly-funded universities. As one participant put it: “…we get judged and punished [for having a mission of access and equity] because the same sized ruler is run over all unis even when they have stated different missions. They might want a differentiated market driven system, but they don’t in any way get the policy to make that happen” (see Appendix 10).

Whilst this code embraces opinion about the government policy and thrust, and therefore has less to say about organisational and managerial capabilities for entrepreneurship within the university, it does signal a strong need for senior university management to be able to both accurately monitor and ‘read’ the international and national policy scene, and to then develop strategic thinking capability to find whatever opportunities are available notwithstanding the contradictions and regulatory limitations. It would be easy to resign the university to having little or no capacity for entrepreneurial initiatives and to negatively blame government for everything, but a strategic capability that is optimistic and opportunity-oriented may be essential in such a difficult context.

4.3.5 Code OPP – Other portfolio policies. Mismatch/inconsistency with other government policy or stated intent.

Ten of the participants had some comments to make that were grouped under this code. All pointed to the dilemmas they perceived wherein the federal government appears to want Research and Development in industry to add wealth to a knowledge-based economy whilst it fails to fully acknowledge or rectify the structural industry problems that mean we have little manufacturing left where R&D might reside and add that value. As they see it, even when we do create R&D, the tendency is for the IP to be lost to international interests, since there is insufficient investment within Australia to bring it to full potential. They also pointed out that universities are expected to be industry engaged, and yet business and industry has little incentive via taxation etc. to be engaged with the universities. Neither has the business community much interest in, understanding of, or respect for complex modern universities according to several
participants, a task requiring government education and incentives for greater connectedness.

One person noted that government also appeared to want regional development, and yet had created higher education policy that penalised universities who attempt to run regional campuses by under-funding regional campus operations and limiting course and student place movements between campuses. Further, it was in the process of devising a Research Quality Framework that was highly likely to concentrate a lot of the nation’s research into the already research intensive institutions of the urban centres, not the regional ones for the most part. Some other participants simply felt that the policy of resource leaness for higher education was at loggerheads with the stated goals for development of the knowledge and services economy sectors that are on the rise, and which appear to be Australia’s future, since we are currently structurally mostly an economy of a subsiding ‘farm’ and ‘quarry’ nature.

Again, like the previous code, this simply points to the need for a highly developed strategic thinking and environment scanning capability within the university as a means of coping with whatever difficulties and contradictions are present.

4.3.6 Code RIS – Research intensive universities.

All participants were asked by way of questions 10 and 11 (see Appendix 4) about their views on what ‘being entrepreneurial’ would mean after the introduction of the Research Quality Framework (whatever its eventual form) in both a research and a more teaching intensive institution. This required a speculation without detailed knowledge of what exact form the RQF might eventually take, but such speculation seemed to matter little to the participants as they fairly uniformly understood what its general impact would probably be.

All seventeen participants responded regarding the entrepreneurial impact in a research intensive university but their views were far from unanimous. Some thought that there would be little change for the research intensives, in that they would simply get richer funding to keep on doing more-or-less what they do now. Others felt sure that a much greater degree of specialisation and focus would be needed for them to be
internationally linked, both collaboratively and competitively. Some thought that research would become both ‘blue sky’ and industry oriented, as they began to more consciously address long range strategic issues of national importance such as water supply and environmental cleanliness. It was thought just possible that the trend would move them away from traditional theoretical work, especially as government encouraged greater engagement with the community. Alternatively, some expressed concern that research might very well focus rather too much on traditional academic peer-reviewed publication and away from applications since this is one of the key measurements the RQF proposes.

On balance, the views suggested that a greater specialisation and focus will be needed for real excellence and for adequate resources (human and financial) to be bundled together, and that entrepreneurship in this scenario might be around the many forms of joint ventures and collaborations that would be possible with both industry and with academe internationally. It was thought that a little more commercialising would occur than at present, but that one would never expect to make large amounts of money from such activities. They would be undertaken more for prestige and positioning and to demonstrate impact of research outputs.

This scenario implies capability for strategic management, in order to correctly judge the areas of focus, and to aid in partnership development. It also implies a strong managerial capability for negotiation and networking, via which a variety of research partnerships and collaborations can come into being. This is not exclusive to the most senior management levels and would at least in theory need to be a widely and deeply dispersed managerial capability in a large research intensive institution.

4.3.7 Code TEI – Teaching entrepreneurship and innovation.

Again, all seventeen participants commented when asked about the probable impact of the RQF on teaching intensive universities in terms of what ‘being entrepreneurial’ might mean. Several considered that no university would really seek to be ‘teaching only’ unless it was a highly specialised private university course provider. Research at some level was seen as essential, but it was acknowledged that some universities in
Australia would do only a little and more of the applied and consulting kind at that. It might come more in the form of community engagement, according to one.

It was widely seen that teaching and courseware provide the best opportunities for revenue generation, and that the scenario would require ‘teaching intensives’ to be very market responsive and innovative regarding teaching content and especially delivery in order to find and fill needs. As one put it: “For teaching intensive unis, innovation and entrepreneurship will relate to market responsiveness, professional development, outreach, clever delivery modes etc. They’ll have to seek niches and apply research in a consulting way, and package material in novel ways. There’s more revenue in leveraging off teaching and consulting IP than in research” (see Appendix 10). It was clear that teaching entrepreneurship would also mean being focused, doing only some things, but doing them very, very well in order to compete in the market place.

The organisational and managerial capabilities implied here are various, but certainly link again with the well-developed capacity for market intelligence and analysis and for developing strongly engaged relationships with many businesses, professional and community bodies in order to understand the needs and niches that well-configured courseware might meet. Additionally, this scenario would require universities to have excellent pedagogical know-how and a grasp of flexible learning technologies that are capable of delivering high quality learning experiences in widely varying locations.

4.4 Overarching Codes and Questions 12 and 13.

Questions 12 and 13 were designed to draw out the participants’ views of what being entrepreneurial might mean for Australian universities including their own to the extent that their views on and understanding of the concept had not already emerged throughout the dialogue. Perhaps not surprisingly, all participants had voluntarily expressed many views prior to the interviewer specifically raising questions 12 and 13, so many comments had surfaced earlier that expressly addressed their own understanding of the concepts, the terminology, and the relevance of entrepreneurship for Australian universities.
4.4.1 Code ELC – Matters relating to entrepreneurial language and the general concept.

Fourteen of the seventeen participants offered comment that in some way revealed and explained their views on the concept of entrepreneurship within the university context. This is additional to the considerable amount of material already identified indirectly under other coded themes. Their views varied. Several noted that the concept was not new to Australian universities as they saw very considerable entrepreneurial success, especially on the teaching and learning front, domestically and internationally for over a decade. Several also considered the term ‘entrepreneurial’ a little dated, more a statement of the nineties and more in contrast to the old notion of highly government-funded dependency. Their views on more current and accurate terminology ranged from ‘innovative’ to ‘creative’ to ‘engaged’. One expressed the view that the key element and driver of an entrepreneurial institution is its outward facing style, without which he felt it just could not function entrepreneurially.

Some actually expressed serious difficulty with the notion of ‘entrepreneurial’ as mentioned previously, saying that it was a poor fit for a university, implying a purely profit-driven, commercial mindset and motive, when they felt strongly that universities should be about knowledge, adding value, and providing service, not necessarily for profit, although enough of the activities have to be profitable to cross subsidise those that are not. It could also imply risk-taking, which most universities were unable to do, given their very lean budgets and high levels of public accountability. One questioned whether the concepts of corporate entrepreneurship could therefore be fully employed within a university, given the diversity and complexity within such entities. Those with reservations of this kind tended to avoid using the word internally, as they felt a certain negative reaction would prevail amongst staff, even in the year 2006, a fear of clashing values, of exploitation, of corruption of academic values and excellence. The squeamishness about the word was not felt at all by others, who freely used it in their strategic plans and everyday language. The word itself seemed to carry for some the connotation of doing everything for profit. As one participant said: “I don’t particularly like the word ‘entrepreneurial’. I prefer ‘engaged’. Innovation, creativity, building wealth and value – they all better describe what we’re doing and why. We do it for the community, not for its own sake, or for private gain.” (see Appendix 10).
Several commented that very few Australian universities were uniformly good at being entrepreneurial, and that it would be undesirable for every single person within a university to behave entrepreneurially in any case. They considered that ‘enough’ people at various levels needed to operate this way, but that many routine academic and administrative duties required ‘work horses’ who would simply do what was asked of them and do it well.

A number of participants expressed the view that entrepreneurship is not totally about the issues of commercialising the research-driven intellectual property, and considered it a much broader concept than that, embracing teaching, general culture, engagement and service and internal processes and many other facets besides the actual creation of spin-offs, joint ventures and suchlike. They saw a far broader meaning to entrepreneurship and often had it more linked in their minds with an organisational culture or style. One had it very clearly linked with the notion of being strategic and sustainable.

This facet of the responses, the issue of ‘why’ a university would be entrepreneurial, was partly emerging here. Whatever the degree of comfort or discomfort with the terminology, none of the participants had difficulty with the established fact that Australian universities are, either by force of circumstances or by more active strategic choice, entrepreneurial to some extent. They tacitly or explicitly accede to the concept, but wanted in some cases to frame that general agreement by defining the motives and end points. One expressed it succinctly as entrepreneurship in a university being more about the means to desired ends, rather than the end in itself.

The capability implied in much of this comment is that of strategic clarity, coupled with the leadership issues of choosing appropriate language to use within a culture, or the language chosen to change that culture somewhat.

4.4.2 Code E$ - Entrepreneurship and money/revenue.

All seventeen participants raised some comment about the issue of university entrepreneurship and money, whether specifically in response to questions 12 and 13,
or elsewhere in the dialogue. Generally, they shared the view that research commercialisation never would or could make a large percentage of total university revenue, and that it only did so in very, very rare cases around the world. Most recognised that one would pursue such activity for other reasons. Entrepreneurial teaching activity was seen as much more lucrative, although one needed to behave ethically in order not to be regarded, especially internationally, as just plain mercenary, rapacious and compromised on quality.

Several expressed the view, raised earlier, that it wasn’t really undertaken for the money per se, but for what the discretionary revenues would then allow the university to do. One such view was stated thus: “It’s not all about the money. Money is part of it, but it must also meet strategic goals that might be about other value-added.” And another said: “For us, being entrepreneurial is an implicit goal but I don’t use that word. Profit is not the goal. Surplus to reinvest is” (see Appendix 10). One lone voice held firmly to the view that in many cases in Australian universities, the zeal for money had been the driving force, the means and the ends, and had in fact corrupted one institution in which they had worked quite markedly, so that major academic quality issues had been allowed to suffer neglect whilst the focus had been on revenue generation alone.

Again, the underlying capability issues appear to be linked to strategic management and the leadership approach to preserving academic quality and values.

4.4.3 Code EStrat – Entrepreneurship as strategy for value, for strategic purposes over and above money.

This code was used to cover all responses and comments that made some clear link between entrepreneurial activity and orientation within the university and the university’s strategy as a whole, comments that clearly made some statement about why and for what end an institution might act this way, or that located entrepreneurship within their strategic planning and management activity. There was some overlap between this and the preceding two codes. All but one of the participants had some comment to make on this set of issues.
Again, the issue of universities needing to be outward-looking and engaged was mentioned often. This was understood to necessitate much better working relationships with the outside community, and much better knowledge of political, social, economic, and market contexts in order to formulate strategic plans and make strategic decisions about which opportunities to pursue and which to let go in an environment where greater focus and differentiation seem strategically essential. One stated it thus: “A truly entrepreneurial university would be one that could quickly identify and move into new educational spaces, respond to research needs in industry and create new ventures as a result of the new IP it developed, but that is all part of a bigger capacity to identify and respond quickly to the whole environment”. Another added “In the long run, it’s about profile, reputation, status, relationship building, full engagement and some money, but not just about the money. If we did this engagement well, we’d get the money, and a lot more as well” (see Appendix 10).

The major motive for embarking on entrepreneurial activity was emphatically stated by most as for purposes other than profit alone. Participants saw it as driven by the need to add value, economic and social, to their total community, to generate and transfer knowledge to society, and to make sufficient surpluses to be able to knowingly and intentionally cross-subsidise those activities that are deemed highly desirable but not profitable. Making decisions about which activities needed to be profitable and which should be cross-subsidised requires a strategic master plan, a vision of what the university wants to be and for which it wants to be known. They suggest that entrepreneurship needs to fit with and be a part of the institution’s strategic choices and directions. Several participants acknowledged that their universities had not historically been good at making these sorts of strategic decisions (although all made it clear that they thought they were very much better at it presently), and that some entrepreneurial efforts had been ‘scatter gun’ and revenue driven, not always understanding the underlying cost structures or actual profitability. Entrepreneurship had often been slightly disconnected from the university’s overall strategic vision of what it wanted to become and achieve, making for great ‘busy-ness’, some revenue, but not necessarily taking the university forward strategically. Rather it had simply helped fill the coffers to help them survive in the short term.
4.5 Codes to Indicate Interviewer’s Observations of Participants’ Level of Engagement with the content of Table 1.

At the end of each interview in Round 1, the interviewer made some informal assessment of the level of general participant interest in and engagement with the large composite draft model of Table 1. Was the model meaningful to them? Did it obviously interest them? Were there signals that the model had provided any new material to each? Was it readily usable for practitioners? No quantifiable measures were used beyond the interviewer’s impressions at that time, revisited and generally reinforced when the tape recordings were played back for note taking. HT, MT and LT were codes used to signal high, medium and low engagement (see Appendix 12).

Only one participant showed clear excitement about the draft model and was coded HT. He had clearly read it carefully before interview, had made many detailed notes, discussed the concepts and implied capabilities fairly specifically and remarked that it was very like much of the corporate entrepreneurship he felt his university used to once do, but no longer practised.

Seven participants were gauged to be MT, moderately engaged with and interested in Table 1. They appeared to understand it quite well, and in some cases, opted to either challenge or clarify some point, or express the view that the Table had somewhat underemphasized a perspective they felt had more significance. Almost all in this code group indicated that whilst they did not disagree with the content, they found its format difficult to use and that it would, in that form, offer little readily useful practical advice to senior university managers. It appeared to many as a slightly indigestible ‘lump’, possibly too large, detailed and complex for easy ‘entry points’ to be seen.

Eight participants were coded by the interviewer as LT, having fairly low levels of visible engagement with Table 1 and its content. Some signalled that they had read it only briefly, or had low interest in models generally, or thought that some or all of Clark’s ideas on the entrepreneurial university were irrelevant for their university. One put this down to thinking that universities are not and cannot ever be truly entrepreneurial.
Regarding this LT group, the researcher had to consider whether the model was just too
difficult for them to have responded much at all, or perhaps whether some had a
sufficiently tenuous grasp of entrepreneurship issues as a whole that engagement was
too long a step from where they were. Possibly, some simply had low interest in how
entrepreneurial aspects might be made to work better for their institution either because
they felt they already knew and understood all of the capability issues involved.
Equally, it was possible but perhaps not very likely that the opposite was true for some,
that they knew very little and could not see its relevance.

4.6 Specific Comment on Clark’s (1998) concepts and work.

Eight participants made some specific reference to the work of R. Burton Clark (1998,
2003, 2004a&b), the five elements of the entrepreneurial university that formed one of
the axes of Table 1 (see Appendix 13). This was partly because Clark’s work had been
clearly identified in the materials presented before interview, and also evidently
because the work is well-known by senior university managers and regarded as seminal
work, even if not entirely endorsed. Three specifically said that they thought Clark’s
work was dated and applied very strongly to the European and North American theatres
of the ‘80s, where very traditional centrally funded universities were common. His
work was seen as trying to inspire greater modernity, engagement and independence
into universities against that backdrop, but not necessarily in step with the significant
entrepreneurship already displayed by Australian universities and TAFE colleges.

Others selected various ones of Clark’s five elements to which they wanted to give
special endorsement. The ‘strengthened steering core’ appeared to have most approval.

4.7 Best Practice Examples.

Without question, for this group of participants, the most widely perceived example of
excellent and successful entrepreneurial practice within Australia is the University of
Queensland. Pressed as to why they saw it as such, most pointed to its significant
leadership support at the outset, the strategic commitment, the investment that had been
made to build a capability over a decade, the ‘hub and spokes’ structure that placed
expertise and support close to the academic sources of intellectual property, and the
widespread internal cultural acceptance of entrepreneurial values that had been achieved. It was described by one as a ‘commercialisation system’. High levels of engagement had also produced what others saw as outstanding philanthropic donation levels from external bodies.

Other examples mentioned at least twice were Monash University for its international initiatives of approximately a decade ago (with reservations because they were seen as having ‘got carried away’); Macquarie University for its clear and well-projected confident image that differentiates it well from its immediate competitor neighbours, and Swinburne University of Technology for its stated entrepreneurial strategic intent (especially under previous VC Prof. Iain Wallace) and its proven capability to seek out and occupy certain niches in the market.

Further examples can be seen at Appendix 14.

4.8 Round 1 Data Sorted by Parts of the Participant Sample

Whilst Appendix 10 sorted interview data into coded themes, another attempt at data analysis was made by sorting data according to the three parts of the sample of participants, namely:
- those responses of the group of vice chancellors or recent ex-vice chancellors,
- those responses of higher education industry experts, bureaucrats and commentators, and lastly,
- the comments of technology transfer and commercialisation managers.

The data is displayed at Appendix 15. The intended purpose of this analysis was to identify and explore any significant differences in the three constituent ‘groups’ of the sample, beyond those that might have been expected to originate purely from their differing levels of contact and familiarity with the day-to-day management of a university, and their role duties in general. Whilst not a focal part of the study, it was considered a potentially useful way to examine some of the diversity of response without any attempt to screen out difference, or to ‘average’ responses. This was attempted in order to stay as ‘true to the data’ as an interpretivist approach indicates.
Appendix 15 reveals remarkably little difference in the kinds of comments made and views held for each of the three sub-groupings. All groupings saw entrepreneurship for the university as about benefits (both internally and externally) beyond the simple revenue goals. All groups commented unfavourably on the extent of regulation and policy restriction for higher education institutions in Australia, and all noted that entrepreneurship needed to be seen more as a means than an end in itself. Small differences in the detailed commentary on Table 1 between each sub-group seemed to spring most unsurprisingly from their different levels of involvement with the institutional strategy and their respective levels of empowerment, or lack of it.

It was decided on this basis that there was little point in continuing to analyse responses according to the origin of the participant in the remainder of this study, given the high levels of concurrence between the constituent sub-groupings of the sample.

4.9 Implications for the Model(s) of Capability for the Entrepreneurial University?

Having prepared the synthesis that was Table 1, and had extensive dialogue with the participants, it became clear that certain issues pervaded all the foregoing presented data.

Participants had very little disagreement with any aspect of Table 1 as a starting point for a model of capabilities. They offered small differences of emphasis, and pointed to some minor limitations only. In fact, they appeared to have relatively little interest in the detail of the capability picture, either because they felt they knew it mostly already, or they could not engage with it in the form in which it was presented. Both appeared to be true in part. It seemed to the interviewer that most participants did in fact know much of what was being suggested as organisational and managerial capability requirements, or that they knew it theoretically at least. Several openly said they had used the table as a sort of checklist of their own institutions’ current practice in order to judge how they were progressing relative to the conceptually based models. Some freely conceded that they did not yet do all of the things on the lists, and that their university was not yet capable of all aspects.
Others made it clear that, whilst they did not disagree with the points in Table 1, they found it difficult to embrace and to conceptually take in. The level of detail was overwhelming for some. This indicated that some larger, less complex structuring of the material would be helpful for at least some of the senior managers in the study, and presumably, for many others in the field at similar level. It is possible that some did not engage with the table simply because they did not understand it or felt ill at ease with what it suggested. The researcher noted that at least a couple of participants seemed to have some difficulty discussing some aspects of the model’s emphasis on strategy and mission, and then in turn, seeing how the internal enabling mechanisms would logically help the development of an entrepreneurial university. Another few also tended to appear very uncomfortable when discussing issues such as delegation and empowerment, leading this researcher to question inwardly whether this was a ‘sore spot’ for these people.

Several other threads emerged clearly in the early analysis of Round 1 data. ‘Entrepreneurship’ and its associated language, as a terminology, was difficult for a number of participants to accept with comfort. Some considered it a term belonging entirely to the world of commerce, risk-taking and profiteering, rather than to the risk averse world of semi-state funded education. Some considered the terminology tainted by past Australian entrepreneurs of the 1990s, some of whom were undoubtedly rapacious and exploitative if not downright illegal. This seemed to produce a desire to stay at a considerable distance from any hint of such taint. A few simply could not conceive of entrepreneurship as a quality or property of a whole organisation, but could see it only as a property of a few rare individuals. For them, the entire concept of corporate entrepreneurship seemed to produce confusion, as they conceived of some people being entrepreneurial but the whole university not able to be so styled.

Nonetheless, with exploration of the concept as it developed within the dialogic exchanges, it did become clear that almost all participants understood and accepted the need for Australian universities to be engaged, to generate independent sources of revenue, to make the best of the IP they hold for the greater good of society, whether by direct commercialisation of it or not. In essence, they accepted the vision of being entrepreneurial, even if they chose to call it something a little different.
All had a strong sense of higher education needing to be relevant to the broader society that supports it, and of needing to regularly add value to it in the form of knowledge and service, which could in turn solve problems and generate wealth, social and economic. This was evident whether speaking to the vice chancellors in the study, or to the technology transfer/commercialisation managers in some of the larger universities. Virtually all saw that entrepreneurship should really be about the means by which an institution worked towards those higher order ends of being of value to society. It is possible that this conviction has become more acute recently as government foreshadows the possibility of performance measures of engagement and of some further university mergers. It could be that a degree of insecurity has strengthened the conviction regarding societal relevance.

It was apparent that Australian universities may have started their efforts of an entrepreneurial kind a decade or more ago for reasons of revenue generation – and out of sheer necessity. But they had almost all moved on to a degree. Collectively, they are now seeing that entrepreneurship, by whatever name, should probably serve and advance the general strategic direction of their university, always provided that they know what that direction and mission actually is.

This raised several significant questions in the mind of the researcher:-

- If the participants were perhaps somewhat squeamish about the language of entrepreneurship, was it possible that they had not yet fully faced the reality of their context? Perhaps they were still partly stuck in an idealistic and fond desire to wind the clock back to an era when education was seen as a social good and funded as such, with no user-pays necessity, and no urgency for the university to diversify its base or to tightly manage its inputs, processes and outputs in a totally accountable way. Were they avoiding the cultural change in approach and attitude that the competitive and under-funded scenario actually required of them? At least one participant with sector-wide expertise and overview considered this highly likely. He speculated that too many were still looking backwards at a world that was no more to be seen and hoping to be able to avoid the competitive dynamics of the emerging market place that might well cause serious threat to their university’s independent future. In a sense, he thought that they were in some form of denial, not fully engaged with their context at all.
If the university did not have a well-developed sense of mission, direction and strategy, then what happened to the entrepreneurial efforts then? Were they likely to look like a frenzy of revenue generation possibly with unnecessary risk-taking, that actually operated in a scatter-gun style and did not advance the institution very much at all in its distinctive mission? Were they in danger of chasing revenue at the expense of academic quality? Were they likely to corrupt the traditional academic values of learning and knowledge for its own sake? Was the drive for revenue running some universities in Australia and running them into odd and futureless positions? It appeared that in the eyes of most in this study, successful entrepreneurship requires that entrepreneurial activity (by whatever name) be strategically located within a broader strategic plan and vision to avoid being all about the money.

There appeared to be marked differences in the general mood of responses that are grouped under Codes **ES** and **ESStrat**. The comments in both of these codes caused the researcher to question whether some participants still had poorly developed ideas of where they wanted their university to be in, say, five or ten years. Some interviews gave the researcher very little sense of there being a well-defined mission, and little passion in its articulation from those who are supposed to be senior enough to be providing leadership for it. In these cases, thinking about entrepreneurship would very likely be limited by and shied away from because of limited vision, strategic thinking and the consequent difficulty of making choices. Entrepreneurship may not be able to be located in a grand plan in those cases, because there is an underdeveloped grand plan, or none that one can easily detect and embrace. On the contrary, where the mission and strategy are well-articulated, entrepreneurial activity, by any name, seems to sit comfortably and become part of how the university works across the board.

Another thread in the data, extremely clear in Round 1, was the overwhelmingly critical comment made about government regulation and control of what is supposed to be a deregulated market-driven system. Whilst the issue undoubtedly has major substance, it is also possible that a degree of blaming is taking place here, where senior university managers are tending to point elsewhere rather than to themselves and their own organisation. It may be easier to blame over-regulation than to admit to managing.
poorly and to failing to develop a sufficiently purposeful and alive organisation that it can work towards its mission with resourcefulness and an entrepreneurial spirit. It may be easier to blame something ‘out there’ than to admit to a failure to develop internal capability for coping, adapting and thriving with the new challenges. At least one former vice-chancellor, now free to express views quite boldly, thought this was a very likely explanation for some of the complaint about over-regulation.

Does a regulated external environment necessarily mean that the internal working of a university must be also highly controlled and regulated? Some participants thought that it did. They considered the internal bureaucracy almost an inevitable part of what the government policy was creating in the environment. Others differed, thinking that senior managers in the university had to rise to the challenge of fending off a degree of such external micromanagement and control in order to keep the university fundamentally innovative and responsive within. It is at least possible that the notion of placing a cultural protective barrier around the university is a managerial capability that could be important in such a scenario. If the context is indeed controlling and intrusive and inclined to squash entrepreneurial spirit, then it would become vital for leaders to be able to separate that context to an extent from all internal staff, and to encourage market orientation and innovation despite the external difficulties. It is not logically essential for all university leaders to manage others as they are managed themselves.

A further observation by the researcher from the analysis to this point, was that many of the codes seemed to overlap and in the complex world where complex universities meet complex environments and markets, it is perhaps not surprising that simple, singular issues are not common. Many issues link organically and systemically with other issues in dynamic ways not entirely clear within the scope of this study. To further map and make accessible the information beginning to appear regarding organisational and managerial capabilities for the entrepreneurial university, some simplification was required.

4.10 Simplifying the Model for Round 2.

Taking account of these tentative findings from Round 1 data, it was decided to cluster the many codes into larger groupings that might make the capabilities issues more
readily accessible. This process was done by manual sorting by the researcher, making repeated attempts to locate each code with those with which it had overlap and where an overarching construct could be identified to ‘name’ the cluster. Repeated sorting attempts produced, with great regularity, five clusters that appeared to have a commonality.

These clusters were named for simple labelling purposes, and a description of what was gathered within each is as follows:-

**Strategy** – This clustered codes that related to capabilities for formulating purposes, directions, the goals and reasons for being entrepreneurial.

**People** – This code clustered codes about leadership capability, about who would steer and drive and manage the entrepreneurial university and how.

**Enabling Mechanisms and Processes** – This cluster placed together the many capability issues regarding what might be done internally to make the university operate more entrepreneurially.

**Culture and Internal Politics** – This cluster was made up of codes that examined the capabilities in the internal organisational world of the entrepreneurial university.

and **Context** - This gathered codes that related to the capabilities for the relationships and interfaces that the university created with its entire external world, economic, political, government policy, financial, markets, the business and social community. *Appendix 16* gives a full list of the content codes as they were clustered under these five headings.

Whilst there were many areas of overlap and connection between the codes that were included within each cluster, it was also evident that each cluster probably had some form of systemic relationship with the others as well. However, since this study does not attempt serious explanation of all the systemic connections, all the theoretical causal chains and so forth, those relationships are not defined here. Much more extensive literatures on organisational theory, on culture, leadership and strategy *per se*
are the appropriate place to explore the exact nature of the connections in depth. For this present study, it sufficed to note that connections do appear to exist, in the minds of the participants and this researcher, and that practising senior university managers would need to decipher for themselves some of the deeper theoretical frameworks involved in these capabilities. The purpose of this present study is to generate a model or notional map that assists those managers to hold the key issues and variables in mind, in order to make practice judgements in action. It is here simply noted that each cluster apparently influences and contributes to other clusters in a systemic fashion, a very accepted way of representing most organisations within the wider organisational theoretical literature in any case (Morgan, 2006).

When these interconnections between clusters were considered, it was decided to diagrammatically represent this set of loose non-specific systemic relationships in the form of a ‘map’. Dotted linkage lines do not attempt to measure or truly explored the bi-laterality of connections. This appears as Figure 3.

Given that this study is focused on what the main organisational and managerial capabilities might be for the Australian entrepreneurial university, it also has a major interest in how these might best be developed by senior university managers and leaders, so that practice improvement is a naturally following aspect of identifying the capabilities. To this end, it was considered helpful to consider the system of Figure 3 from the point of view of a practice guide. Where might one logically begin to improve and build capability? Is there a point at which the system can best be accessed for best effect? Can one theoretically begin anywhere in the system, or are there points at which some managerial intervention and action would have significant leverage if the creation of a more entrepreneurial university was actively being pursued?

This led to the researcher experimentally framing this system more as a cycle, where one cluster could influence another favourably, and might best be tackled ahead of some others for best results. As a system, everything does have some connection with every other part, but as a cycle, there are certain precursors to more effective activity in other clusters. With this in mind, the five clusters were configured as a notional five-part cycle, as shown in Figure 4 for exposure to participants in Round 2.
Figure 3.
The Clustered Elements of Organisational and Managerial Capability in Becoming an Entrepreneurial University in the Australian Context – A Series of Unspecified Dynamic Connections.
Figure 4.
A Notional Managerial Planning/Action Cycle for Becoming an Entrepreneurial University in the Australian Context, Viewed Over Probable Underlying Dynamic Connections of Unspecified Nature and Direction.
The modelled cycle suggested that if a university had a strategic intent for entrepreneurship, then it would need to develop some management capability with which to move forward, to have certain people drive and lead the organisation. Those people would then put certain mechanisms in place to configure and operate the university so that it was more capable of entrepreneurial activity. This over time would create an internal climate or culture of widespread entrepreneurial orientation and outcome, and that would then be connected with the outside world in some ways. Logically, the cycle could commence at any point, and where senior university managers might focus their efforts might very well depend on what state of pre-development and readiness prevailed in the particular university. If a cyclic approach to capability development was conceptually able to be supported, then it would actually need to be a spiral in effect, each cycle moving the organisation further onwards and upwards in its pursuit of being more broadly entrepreneurial.

The researcher tentatively speculated, in line with much of the literature on strategic management, that where an organisation believed it had limited entrepreneurial capability and wanted to develop more, then a starting point would most probably be the cluster relating to outside context. It is generally against such contextual realities, opportunities and threats, demands and regulations, that a strategic plan is developed, and so this seemed a possible starting point for the cycle, but one that could readily be tested with the participants in this study in Round 2 interviews.

4.11 Preparation for Round 2 Interviews

Having cast the clustered codes data as a possible cyclic model of capability building, it was then decided to make certain comparisons between the capability data identified in Table 1 and the emerging cyclic model. To this end, Table 1 items, originally configured according to Clark’s (1998) five elements of the entrepreneurial university and Covin and Miles’ (1999) typology, were reconfigured, this time according to the five emerging clusters of this study. Given that the Covin and Miles typology had seemed to be of only passing interest to participants, it was omitted from this reconfiguration of capabilities. No new items were included in the reconfiguration. All
the original points were simply re-assembled under the new five cluster headings. The aim was to see which of the clusters were amply supplied by the literature with capability advice, and which were perhaps under-developed, and the literature unable to supply much of practical help to senior university managers. This re-assembled view is at Appendix 6 and described as Table 3. (Note that during the course of the Round 2 interviews it was referred to as Table 4, but was subsequently re-numbered). It is also available in more ‘visual’ forms at Appendices 17 and 18, which form a kind of summary of the capabilities map as it had emerged to this point.

Appendix 6, with all capability points re-sorted, indicated that there was an extensive volume of available advice and information to assist senior managers in building entrepreneurial capability under the cluster of Enabling Mechanisms and Processes, and a significant amount available from the literature under the cluster Culture and Internal Politics. There was a lesser amount of material that ‘signposted’ capability under People but this may be of less concern in that many of the items under the People heading are in fact issues to do with good modern management quite independent of the university context. For example, ‘Cohesive senior management team make fast decisions with appropriate consultation and participation’ and ‘Top quality leadership and management development and training and mentoring for all managers’ are probably aspects that one would expect to see in all well-managed organisations, not just universities. To this extent, much of the capability needed within the People cluster may be able to be identified and understood by an examination of the far wider generic literature on leadership and good management. This suggests that the smaller amount of capability sign-posts for entrepreneurial universities may not be especially significant or worrying.

However, the remaining two clusters, Context and Strategy, which are especially and directly linked in particular ways to the Australian university context, are not well elaborated in Appendix 6. For this reason, the research focus for Round 2 interviews was determined to be two-pronged. Firstly, the emerging model was to be put to all participants to see whether it appeared to make sense to them and make the issues of organisational and managerial capability for the entrepreneurial university clearer and more accessible to them. Secondly, the clusters of Strategy and Context were to be explored in much greater depth than other parts of the notional cycle in order to
elaborate the capabilities picture, and to check whether participants saw a natural and logical point of entry to the cyclic/spiral capability building process, or in fact, whether they concurred with the cyclic notion at all.

A further step was undertaken to highlight some of the similarities and differences between the five elements of Clark (1998)’s original model and the five clusters of the emerging five clusters of this study. This appears at Figure 4. Whilst the two schema are not identical, there is some overlap. Both acknowledge a culture domain with certain implicit capabilities. Both acknowledge that high calibre people are needed both for management roles and for top quality intellectual output. Both acknowledge the need for a variety of mechanisms and configurations of infrastructure in order to better engage with the outside world and expedite dealings with it.

But beyond that, there are differences too. Clark (1998, 2003,2004a&b) points to strategy only to the extent that he claims a ‘steering core’ within the university will have to be strong enough to make strategic decisions and move the organisation in a predetermined direction. He does not elaborate this very much further. He does emphasise the need for a diversified funding base as an off-set to the undue dependence on the government funding purse, but does not give great importance to the many other facets of the external environment that would be of high relevance for successful entrepreneurial operations. The emerging model in this study gives great emphasis to the issues covered by the Strategy and Context clusters, and it is because of this, and the paucity of detail thus far in the model for these aspects, that Round 2 placed strong focus on those two clusters. The questions therefore formulated to open dialogic enquiry with participants for Round 2 are viewable in Appendix 7.

Whilst noting that the Australian participants seemed more inclined to wish to discuss matters to do with their context, including that of government policy, and their strategic choices and options prompted by that context, it was not yet possible to say precisely why these issues were given so much more prominence than the work of Clark (1998,2003,2004) and others has done. Further exploration of this was undertaken at the outset of Round 2. Other issues regarding their understanding of the place entrepreneurship should or could have in a university mission or strategy were also expressly explored later in each of the interviews.
Clark’s (1998, 2003, 2004a&b) Original Elements of the Entrepreneurial University

<table>
<thead>
<tr>
<th>Diversify the Funding base</th>
<th>Strengthen the Steering Core</th>
<th>Expand the Development Periphery</th>
<th>Stimulate the Academic Heartland</th>
<th>An Integrated Entrepreneurial Culture</th>
</tr>
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</table>

Five Clusters Emerging from Data in this Study

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Context</th>
<th>Enabling Mechanisms &amp; Processes</th>
<th>People</th>
<th>Culture &amp; Internal Politics</th>
</tr>
</thead>
</table>

Table 4
Clark’s Five Elements Compared with Five Clusters Emerging from this Study

As part of the two-round design of this study, the emerging model, already a combination of desk-top conceptual research and some Round 1 embellishment, was to be ‘tested’ with and refined by the participant group to generate an improved model of capability that might actually add value to senior university managers and practitioners.
Chapter 5 ‘Round 2’ Results and Analysis - A Dynamic ‘Map’ of Capabilities

5.0 Chapter Overview

This chapter firstly presents the additional data gathered in Round 2 interviews, analyses it and incorporates it into the emerging model of organisational and managerial capabilities for an entrepreneurial university in the Australian setting.

5.1 Aggregated and Coded Data from Round 2 Interviews

Again, the taped interviews were played back and extensive notes and quotes taken from the recordings, utilising the Round 2 template (Appendix 9). The transcribed material was then examined through two processes. Firstly, an attempt was made to code the data, using the original thematic codes from Round 1, as, at least prima facie, there was considerable consistency in the raw data with many of those themes. This supplementary coded data is displayed at Appendix 19.

Of the twenty-five original Round 1 ‘content’ codes and four ‘process’ codes (twenty-nine in all), new data appeared for just eighteen of these. A further eight offered just one or two additional comments or verbatim quotes, which were highly confirming of the theme and views that had emerged in Round 1.

This left just ten codes where significant amounts of additional data emerged, in each case readily relatable to the original concept of the theme, but adding some new idea or emphasis of note. It is not surprising that only some of the codes proved highly central to the dialogues of the Round 2 interviews, given that the questions had already chosen to single out matters to do with the clusters of Strategy and Context for closer exploration given the slight coverage regarding capabilities in the literature and in Table 1. The ten codes are as follows, with a short summary of the essence of those views. Codes with smaller numbers of largely confirming responses are not discussed here but viewable at Appendix 19.
5.1.1 Code DevE – Devolution, Delegation and Empowerment

Participants strongly endorsed the notion that whilst universities are often mostly bureaucratic in character, they needed, most especially at middle and senior management levels to retain a strong capability for empowering, devolution and delegating in order to off-set the bureaucratic tendency. Retaining a capability for innovation and for keeping creative people motivated. In many ways, the retention of an empowered and innovative climate, notwithstanding external government regulation, is seen as a vital key to finding a successful balance. Bureaucracy will work for many of the routine processes of the university, one participant suggested up to three-quarters of what is done, but it is the other quarter of the breakthrough, the non-routine and the truly strategic that must remain capable of being managed in a very different structural and cultural ethos. The views seemed to confirm that excessive control and centralism is indeed anathema for entrepreneurship in all its manifestations within the university.

5.1.2 Code Cult)/C - Culture of Openness, Confidence, Trust, Positive for Innovation

The additional material for this code asserts that the whole culture of a university, at all levels, must be outward-looking and engaged for entrepreneurship to become its norm. The key role of senior managers is emphasised here. A further issue is that of being a living organisational exemplar of entrepreneurship rather simply talking about it or teaching it to students.

5.1.3 Code Enab – Enabling Infrastructure including Legal and Technology Transfer Capability, Organisational Structure, Internal Flexibility

The only additional or emphasised points in this Round related to the need for expert environment, industry and market analysis skills within the university, and for excellent, co-ordinated, layered and integrated planning processes to then use that information. A strong capacity to co-ordinate relationships with the outside
world was also mentioned, a more professional engagement capability that avoids amateurish duplication and mis-information.

5.1.4 Code ExecTC – Executive Team Capability including General managerial Ability

Many additional and re-emphasised points appeared under this code, a clear statement that more than half of the participants considered the calibre and style of the executive team to be centrally important to issues of both reading and understanding the university’s Context and in then making appropriate Strategy to meet that. Implementing via strategic management practices was also seen is pivotal.

The recurring messages were that participants considered that an external focus in the executive team was very important, and that some management training and education in industry analysis and strategic thinking is needed to develop these capabilities as is done in most corporations. Several also thought that this outward facing perspective and strategic capability was better developed in those senior staff who had worked in other contexts, private or public, or not-for-profit sectors. Some were actively trying to mentor team members by placing them in such environments; others were trying to recruit accordingly. All were agreed that insularity, siloed thinking and management were the antithesis of what was needed for good management of the university and especially if the institution was actively pursuing an entrepreneurial strategy. The need for strategic capability was strongest at middle and senior levels, since both could be major barriers to innovation. Several noted that the Australian scene for universities is very complex and over-regulated, but insisted that strategy was just as relevant, if not more so, under such conditions. The tacit message appeared to be that many thought that executive teams were still underdeveloped in their overall strategic analysis and management capability.
5.1.5 Code ExecTC(Lead) – Executive Team capability (Leadership) More Specific Reference to the Vice Chancellor and Vision

Continuing the message of the previous code, the additional material on this code further embellished the importance to successful entrepreneurial efforts of the chief executive, the Vice Chancellor as an individual. The capability for synthesising highly complex information and making clear strategic choices in that light was singled out, as was the leadership style and force of personality and capacity to articulate a vision to make that strategy very engaging for others. According to participants, half of whom were or are VCs, VCs need to be anything but rule-bound, prepared to take modest and assessed risks, and highly participative in leadership style in order to have that strategic vision ‘wash through’ other senior staff. They also need to spear-head the external engagement stance and especially with government, where several thought the VC needed to be very politically astute, good at making connections and relationships to open doors for the institution in a co-ordinated way.

5.1.6 Code OutL – Outward Looking Orientation, Engagement with Outside World

This data coded under this theme in Round 2 also significantly endorsed the threads of the earlier Round 1. When commenting on issues of both Context and Strategy, participants made special and frequent mention of the need to be rather more outwardly engaged and focused than many Australian universities have tended to be. The reinforced the need for the engaged culture to be all through the university at all levels, and emphasised the need for relationships with and knowledge of many constituencies to be developed, not just a Canberra-focused obsession with what government might do next. The wider community and industry and business in general are seen as vital constituencies for universities to get to know better for mutual benefit. At least one participant thought it important to actually learn at times to proactively tell government what the university intended to do and why, rather than passively waiting to see what it was ‘allowed’ to do, thus actually shaping policy in more reciprocal ways. All who commented
agreed that the knowledge of the outside world needed to be sophisticated, deep and thorough, requiring strong analysis and synthesis capabilities. Superficial facts would simply not suffice to underpin the strategic thinking deemed necessary.

5.1.7 Code MarkK – Marketing Knowledge and Intelligence

Perhaps not surprisingly, given the focus of this Round on Context and Strategy matters, a number of participants again pointed to the need for very detailed and sophisticated market research, and remarked that Australian universities actually have many markets – local, international, both off-shore and on-shore, undergraduate, postgraduate, with economic, political, social and cultural dimensions to the information required. The capability for gathering and analysing this material is considered an essential underpinning to strategy-making, both short and longer term.

5.1.8 Code GFC – Government (Federal Gov’t, DEST or State Gov’t), Financial and other Controls, including Audit, Accountabilities and Regulations.

Over half of the participants again commented on this theme, although no specific questions were asked regarding it. For them, it was apparent that talk of Context and Strategy was a constrained discussion, with all choices bound by intrusive regulation and government controls which clearly have a strong mental presence for them.

Several made the comments, as before, that institutional profiles that become ‘set in stone’ with little scope for speedy and flexible university re-negotiation, were the main bug-bear. Others pointed to the issues of evaluation and performance measurement, where a standard sized ‘ruler’ is run over all Australian universities notwithstanding their very different circumstances and missions. They see this as hugely constraining to some of their more entrepreneurial impulses.
However, a more contrary voice also arose in several participants who thought that such external controls were being blamed for what university executive teams were finding it hard to do, and that is, charting clear strategic direction through a very complex, highly competitive and tightly controlled context. They thought it was much easier for some to blame the government(s) than to admit failure to see some of the strategic options and niches for institutions willing to make bolder and more differentiated plans. Again, the capability for strong and clear strategy-making is both explicitly and implicitly endorsed here.

5.1.9 Code ELC – Matters Relating to Entrepreneurial Language and General Concept

A number of participants again commented on their difficulties with the use of entrepreneurial language, finding the term a bad fit for universities in some way. However, they had little difficulty with the concepts of generating wealth, being innovative and creative, being very engaged with the wider community and with being highly strategic about the kinds of activities undertaken, both for revenue and for other value-added. It was not clear, as in Round 1, what was the precise source of the discomfort with the language of entrepreneurship. Each recognised that they must behave in this way, and yet many again appeared to feel squeamish about calling the activity by that term ‘entrepreneurial’. Apparently, in their minds, their strategies embrace being entrepreneurial by both choice and necessity, but they do not choose to name it this way.

5.1.10 Code EStrat- Entrepreneurship as Strategy for value, for Strategic Purposes Over and Above Money

There was most material offered in Round 2 that could be connected with this code, unsurprising given the focus of the Round’s discussion. All participants had some things to say about their understanding of entrepreneurship, and many connected it with their general views on strategy for the university.

In summary, they were becoming collectively acutely aware of the highly competitive nature of the Australian higher education scene, and were all looking
at strategic competitive advantage for organisational sustainability and even survival. A number expressed the view that many universities had been weak on strategy development, were unclear about their particular differentiated mission, and were therefore often unclear about for whom they were trying to add value, so that the ‘how’, ‘what’ and ‘why’ also floundered. Lack of clarity of mission and particular chosen specialisations meant that many were poor at focusing on particular programs and markets, segments of communities, local and international, and were therefore struggling to understand how and with whom to engage. They were also therefore unclear about how and with whom to be entrepreneurial in a number of cases.

They tended to demonstrate an understanding, perhaps more latterly emerging, that external; focus and engagement was the strategic pathway to entrepreneurial activity, but widely held to the value position that entrepreneurship must be about total and mutual benefit, not just a grab for funds. Ultimately, several saw the main aim as generation and transfer of knowledge, the oldest and most basic mission of any university. Some were sure that the real value was about reputation and esteem, not the revenue per se, although all recognised that money was very necessary in the present context, just not sufficient.

5.2 Data Coded as BC – Examples of specific Comment on Clark’s Work and the Likely Impact on the Model

Again, as in Round 1, only a few participants commented specifically about the work of R. Burton Clark as one of the key underpinning contributions to the emergent capability model. One noted that Clark’s case study data had been gathered ten or more years ago, mostly in the EU and USA. They noted that the Australian scene here and now is significantly more market-driven than either of those situations ever were or are even now. Working against the backdrop of a conservative USA system, and what one other called “..the post Thatcher British universities that were resource-starved and needing to find other revenues..”, then Clark’s conceptualisation of an entrepreneurial university made some sense. These participants suggest that our modern Australian conceptualisation of what
an entrepreneurial university looks like might need to be different, and since we are already far more market oriented, then different capabilities issues might be involved.

5.3 Data Sorted According to Question in Round 2

The foregoing has summarised the additional Round 2 data that repeated, emphasised or was consistent with the thematic codes used in Round 1 analysis. However, not all of the data obtained in Round 2 interviews, even though they were considerably briefer and more focused than the exchanges of Round 1, was readily able to be assembled according to the coded themes identified in Round 1.

It was therefore decided to remain ‘true’ to the data by not forcing it into categories where it did not seem to fit, and a different method of presenting it was devised. The five quite focused questions of the Round 2 interviews (see Appendix 7) tended to produce five reasonably focused sets of responses, and it was thus felt more meaningful to assemble and display the responses question by question, as well as in the thematic way already covered above. The question-by-question approach did allow certain consistencies in response to emerge without forcibly applying predetermined themes, and this data display can be seen at Appendix 20.

5.3.1 Responses to Question 1 on ‘Why Context and Strategy Issues are Raised by So Many in This Study when Talking about Entrepreneurship’

There was remarkable consistency of thinking in the responses to this question. Generally, participants considered that the Australian higher education system had been relatively undemanding of strategic planning and management skills until relatively recently, being a substantially publicly-funded system, and also a relatively slow-moving one. As change and competition have dramatically escalated, so has the need to better understand total global and national context, and to consider the institution’s place in it. Self-generated resources are now
essential, and that involves much more stringent analysis of opportunities and trends in order to plot a chosen path.

Most considered that Australian universities have not historically had a good strategy-making capability and that many are now found wanting in this respect. Several speculate that the kinds of people who have risen to the top of universities in the past have not been strategically sharp, have often been security and low risk driven, and therefore do not come to the entrepreneurial tasks easily. The anxiety and uncertainty being experienced around the sector makes it easier to blame government for all institutional shortcomings, although many responses do clearly understand that the context is a very complex and regulated one that makes strategic management both more difficult and more necessary at the same time.

Many indicated that they thought Australian universities had embarked on a new era in respect of strategic management imperatives, all of which demand high relationships and strong knowledge and understanding of total context. Foreshadowed research quality systems, whether exactly as the RQF has been outlined or not, would only serve to accentuate the need for clarity of purpose and mission. It is this stumbling block that several noted: universities are having trouble defining exactly who they are, what kind of institution they want to be, and what they want to be known for when they plainly can no longer be successful at everything. This is, of course, the nub of strategic thinking. When one does not have the financial or knowledge resource to be outstanding and competitive on all fronts, then one must chose which areas in which to operate to achieve a sustainable quality performance, and by implication, which ones that will be left alone for others to ‘colonise’.

5.3.2 Responses to Question 2 on ‘What Organisational and Managerial Capabilities are Needed to Better Address Issues of Context and Strategy? What would be Best Practice Advice to Senior University Managers re these Capabilities?’

There is again very considerable consistency in the responses of all seventeen participants to this question. One theme emphasises the acute need for high
calibre leadership, preferably from a team of managers, who have the capability for participative styles that do not over-control or divide staff but tend to unite and energise them, also containing the anxiety that inevitably develops in high-change times.

Such leadership teams, at the top and through the middle of the university must work well together in collaborative and flexible ways, and also have sharp strategic focus. Participants indicate that this means they must have access to excellent, deep specialist environmental scanning and analysis material, and be able to do some of this themselves, most especially through their participation in national and international networks at high level, to ‘see what is coming’. It also means that they must have well-developed strategy training and education, both theoretical/conceptual in the form of the plentiful modern material on strategic management, and practical in the form of mentoring, placements in external organisations, workshops with experts and with their own councils and senates – all intended to develop strong strategic focus and capability in all line managers. It may also mean that we should not only develop university senior managers differently, but that we should also select them differently from now on.

The recurring theme in this set of responses is that without clarity of mission and direction, without strong and persuasive leadership, then entrepreneurship does not ‘fit’ into any strategic thrust. Unless it is seen as a part of the key means towards achieving certain known and agreed ends that relate to the context, then it risks being disconnected activity and scatter-gun money-grabbing. Their message is that it must be strategically located and connected entrepreneurship that drives the university forward. The key capabilities are seen as being managerial and leadership ones, and the acknowledgement is also implicitly clear that participants see that many Australian universities do not yet have enough of ‘what it takes’ in enough of their senior executive teams.
5.3.3 Responses to Question 3 on Whether ‘Being Entrepreneurial is More About Means or Ends- and What are the Desired End Goals’

This question prompted many very clear statements from participants about what they saw as the ultimate point of ‘being entrepreneurial’. With great consistency, they expressed the view that universities must add value in deep and long-term ways to the communities and society in which they exist. They saw this as requiring a very engaged and interactive stance, and that, if well done, over time the university would reap good financial benefits from having developed that relevance and that set of relationships. All were prepared to concede that the pursuit of money was essential, and could not be naively avoided or denied, but that it was not sufficient. In their mind, entrepreneurship is emphatically about gathering the means to be a long-term sustainable institution, and not primarily about the short-term money that might be gained. Several clearly saw that entrepreneurial efforts, well embedded in an engaged and strategically focused approach, was a vital part of competitive advantage in that it could generate visibility, esteem and reputation for the university, and that this would ultimately assist the university’s survival. If it could do these things, and visibly add value better than the next university, then it had a more certain future. None of the participants were prepared to see entrepreneurship as simply about commercialisation of IP from research, or about short term revenues, understanding that this tended not to generate much in the way of revenues anyway. They instead saw that entrepreneurship was broader, as much cultural to the university as directly connected with either its research outcomes and/or teaching outcomes and always a means to an end. The strategic end goals they opted to describe were mostly about relevance to society, value adding, reputation and a vibrant sustainability for their institution.

5.3.4 Responses to Question 4 on Whether Being Entrepreneurial is About the Individual or the University as a System

Participants overwhelmingly responded that entrepreneurship in the university is a property of both individuals and of the organisation. Their understanding was that
some very entrepreneurial individuals exist, but they are unlikely to be able to achieve much against the many obstacles that a large university could potentially place in their way unless the entire culture, systems and processes of the university actively work to facilitate entrepreneurial initiatives. One without the other would not get far. It was generally felt that an institution must actually have high quality intellectual property and plenty of innovative thinking within it in order to use as raw material or to have anything to offer, but beyond that raw material and the few ‘stars’, the whole organisational culture and approach would make the entrepreneurial difference.

Notably, many participants pointed to the need for the right kinds of people at middle and senior management levels as being a key component of the culture and systems that the university needed to succeed on this front. One participant illustrated this issue very clearly by citing the example of a whole faculty of a university he knew where virtually no innovation or entrepreneurial activity took place, notwithstanding the broader reputation of the institution for very high quality research and IP, good commercialisation and creativity, because the dean “..is control-freakish and [demonstrates] obstruction of innovation [that] stands out and shows as a whole area of underachievement because of him” (see Appendix 20). The interplay between the entrepreneurial properties and capabilities of both individuals and universities as a whole is well described by another participant: “It’s much more than just a characteristic of individuals, a bit like leadership. It’s a characteristic of culture, systems, processes, especially to nurture the potential in entrepreneurs.” (see Appendix 20). The point was also made that many individuals may have moderate potential as innovators and entrepreneurs, but that they would never exhibit it in a hostile, controlling or obstructive environment. Some of the entrepreneurial behaviour can be learned, according to several participants, and that makes the desired behaviours a capability of both individuals and of the university system. Australian universities who do not actively pick up their part of the enabling organisational and managerial mechanisms are likely to be destined to fall short on entrepreneurial outcomes according to this set of responses. Lone entrepreneurs in their midst will struggle and fail more likely than not, or simply leave the university for more fertile ground.
5.3.5 Responses to Question 5 on How Participants Thought Australian Universities Are Doing Generally with Strategy in What is Agreed are Very Complex Environments.

Given that *Context* and *Strategy* issues had figured so prominently in Round 1 responses, and yet the tentative capability model, drawn from the literature, had limited capability implications for both domains, this final question was conceived as providing opportunity for participants to reflect in a more general way about how they though Australian universities were handling issues of strategy and suchlike.

Several themes emerged in their responses. Most felt that Australian universities were doing, on average, quite poorly with strategic management. A few were very clear about a differentiated mission and direction and had made hard choices about what to do and what to stop doing, no longer relying on growth to keep them alive. Some were more mediocre, learning more about strategy making and beginning to learn how to read extremely complex contexts and environments, but not yet really able to break free of the government’s more standardising influences and performance measures. Some were evidently doing very poorly at strategic management and were in financial difficulty, and appeared to have few active plans other than cost containment to bail them out.

A number expressed the view that universities generally still do poorly at getting widespread buy-in from staff who must be committed to the strategic plan in order for it to be anything other than hollow rhetoric. This pointed to a managerial and leadership weakness. Those who felt that their institution had made very significant headway with a more focused strategic plan gave good illustrative examples and these often demonstrated good acceptance and motivation within staff ranks. Notably, none of the participants was prepared to concede that their *own* institution was doing poorly with strategic direction, but many could point out ‘others’ having troubles, suggesting that it is a sensitive enough issue that
open admission from the top about failing on strategic management was unlikely to be forthcoming.

Most conceded that the context genuinely is extremely complex and that making good strategy is a huge challenge in such a context, but they also pointed to insufficient strategic management capability at and near the top of many universities. When the environment is hostile and complex, more leadership capability, not less, is required. More capacity to build strategy that identifies core strengths and capabilities within the university (the resource based view) is needed as a basis for working out how to differentiate the university and achieve excellence in some selected fields. More capacity to build relationships with the external community and world at large is also an underpinning for differentiation, since participants pointed out that one needs to work out whom one is trying to serve, given that it has become impossible to be all things to all people.

However, participants were at pains to note that Australian universities have succeeded at making excellent strategy on the international education front, both off and on shore, have learned some of the essential ‘dos and don’ts’, and are seen as being highly entrepreneurial on this front by the universities of Canada, the United Kingdom and New Zealand, so that the capacity for learning about strategy appears to be there at least in part.

5.4 The Capabilities Implications of Round 2 Data

In summary, Round 2 responses generally confirmed all the capabilities insights of the original Table 1. Participants found it considerably easier to engage with the clustered version of the emerging model, saying that the five territories of capability made sense to them and seemed easier to ‘hold in the mind’.

The conceptualisation of all the capabilities as being somehow connected as a system was more of less taken for granted, and many of the individual responses clearly demonstrated their own understanding of each part of the model being dynamically connected with each other part in some ways. For example, many
spoke of the essential capability for good organisational strategy, and automatically related that to the nature of the people and especially the leaders within the university, how they were chosen, developed and managed. Others spoke clearly of the need for an entrepreneurially enabling and supportive culture, and immediately moved to issues of both organisational structure and process and to issues of managerial capability for operating in certain empowering styles. In other words, the systemic connections were accepted as a matter of course, although never explicated in theoretical detail as to which issues caused or triggered which other in specific ways.

The capabilities model was never conceived by the researcher as representing deep theoretical explanations of all those deeper relationships and linkages. There are other extensive literatures on those matters. What is evident is that the participants in this study intuitively know as experienced practitioners that much of the capability picture is systemic in complex ways, even if not explicated in the course of this study.

The notional cyclic nature of the five clusters was not strongly challenged by any participant. Many felt that it made some logical sense to see capability building as a cyclic approach in this way, perhaps more accurately a spiral function where a university would progressively raise its capability ‘floor’ and recommence the cycle to achieve greater capability over time. In some respects the notion of a cycle was actually confirmed by a number of participants as they acknowledged that building capability for entrepreneurial activity (even if that term was shied away from) logically had to commence with issues of context reading and understanding and/or development of a strategic direction that could guide entrepreneurship in a coherent way. One participant thought that the cycle really ought to start with an analysis of what the university was very good at already, effectively taking the RBV of strategy. But that same person also freely acknowledged that a deep contextual understanding of government, economic, political and social elements is also a necessary step in formulating strategic direction.
At least several of the participants thought that the cyclic model would help senior managers in a university think more clearly about where to begin, depending on where their university was already placed in terms of capability for entrepreneurship. It might be at different points for different institutions. This is of course, precisely the intended purpose of the model development from the outset – to assist senior practitioners to act in matters of capability building.
Chapter 6  The Capabilities Model - Implications for Australian Universities

6.0 Overview

This study set out to develop a model/models or conceptual ‘map’ of the essential organisational and managerial capabilities involved in creating and operating an entrepreneurial university. It did not seek to identify the many complex and deep-seated theoretical relationships between all these capabilities and issues but, instead, sought to create a map that would assist senior university managers and leaders to enhance their practice as managers. It assumed throughout that if managers could ‘hold’ in their mind a map or image as an aid to understanding and to serve as a driver of their decisions and actions, then practice might be broadly improved.

The Introductory chapter identified that many universities in the complex and turbulent Australian context were struggling to become fully entrepreneurial, and yet many identified this as a desired state of being. Contextual circumstances all indicate that the environment within which the universities find themselves now and in the foreseeable future will virtually demand such practice. As the model was developed through the two co-operative enquiry phases of this interpretive study, it was also evident that the senior participants, most of them very senior managers in the Australian system, already carried their own mental models of capability in their minds, and had their own sense of what ‘being entrepreneurial’ might be about and for what purposes, and most had some sense of what might be the necessary capabilities, at least in part. This data set was a rich and enlightening one, since it is a rare insight into what some Australian university leaders think about the whole construct of entrepreneurship in relation to the higher education sector, and how they see it perhaps changing as the sector itself undergoes substantial change.

The literature review explored what the construct of an entrepreneurial university might actually imply and involve, and further explored the capabilities either explicitly or implicitly described in the extant literature that would underpin a successfully entrepreneurial university. This was fused into an initial model of capabilities and
presented to participants for comment and refinement through two iterative stages or Rounds.

The remainder of this chapter summarises the results of both iterations and the many comments and inputs gleaned throughout the research process, also incorporating the researcher’s observations and reactions where appropriate. A final version of the capabilities model is presented along with a number of significant findings about which of these capabilities appears to have primary importance in the current Australian context, at least according to the participants in this study. Implications for Australian university senior executive teams are discussed.

6.1 Key Organisational and Managerial Capabilities for the Entrepreneurial Australian University

In this model, developed through both literature and cooperative enquiry, five clusters of capabilities emerged, participants endorsing the clustering as both meaningful and helpful in terms of their thinking about managerial practice. Each cluster will be described and discussed here, with the key capability issues identified as indicated by the participants in this study. As suggested in the preceding chapter, there is some logic in commencing this summary of the model with the Context cluster, but it is also clear from the data presented that there are many dynamic connections between clusters that do not suggest a neat and tidy progression from one cluster to the next in tight sequence. It should be borne in mind that institutional differences and many other factors might make for differing sequences at different times. The clusters are listed in this order with that proviso. Figure 6, located at Appendix 18, provides a more visual summary of the model here described.

6.1.1 Context Capabilities

The study indicates that Australian universities, existing as they do in a turbulent, changeable and highly competitive environment, must have the capacity to read and analyse that context with great skill and precision, whether the environment be at the local, national or international level, and whether the dimensions be about political, economic, social, industrial structure, or interface with government policy and the
related DEST bureaucracy. The study indicates that Australian universities have done quite well at understanding and reading the environment when it comes to sources of international students, and sites for international education ventures. This partly explains the success stories of entrepreneurial ventures in international education.

However, the capability for reading more local context and for actively engaging with it emerges as a capability of importance in the study, and one that is underdeveloped in many institutions. In some cases, inadequate industry analysis and forecasting has meant that opportunities were not identified speedily enough to successfully take them. In other cases, it is clear that whole universities have developed what their vice-chancellors and others freely concede are disturbingly in-turned, self-preoccupied institutional cultures that are not in touch with the external world and that do not sufficiently encourage or reward such behaviours.

The study identifies the capability for external engagement as being important enough that it should be a diversely held capacity throughout the university, and most especially modelled and spear-headed at and near the top. That is, simply establishing an ‘external affairs’ office or an ‘industry liaison’ unit will not do it. All key senior managers need deep knowledge of the outside world and well developed relationships with key people in it. Vice-Chancellors might need to develop those relationships with bureaucrats and politicians. Others, right to academic grass roots will also need many industry and community networks.

What becomes clear in this study is that entrepreneurship, in whatever manifestation it might emerge within a university, is much more likely to emerge when it emanates from or is triggered by an opportunity located in the outside environment. It could be a joint venture with an industry partner. It could be a consulting project that transfers knowledge to the community, and generates some revenues in return. It could be in the form of identifying a product or knowledge gap that the university can fill with some of its own IP, ready or near-ready to commercialise. It could take the form of a partnership with a professional association, a government agency or such like, but is more likely than not to be with some entity sitting outside the university’s present boundary. Innovations, totally internal and for the sole consumption of the university are apparently much less likely. Commercialised research businesses that are fully
owned by the university are also not common. Unless engaged in widespread and mutually respectful relationships with the community at large, universities will miss these entrepreneurial opportunities, or be unable to capitalise quickly enough in the competitive field.

### 6.1.2 Strategy Capabilities

The study clearly indicates that a well-honed capability for strategy-making, and for strategic management (that is, both having the ideas and being able to implement them) are core to successful university entrepreneurship. The institution needs to have a clear and distinct sense of its mission, and in the Australian scene, this means increasingly a differentiated mission that does not make the university just another ‘homogenised’ version of the standard general traditional university. The university needs to be making choices about what it is good at, what values it stands for and then to craft a mission that reflect these strengths. The mission needs to be fundamentally connected with academic values and excellence, rather than a superficial artefact of administrative thinking.

Clever strategy is of little value unless it is well-communicated internally and has widespread buy-in from all staff, and this points directly to the senior management and leadership capability within the university. Even with excellent and inspirational leadership, the crucial capability is to be able to decide at the everyday level which issues will be managed in more routine, process-driven and bureaucratic ways and which will be given the freedom and authority to be more strategically driven. This determines whether the university remains mired in policies, procedures and potentially disempowered line managers, or whether it is able to direct resources and energy towards the opportunities that will emerge. Identifying entrepreneurial opportunities is a capability, but so is the managerial and leadership capability for strategic re-organisation, nurturing innovation, strategic resource allocation, and practical liberation and mobilisation of people to ‘run’ with the opportunities. This has a great deal to do with whether the academic mission is at the core of the institution, where passion and commitment can be generated, or whether it remains a senior management–created, disconnected document that misses the ‘academic heartland’ about which Clark wrote (Clark 1998).
Paradoxically, it may well be that much of what the average Australian university does everyday can be more bureaucratically managed with adequate, consistent results, but it is certain that a fleet-of-foot entrepreneurial response capability is also needed some of the time. One participant suggested that, ironically, something like eighty percent of the time, routine, militaristic processes would do quite well, but it is the twenty percent of highly strategic and dynamic moments that determine the university’s ultimate success with innovation and entrepreneurial ventures of all kinds, and with sustainable strategic success across the board. The importance of the notional ‘twenty percent’ cannot be underestimated. It makes all the difference in matters of excellence and even organisational renewal and survival. The leadership capability for knowing when to be strategic and flexible in this way is a core essential talent, since it avoids the ‘control freak’ tag that several participants used to describe the anti-entrepreneurial manager.

The study indicates that there must be a clear-cut internal strategy for identifying and promoting those who do have the strategic management capabilities, as promoting only bureaucratic type managers will virtually ensure little or no entrepreneurial thrust. Larger universities may well have the advantage of having larger and more diverse management populations where such strategic expertise resides and can be deployed as needed. Smaller universities with quite small managerial ‘pools’ and where everything funnels to the same one or two people are at the disadvantage here and will have less diversity of capability. Should those one or two people be non-strategic, more bureaucratic and unhelpful for innovation, then entrepreneurial efforts will wither. For those universities, choosing, promoting and grooming strategically capable leaders is absolutely critical.

The capability for attracting, retaining and developing senior leaders who have this strategic capability is important. This really points to the role of strategic human resource management for the Australian universities, and this issue appears several times in this study. Strategic HR practices need to work out ways to get more diverse management groups in universities, embracing those who have had experience in management outside the university sector. The study suggests that those who have had experience in the public and not-for-profit sectors do well in universities, but private industry experience is also valuable in honing strategy skills. However, it may also be a
little too different from the world of the university, and so is not always translated so easily. Where the know-how cannot be recruited, it must be actively developed in senior management teams by mentoring, placements and development workshops. So too, must the capability for actually operating as a leadership and management team. This often requires quite deliberate developmental work, since the segmented fiefdoms of traditional universities are also antithetical to entrepreneurship. Additionally, very resource-limited organisations often result in a degree of internal anxiety and squabbling about resource allocation. A management team must be able to work for total university good despite that tension.

Whatever their differentiated mission might be, the study indicates that universities must focus on seeking out and cultivating top quality intellectual property, which of course comes in the form of outstanding academics and outstanding research. Without excellent IP, there is little with which to seek competitive advantage and be entrepreneurial. These people build prestige and reputation for the institution, and in turn attract other high performing academics. In the Australian setting, as in most other developed countries, it is not financially realistic to be outstanding at absolutely everything in all disciplines, and this points directly back to the capability for choosing direction and preferred fields of excellence. Choosing what to do also implies the capacity to make decisions about what not to do, as it is simply the flip-side of positive strategic management. One must have the capacity to stop things as well as start them, and to steer resources intentionally towards some parts of the university and away from others, withstanding the pressures that entails. Not all leaders are skilled at dealing with the consequences of ‘stopping things’.

6.1.3 People Capabilities

This cluster of capabilities has a degree of evident connection and possible overlap with each of the preceding two clusters in this study, suggesting some levels of interconnectedness between clusters throughout. Essentially, this cluster indicated that an Australian university seeking to be entrepreneurial would require the right people in management and leadership roles to drive it and shape it. A carefully crafted strategic plan will do little unless it also can be translated into purposeful everyday practice, and that becomes a ‘people’ issue. Zahra, Sapienza and Morris (2006: 925) actually suggest
that ‘managerial choice’, the managerial drive that gives direction and substance to a strategy, is possibly the key dynamic capability required for successful entrepreneurship. The capabilities most evidently needed in this study were that of a strategically capable senior management team who work well as a team, and who make good and speedy decisions with relatively high levels of consultation and participation. That is, they provide the drive and motivational inspiration for others. They need to have strong negotiation and interpersonal skills, and to be capable networkers inside and outside the university. They need to have the capacity to identify good opportunities via that networking, and then have the persuasive flair to ‘sell’ those ideas to others.

In terms of leadership style, the study indicates a need for capabilities for leading with humility, emotional intelligence, great respect for academic collegiality (but not excessive submission to the wishes of others), and with an evident value placed on quality and ethical behaviour. In fact, the style of preferred leadership is one of intellectual and strategic, strength, but relatively low personal ego and power/control needs. It is also one of high managerial capacity to synthesise very complex information from the wider environment and to integrate the university’s capabilities. This involves making running decisions about which capabilities to develop, and which to wind down, or make redundant in anticipation of those which the environment might require, and how to combine the standing assets of the institution for best strategic effect (Zahra et al., 2006: 930). Given that past success with certain capabilities can lead organisations to complacency and too much comfort, it becomes essential that the analysis, synthesis and integration skills of university managers are well-honed and always ‘on the edge’. Increasing contextual change will tend to stir the development and use of dynamic capabilities, but past success is sometimes unhelpful in seeing this need (Zahra et al., 2006: 931).

The study indicates clearly that these capabilities need to be dispersed throughout the university, not just sitting near or at the top. In fact the middle ranks of university management, such as academic discipline leaders, Heads of Departments and Deans are especially crucial to the innovation and entrepreneurship processes. In these roles, middle managers have major capacity to obstruct and dampen entrepreneurial thinking and behaviour. They can suppress entrepreneurial ideas before they ever find ‘light of
day’. They can take excessive credit for good ideas and demoralise the grass roots academics that have spawned the ideas. If their own ego and control needs dominate, innovation apparently becomes much less likely.

Again, the capability for selecting and then training and fully supporting this kind of desirable leadership throughout the managerial ranks of any university is an HRM capability in itself, as was mentioned in earlier sections.

A further ‘people’ capability issue is of course that of attracting and retaining people with outstanding academic ability, those who can generate very high quality intellectual property through both their research and their curriculum/courseware development and delivery. Without excellent academic ‘goods’, the university has little or nothing with which to be entrepreneurial, a point that many participants made. People embody knowledge, and knowledge is at the core of the entrepreneurial thrust of any university. The study indicated that a capability for attracting and holding and motivating the best knowledge was essential, a capability that many Australian universities have not yet developed fully. As the market place of Australian universities becomes more and more competitive, especially in light of the RQF, it will be those institutions that can develop this capability who do well. It will underpin their strategic advantage.

6.1.4 Capabilities for Enabling Mechanisms and Processes
This study indicated many capabilities that are grouped in this cluster. They represent the many practical organisational things that both the literature and the practitioners see as necessary to make entrepreneurial things happen in and around the university. There was little controversy about any of these enabling capabilities within this study, and a wide endorsement of the needed mechanisms, structures, expertise and so forth. Most were seen as being in the ‘very necessary but not sufficient’ category for good entrepreneurial outcomes.

A significant number of the enabling capabilities fall into the category that Zahra et al., (2006) have only just recently described as substantive capabilities, differentiating these from dynamic capabilities. In their terms, substantive capabilities are those
“..abilities and resources that go in to solving a problem or achieving an outcome” (Zahra et al 2006: 921). In a university, such a capability might be a particular body of knowledge, or a skilled technology transfer team and unit, or a well-established incubator. By contrast, dynamic capabilities are those “.. dynamic abilities to change or reconfigure existing substantive capabilities” (Zahra et al., 2006: 921), and point more to the capability for mobilising, assembling, disassembling, re-orienting and adapting substantive capabilities in order to strategically thrive in highly volatile and competitive environments. In many respects, many of the enabling mechanisms in this cluster of the model are of the substantive kind. They will be necessary but insufficient for entrepreneurial success unless mobilised by dynamic processes, with some of those key processes being, for example, strategy-making and leadership. It is therefore not so surprising that participants in this study agreed with all the enabling mechanisms and structures of the literature, and yet did not see that these alone would make for outstanding entrepreneurship.

Organisationally, the university would need a capability for excellent market intelligence, for good budgetary devolution with incentive potential and for accurate cost analysis in order to enable good business planning. It also needs some organisational and financial ‘spare’ capacity, so that seed funds can be found at key times, and so that there is some spare capacity in terms of human resource as well. Opportunities often arise quite rapidly and must be seized with speed, requiring organisational ability to free up selected project teams, often across the organisational structural boundaries of faculties. There is an overall need for flexible structures since many projects will call for limited life, single purpose teams and groups, rather than ongoing units or departments.

The capability for more permanent structures with technical expertise to support entrepreneurial efforts refers to units such as those providing expert commercial and contract legal advice, commercialisation and patent advice, business development advice and support, and enduring units such as incubators, technology parks, industry contact offices and so forth. Participants in the study were agreed that all of this was needed in greater of lesser degree, depending on the size and nature of the university, and that such ‘infrastructure for entrepreneurship’ would usually need to be invested for some time before it was fully occupied and financially justified and self-supporting.
Quite simply, unless the university does invest in these enabling mechanisms ahead of the actual business flow, the entrepreneurial business will always struggle to emerge, since academic units will not have either the spare time or the actual skill and knowledge to make the necessary first steps. The highly successful investment strategy employed by the University of Queensland, well ahead of actual commercialisation and entrepreneurial outputs, was cited as exemplary and strategic enabling investment.

One additional capability in this cluster mentioned by several participants is that of capability for networking, especially with the external business and social communities. Successful networking requires some specific financial resources for memberships of associations and interest groups and even for social networking. It also requires some clear performance expectations to be built into the management and academic roles at various levels in order to make external networking a desirable and ‘incentivated’ behaviour. Some participants thought that such external networking and engagement targets needed to be included in very many university roles, including grass roots academic ones; others felt that it more properly belonged with those in leadership roles at various levels, but it certainly needs to be a widespread capability, not just resident with a nominal ‘industry liaison’ person or two.

Internal academic processes for both accrediting and closing down in a speedy and purposeful way were also singled out as capabilities, but with recognition that profile discussions with DEST would always slow down some of this process as it relates to government funded places. The more fleet-of-foot processes needed for capturing shorter-term industry, business and community opportunities (local and international) with tailored courseware are much less constrained by government and represent considerable entrepreneurial potential.

6.1.5 Culture and Internal Politics Capabilities

The fifth cluster of capabilities relates more to the internal climate and style of the university. Capabilities that were identified in this study as being important for a vibrant and entrepreneurial university include those relating to where and how decisions are made, that is, where power sits and how it is mobilised. The capability for empowering all levels of the organisation, and for devolution and delegation is crucial.
This is seen as especially important with regards to middle managers, again the point at which many universities lose the entrepreneurial and innovative thread. Participative and consultative management processes are seen as part of the capability, as is the need for elected representation of academic staff in almost all key decision making management groups. This retains the strategic leadership capability of those groups, but respects the academic collegiality and values and gives a clear voice to academics in management decisions.

In this study, universities are also seen as needing to function as learning organisations whilst actually being about the learning of others. In this respect, the ‘learning organisation’ needs to be capable of tolerating initial mistakes, and have a generally supportive ethos, paying special attention to recognising the successful entrepreneurial exemplars in their midst. A positive ‘pro-entrepreneurship’ culture that rewards achievement, celebrates it and projects a positive image of entrepreneurial success to the outside world is also more likely to repeat the entrepreneurial behaviours. Additionally, some participants seemed to understand that entrepreneurial attitudes and behaviours can to some extent themselves be learned, and extensive efforts could therefore be made to educate and develop both students, who often provide the nucleus of spin-off businesses in universities, and most especially of staff, both academic and administrative. Not all participants referred to this educative culture-building capability, but the concept is well-backed in the literature (see for example Ireland, Kuratko and Morris, 2006b), and was obviously both understood and practised by some of the sample.

Again, networking capability and a cohesive management team are identified as important to building that culture, as is the drive for academic excellence, without which Clark’s ‘academic heartland’ (Clark, 1998) has little of value for the outside world, and much less material with which to be entrepreneurial.

6.2 Dynamics of the Model - Is the Concept of a Cycle Valid or Helpful?

Having notionally drawn the clustered model as a cycle after Round 1 of this study, and then presented it to participants again in Round 2, it appears that the concept of a cyclic
kind of movement between the clusters did have meaning to them. Many conceded that the connections and dynamics were not totally predictable and uni-directional, but indicated their understanding of the natural beginning points for capability development as being centred around context analysis and relationships and the strategic thinking and management that should then logically flow from that. They understood that to move any strategic plans into action then required capable people with the requisite skills, talents and potentials, and that this then demanded a plethora of organisational enabling arrangements to allow the desired entrepreneurial actions, behaviours and attitudes to emerge. There was general agreement that a pervasive culture supportive of entrepreneurship is needed.

Most considered that the cycle logically starts with context and strategy, and that the university must revisit these at very regular iterative intervals, so that capability building is really a kind of cycle, or more accurately, a spiral of generally increasing capability. This accords with Zahra et al’s point (2006: 928) that both substantive and dynamic capabilities tend to strengthen with use and practice, especially if employed together so that with certain levels of both in place, experience will strengthen them and also allow further building of both new and higher levels of capability. It should be noted, however, that substantive strengths used for long periods without change simply create rigidity and habitual patterns. The dynamic and strategic integration is critical.

This general directionality is added to the clustered model as it appeared at Appendix 18, and creates the figure presented here as Figure 7, in many respects the completed ‘model’ that this study undertook to develop. Notably, the directional arrows are inserted with the qualification that participants generally agreed that circumstances might alter the sequence for some universities at some times, and that universities with well-developed entrepreneurial capability across the board may not need to do regularly work through the entire cycle. In this sense, the model is not singular and
Figure 7
A Model of Organisational and Managerial Capabilities for the Entrepreneurial University in Australia – A Cyclic or Spiral Dynamic
rigid and could be redrawn for specific institutions as varied models having the same component parts. However, it is a ‘map’ for a senior university manager to hold in mind for purposes of informing managerial practice, and in this regard may be sufficiently indicative. As has been stated in earlier chapters, no theoretical explanations of detailed dynamic relationships and causalities between the capability clusters are attempted here, although the data suggests that many exist, and that participants were generally aware that they existed in systemic ways.

6.3 The RQF: Its Implications for Entrepreneurship in Australian Universities

Whatever its final form might take, it appears very probable that the Research Quality Framework (RQF) is highly likely to accentuate quality dimensions of university research in ways that cause universities to be forced into considering higher levels of specialisation, if they have not already done a great deal of strategic soul-searching of this kind. When one cannot possibly be outstandingly good at everything, one needs to focus energy and resources on those areas in which one has good chances of being highly competitive at an international level. Given that the formative work already done on the RQF in Australia shows signs of wanting to use indicators that encapsulate impact of research upon industry and community and grant monies generated from industry sources, it is also likely that measures will ultimately be developed that give special favour to close links with business and industry and the community at large (Bishop, 2006). What impact with respect to entrepreneurial activities and values is this likely to have in Australian universities?

The participants of this study were somewhat divided on this issue, perhaps depending upon where they were sitting right now. Those more attached to smaller and less traditional institutions thought it likely that the larger, more traditionally research-intensive ‘sandstone’ universities would tend to roll along fairly untouched by the new framework, other than that they would have to focus their efforts a little more. It was assumed that these universities would simply get stronger in research, but not assumed in tandem that smaller more applied institutions would become totally teaching intensive. The view was that these would have to seek funding for research directly
from industry and the community, to do so in highly applied and value-adding ways, and would be likely to find small niches where their research would reinforce their already strong teaching courseware. This would require high levels of external focus, strategic choice of niche, and a very entrepreneurial approach to adding value in order to succeed. A sense of some uncertainty tended to permeate some of these responses, and in some cases, an anxiety that the big ones would just get bigger and better and become very difficult to beat, almost a hopeless task. A few saw that entrepreneurial efforts with teaching were their main avenue for being engaged with the community, and for generating additional revenues, and if done well, they might also make some connections that could be converted to consulting and highly applied research.

Other participants, generally more linked with larger research-intensive universities, were not entirely comfortable about their future in the post-RQF era either. They also assumed that high levels of engaged and entrepreneurial activity would be needed to capture industry and community funding, and some conceded that they were not particularly used to operating this way. They thought it would also require them to focus research areas of excellence a great deal more than they had in the past, and to develop better engagement capabilities. Some actually saw threat arising from the smaller less traditional institutions, since these were often seen as better at being close to industry, and the view was that a number actually had some small extremely good research units and pockets ‘concealed’ within them right now.

In many respects, the responses from all sides were reinforcing the message that Etzkowitz (2003) made clear: that “.academic entrepreneurship is becoming an academic mission, equal with teaching and research” (Etzkowitz, 2003: 334). He was referring at that time to the higher education sectors of both Europe and the U.S., but in fact, it is now also the situation Australian universities are facing. He emphasised that academic entrepreneurship was becoming a central mission in order to support and enable the universities to function and be more self-sufficient, and also to meet governmental expectations of relevance to society, his triple helix concept (Etzkowitz, 2003: 334). It would seem highly likely that the RQF in Australia, whilst as yet having many unknown dimensions and implications, is highly likely to push institutions into progressively more entrepreneurial stances, whether they choose to acknowledge it in those linguistic terms or not. To achieve this, the key capabilities are those of strategic
focus, and those that create and sustain a fully engaged orientation with selected and appropriate external environments and constituents. The study outlines many of the component aspects of this capability. Leadership is one element; culture another; mechanisms for co-ordinated and fluid relationship another.

6.4 Focus and Strategy – Is It Entrepreneurship or Is It Innovation That Is Wanted?

The impending RQF might require greater focus and strategic precision regarding chosen areas of research strength. But many other current environmental forces are also causing this dynamic. In fact, the study suggests that participants are only too aware that the very complexity, hostility and dynamism of the Australian higher education sector are all forces at work.

It is of note here that Ireland, Kuratko and Morris’ very recent work on a health audit for corporate entrepreneurship and innovation (Ireland et al., 2006a: 10) actually lists these same circumstances as usually generating the best corporate entrepreneurship (CE) performances, being both prime contextual triggers and also indicators of when a CE strategy is actually likely to deliver best overall organisational performance. There are also internal university triggers for CE, such as tempting reward systems, slack resources, internal competition, major quality problems or significant cost control issues (Ireland et al., 2006a: 13). Both internal and external forces are clearly currently pushing universities in the direction of CE. Choosing how to be entrepreneurial, and with whom, and in which industry sectors, and with what knowledge resources and stocks held or developable within the university appears to be the strategic challenge.

This is again linked back to the capability for strategic focus, without which high strategic effect is unlikely. Ireland et al., (2006a: 10-12), as have others, emphasise that entrepreneurship does not normally occur by accident. It requires intention, enabling, and a coherent place within the university plan to drive in the chosen directions with the right resourcing. It needs to be a highly integrated activity, not a peripheral one.

Even then, there are key questions of a strategic nature that any organisation, university included, need to resolve. Ireland et al point to at least six such questions:-
1. Where does the university want to be in terms of a level of entrepreneurial intensity? Does it want a lot of activity or just some? Does it want frequency or just large scale?

2. Does it want to start new businesses outside the organisation, or focus more on transforming the internal university?

3. In what areas does the university want to innovate and be a leader? Does it want to be a first mover in some markets?

4. Are there particular areas or faculties in the university where higher levels of innovation and entrepreneurship are sought?

5. Is product or program innovation more important, or process innovation?

6. To what extent are innovation stimuli expected to come from top, middle and lower level managers? What are the expectations realistically?

(Ireland, et al., 2006a: 12).

These questions form a basis for connecting entrepreneurship efforts with an overarching strategic plan.

A further question of importance here is whether the university is clear about whether it actually wants innovation, or actually wants entrepreneurship. Throughout this study, many participants, especially those with current or recent past vice-chancellor roles tended to avoid the word ‘entrepreneurship’ which they considered too commercial and profit-oriented for a university, and too tainted in the Australian context where past prominent so-called entrepreneurs have been shown to be corrupt, criminal and rapacious. In some respects, their understanding of the term appeared limited, since a true entrepreneur creates something new, irrespective of whether he or she currently holds the requisite resources, where there was nothing before, and in so doing, adds value. The rapacious criminal image of the ‘Aussie entrepreneur’ of the ‘80s and ‘90s actually added no value, simply deceptively took it. It may be time for Australian universities to become more comfortable with entrepreneurship as a term and concept, since they must inevitably embrace the action of it to have a sustainable and viable institution.

Those same participants who avoided the language of entrepreneurship said they were more comfortable with language like ‘innovation’ and ‘creativity’. Here, Ireland et al. (2006a: 10) have something to offer. They hold that entrepreneurial behaviour is the
foundation of innovation. If innovation is about bringing new things into being, by using new or newly combined knowledge, then entrepreneurial behaviour is the driver, the instigator, for that to occur. This would surely indicate that both elements are needed, one to prompt the other.

The implication here is that if entrepreneurial behaviour is not encouraged within the university, or any other organisation, then not much innovation will result either. People have to want to try new things. They also have to be able to try new things, and this signals the high importance of the total work environment. Does it generally help or obstruct such behaviours? Universities, as has been shown, are inclined to offer many structural impediments to entrepreneurial behaviour, often in the form of highly bureaucratic routines and excessively centralised controls, but also in the form of rather too many organisational layers and formalised communication patterns.

Ireland et al. (2006a: 14-15; 2006b: 21) suggest that a health audit for CE therefore needs to make some diagnostic assessments of the organisation’s readiness on the four dimensions of structure, control, HRM, which they see as vitally important in developing creativity and specific entrepreneurial skills to most people within the organisation, and Culture. In this last dimension, the capability and readiness of any organisation is assessed around issues of management support, autonomy for staff, reinforcement, time availability and clear organisational boundaries and expectations. They specifically tie entrepreneurial success back to its being vision-led and purposeful (Ireland et al., 2006b: 21). This is highly consistent with the findings of this study.

6.5 Implications for Australian Universities

The findings of this study, and the capabilities model that has been developed and refined throughout it, have some substantial implications for Australian universities.

6.5.1. Language and Embracing the Concept

It appears that an entrepreneurial approach is virtually a strategic necessity for Australian universities, because of the need for financial self-sufficiency, the
government push to become more engaged with the external world, the obligation and expectation to provide more added value to that society, and to create more strategic directions of a differentiated kind in a fiercely competitive sector. Corporate university entrepreneurship by any name makes strategic sense in this scenario, and all participants agreed with this basic proposition.

The issue of whether a university does choose to use the language of entrepreneurship is raised here. Since many of the participants accepted the concept of entrepreneurship from and within the university, although uneasy about the term, it might well be asked ‘why so uneasy?’ with the terminology. The fear of being seen as ‘too commercial’, or ‘potentially unethical by implication’, or ‘too much a business and not enough a learning environment’ all seem to be rather unnecessarily squeamish about saying exactly what the university wants to do and knows it must do. It could be argued that the time is right for senior university leaders to address these issues head on, given that the strategic imperative to be both entrepreneurial and innovative is very strong. Why not call it ‘entrepreneurial’ and work through any misgivings within the culture as part of providing strategic direction and clarity for all? Why not provide careful checks and balances to protect academic standards and quality matters, and remove the anxiety about the language? Why not accept that a university will never be quite as free to be a corporate entrepreneur as, say a private business, owing to government accountability provisions and controls, but that it can nevertheless be entrepreneurial within those guidelines? Why not indeed, since most already are so and many institutions are so to a high degree?

In fact, nothing in this study suggests that entrepreneurship is an inappropriate misfit for Australian universities. It is simply described as appropriate when it is strategically undertaken with the right partners and for the right reasons, and they are not only reasons relating to revenue dollars. ‘Right’ motives were often described as adding value and service to the community, as transferring valuable knowledge for a more knowledgeable society, and as spurring economic value in the wider community through that transferred knowledge. Direct dollar gains were only sometimes seen as a primary motive for entrepreneurship, and all other gains were deemed by many to be more generally worthy.
Throughout the study’s two interview Rounds, it was noted that some participants evidently felt markedly uncomfortable with entrepreneurial language. This appeared as body language movements, facial expressions, asides, and so forth. Many gave the reasons listed above. Another possible explanation, perhaps only true in a few cases, is that the participant did not feel familiar enough with the concepts of corporate entrepreneurship as they might relate to their university to feel comfortable with the dialogic exchanges. In at least some cases, the researcher observed a level of confusion about the draft model and about the direction of the questioning that could have been interpreted, not as discomfort with the language, nor as complexity of the presented materials, but as discomfort caused by simply not knowing enough to hold their end of the dialogue.

In two cases, the participants had visible difficulty in responding to some of the prompt questions and appeared to be unsure what entrepreneurial activity would mean or how it might relate to their role. Were this to be so, it would signal a cause for concern. With every Australian university facing a continuing decline in government supplied resources, and being expected to deliver better and more relevant teaching and research as part of its outputs, then it is disconcerting to find senior university managers who do not fully understand the concept of corporate entrepreneurship, and do not see how their institution as a whole might be able to embrace the ethos, or build the capabilities.

However, this possible interpretation must remain speculative, since there is no simple way of assessing how many just did not know enough to understand the full thrust of the study, and the implications of the capabilities model as it emerged. Most participants clearly comprehended it and the related issues throughout.

6.5.2 The Strategic Capability

Faced with increasing competition, shrinking public resources, greater demand for public accountability and quality outputs in a turbulence environment, as with any other corporation or organisation, the capability for strategic vision, planning and implementation become critical to long term survival and success. It is therefore not surprising that the findings of this study have tended to emphasise the strategy elements of the total capability for entrepreneurship within and from the university.
From participants’ input to the capability model or map, it is also apparent they generally consider this facet of current Australian university operations to be in need of substantial development. Most of them conceded that they wanted to consider themselves as ‘leading the pack’ in terms of strategic management, and tended to point to others as still not doing so well in this regard. Logically, they cannot all be doing well and simultaneously pointing to each other as not doing so well. For example, in one part of the Round 2 interviews, a participant indicated that his/her university was doing very well now in respect of strategic management, and yet several other participants pointed to that institution in particular as being strategically very sluggish, unfocused and still struggling to create any kind of differentiated identity. They cannot all be right. More realistically, and readily admitted by several, is the fact that the strategic capability in many Australian universities is actually now being built very intentionally, in some cases from a very low base of expertise. It is a deficit urgently needing to be addressed.

How might one build this capability? This study indicates that selection of senior managers is critical. External work experience beyond the university is an important ‘plus’ and a compensatory strategy may be to arrange developmental exchanges for executives in other sectors beyond the university. There is a need for senior people to have worked with some clever strategic minds in other organisations. There is also a need for universities to very intentionally provide training, education and development of the most stimulating and challenging kind for its management teams, and not just for the most senior. Middle managers are critical to entrepreneurial and innovative success, and need a great deal of development investment in order to learn the issues, the skills and the styles that will get best results. They are unlikely to learn these whilst teaching in a classroom or standing in a research laboratory unless they have exceptional natural talent. The implications are clear for Australian universities: select for highly strategic managerial potential, and be prepared to invest considerable resource in developing such people through several levels of management experience, so that the pool of potential senior managers for the future is very much bigger and better equipped to cope with the kind of thinking and behaviour that the senior roles in universities now demand. It is different from ‘how things used to be’. Appointing one’s best
researcher/scholar as a manager on the assumption that they will just know what to do, or that they are ‘a tidy administrator’, is simply no longer sensible.

The promotion systems within Australian universities must start to deliberately seek out people with high managerial potential in mid-career, in order to invest in the-most-likely-to-succeed. The issue is not only about having strategic intelligence and capacity to analyse and synthesise the complex data. It is very clearly, as shown in this study, about the capacity to carry strategy into action. Implementing a strategy requires strong leadership and interpersonal skills to carry the vision, to translate it into life, and to mobilise people to take up the challenges.

6.5.3 Leadership as the Mobilising Capability

Whilst the literature reviewed in Chapter 2 was drawn from both CE and university/education fields, it appeared that leadership was not identified as the most central of entrepreneurial capabilities. It had importance, but was not clearly shown to integrally linked with almost all other capabilities to emerge in the review. In this study, it appeared prominently in both Rounds of the study, and in several of the clusters of capabilities as the mobilising factor giving the capability meaning, direction and motivation.

Participants saw leadership as being essential to the forming of useful relationships with and knowledge of the contexts of universities. They saw it as underpinning the creation of strategic vision, and of then implementing it. They certainly saw empowering leadership as being a pivotal part of the people cluster, noting that unless capable leaders and managers were at all levels of the university, especially at middle and senior levels, then outstanding intellectual work would likely not occur, and good scholars would very probably leave, diminishing the IP with which the university can work. They saw setting up the right mix of enabling structures and mechanisms as a leadership and management issue, requiring good understanding of what innovation and entrepreneurship need to flourish. And they certainly saw leadership as a key component of the style of internal culture and political landscape that is needed to become broadly entrepreneurial in orientation, so that it is not just ‘lone star’
entrepreneurs who contribute, but a broad and nurturing culture that expects and rewards entrepreneurship.

The question here is whether leadership is more important in the current Australian scene than it might be in those other organisations or sectors, given that it has been given great prominence in this work. Whilst a detailed analysis of the functions of leadership is not intended here, it is worth noting that leadership is widely regarded as most urgently needed in times of organisational change, and that certainly suggests it is in strong need now in Australia. It is also possible that it is noted as a needed commodity simply because we do not have enough of it in the higher education sector in Australia. The absence or scarcity is perhaps troubling enough for some senior executives to be very aware of the issue.

Decades of relatively stable dependence on government funding did not stimulate a strong need for senior university executives to be highly strategic. Certainly, middle management in past years was able to stay reasonably close to the academic roots and to operate, often on short term rotations, in management roles that neither expected nor demanded a great deal of genuine leadership and managerial skill. This is not the case now and has not been for a decade or more. Now we need a different approach to leadership and managerial skills in all management roles in the university. The more we move to strategically managed competitive organisations that are not just lumbering bureaucracies, the more it will come into play and into demand. Several participants made comments that suggest that this accords with their view.

The leadership capability here embraces not only the visionary and inspirational elements of leading, but also the so-called ‘soft’ skills of interpersonal relations that tend to make people feel valued, respected, included, and, above all, empowered and motivated to give of their best for the long term. It is apparent from many of the comments made by participants in this study, as well as through out the surveyed literature on corporate and university entrepreneurship that the skills are anything but ‘soft’, and often make the key difference to whether an entrepreneurial culture eventuates or not. The implication here is that Australian universities must start paying quite serious attention to selecting and grooming those with high natural leadership potential in a systematic way, since accidentally finding one or two who have battled...
their way into more senior ranks will simply not provide enough drive for any university facing the turbulence and strategic imperatives that are now surrounding universities. The kind of development investment needed in managerial and leadership capabilities is an ironic return to the resource-based view of the university organisation, and especially to its dynamic capability for strategic integration. Without these, all the other resources of outstanding staff and intellectual property, of excellent facilities and equipment, cannot really flourish.

6.6 Strategic Entrepreneurship

In essence, the findings of this study point to the matter of strategic integration for entrepreneurial activities. University entrepreneurship, especially in the current Australian climate, is not likely to be anything other than an occasional dabbling in commercialisation, or a more regular search for new markets and openings for teaching offerings unless it is integrally planned and conceptualised as part of the overall mission and strategic direction of the institution. As in Etzkowitz’s triple helix, it becomes the third and parallel mission for the university alongside teaching and research (Etzkowitz, 2003). If not thought about at every step and level and given equal importance with other core activities, it tends to become episodic, haphazard activity that might, if a university is lucky, produce quite good revenues and relationships. But if it is integrally conceptualised and managed as a purposeful thrust of the whole institution, laminated into plans, targets, organisational design, budgetary mechanisms, performance expectations, values, and everyday operations, then it can produce full potential for organisational renewal and sustainability, just as the corporate entrepreneurship literature indicates (see for example Hitt et al., 2001; Ireland et al., 2001; Ireland et al., 2003; Alvarez and Busenitz, 2001). Those participants in this study who seemed to best understand this need for highly integrated strategic entrepreneurship were also able to point to a number of manifest successes in their own and other universities that could demonstrate this dynamic. Those who struggled to see the necessity for such integration tended to speak of entrepreneurial activities as though they might be optional extras- nice to do, good to make a bit of extra money from, but not all that likely to fundamentally transform the institution.
The organisational and managerial capabilities for constructing the enabling mechanisms of entrepreneurship in an Australian are largely known. There is little controversy about how they should be built to assist entrepreneurial activity. Not only is there wide agreement about these steps and processes, but it is fairly evident to greater or lesser extent in many institutions that many of the steps have been taken. However, the dynamic capabilities of strategic management, leadership and a fulsome orientation of both capabilities to the outside world in which the university exists, turn out to be actually more important and not nearly so widely understood or practised, at least as it is revealed in this study. Without these capabilities generously developed throughout the university, Australian universities are likely to continue to struggle to adapt to the new demands of the society in which they exist. These are shown here to be the capabilities that make entrepreneurship an integrated and integrating element of the university mission.

6.7 Limitations of this study
This study actively engaged participation from seventeen senior university managers and those with some perspective about entrepreneurship in universities. It cannot therefore claim to represent the views of all senior university executives around the country, nor represent that which occurs in all Australian universities. Although a senior, informed and practised group of people who have some considerable authority to speak about the capabilities issues they see as relevant, it is possible that another group of managers and expert observers from other institutions would have described their reality a little differently. That remains a limitation of any convenience or selective sample that is not truly random but given the interpretive nature of this study, which is designed to evoke the model-in-the-minds and to enlist practitioners’ help in improving a notional model, that is of limited importance. In any case, this study did not only generate a capabilities model, a fusion of the literature concepts and the practitioners’ views. It additionally generated some very rich data about the participants’ views on matters to do with the concept of entrepreneurship in universities, the situation and context in which Australian universities currently find
themselves and what this does or does not do to efforts towards being more entrepreneurial in general.

The mental maps of capabilities are of course not necessarily what is practised. What participants say they do and think may not be exactly what they actually do, since there might well be some tendency to disguise one’s own university’s poor performances or lack of capability, or to protect one’s commercial advantage by not disclosing a ‘secret’ capability idea. It might be that the participants were simply unwilling to disclose their real views to this researcher, although that did not intuitively appear to be the case, since most participants were extremely frank about their own university’s shortcomings and issues under cover of research confidentiality agreements.

It might also be the participants are self-deluding to some extent. Perhaps they think they are very much more capable, and that their institutions are very much more capable than they really are, as might be judged by others. However, this study was not attempting to establish an objective reality that everyone might endorse irrespective of which level of the university system they work in, or where in the environments of government or business they might sit and watch Australian universities. It wanted to understand what a group of senior managerial participants in the system thought about the issues in question. It wanted their ideas and contribution to building a more helpful model. It cannot therefore be wrong or self-deluding. It just is what it is with its own inherent validity.

As with any interpretive work, the study is of course limited by the various interpretations made of data, both by the participants in the two iterative stages, and by this researcher throughout. There is potential for considerable bias to be injected into all levels of data analysis and display in such interpretive and qualitative work. The procedures followed and the extent of data display has attempted to allow the reader to see what had been said, and what has then been deduced or inferred from that data, so that some transparency of analysis might reduce possible bias, or expose it.

It is of course also possible that ‘the map does not equal the territory’, in that the organisational and managerial capabilities envisaged by participants in their interpretation of both the literature and their own practice are not those that people in
other-than-senior positions would see. Participants have their own blind spots according to their structural encasements and experiences. If capabilities had been identified by, say, a sample of front line academics within Australian universities, the mental map on necessary capabilities could look different, and yet still be a legitimate view of what organisational and managerial capabilities are necessary for the entrepreneurial university.

6.7 Future Research Opportunities and Issues

Empirical research work in organisations where multiple dimensions and variables are being identified in their various relationships with organisational effectiveness and outputs are notoriously extremely complex pieces of work. It remains difficult to do such research where there are so many variables in play, and so many possible connections between those variables. This would certainly be so in the complex field of researching organisational capabilities. Thus, whilst empirical work could certainly be done to identify some selected capabilities and establish the relationship between those and certain outcomes or related issues, the work would be extremely complex methodologically, and a sufficiently large sample would have to be available for sizeable and significant statistical analysis to be done.

Given the model and ideas that have emerged in this study, some further work could certainly be done on confirming the key capabilities issues with a greater number of Australian universities participating to establish stronger national patterns. It could also be done with various levels or constituent parties within and beyond the university to ‘verify’ what the senior participants in this study conceptualised as relevant capabilities for an entrepreneurial university. Some objective links with measurable entrepreneurial performance might also be able to be incorporated.

However, the more fertile further research that this present study seems to indicate would be longitudinal work with a selection of Australian universities who are seeking to be more entrepreneurial, and who opt to utilise the model and ideas presented here. In fact, a longitudinal study with just one university would provide rich data about the processes of developing capabilities, especially if baseline measurements were taken on
a number of variables, and then tracked over several years for improvement in line with an overall strategic thrust toward being more entrepreneurial. The opportunities for such research are few, and would rely totally on the willingness of universities in a very competitive scene to be willing to reveal and ‘share’ their inner workings. This is not an easy access or collaboration to secure.

More likely, and equally insightful regarding longitudinal development of capabilities for entrepreneurship would be a single university case study where the university is working in action research mode with a researcher/facilitator or team of same. This would offer excellent potential for understanding the ways in which the capabilities interact, the ways in which increasing levels of capability might be developed cyclically/spirally, growing over time as part of a master plan. It would allow a test of sorts to be conducted on the worth of the model as a managerial tool, doing what this study set out to do in the first instance – offering an aid to enhanced managerial practice.

6.8 Conclusion

This study thus concludes that whilst many Australian universities have developed a number of the organisational and managerial capabilities for entrepreneurship, especially the more mechanistic components, there is a considerable amount still to be done for reliable entrepreneurial outcomes and for longer term university sustainability in some cases. Those institutions that have either intentionally and/or accidentally built many of the core capabilities have had some entrepreneurial successes. Many have made a great success, for example, of international education, both on and off shore, so it clear that some aspects of university entrepreneurship can and do happen. They can build further on those foundations if they make the choices to do so. Those that have neither planned to develop the capabilities, nor appear to fully understood the strategic reasons for doing so, are at peril in the current situation of Australian higher education.

Where a context is demanding, controlling and uncertain, as many of this study’s participants see it, then a university may be able to do only a little about changing the external environment and government in particular. Blaming external factors is
unlikely to change them or their impact. However, senior university executives always have some considerable capacity to change the university itself and to also change themselves in the process. That is the thrust of capability development.

It is hoped that this study has produced an indicative model of the wide variety of capabilities that are involved in taking an entrepreneurial stance. It is also hoped that it might encourage more university executives to think through their commitment to entrepreneurship as a strategic set of choices. If entrepreneurship is an inevitable part of the university mission in this century in the developed world, then it will serve universities well to embrace it, not fight it, in all its forms, and to consciously build the capabilities to support it. Mechanisms and structures are the relatively easy elements of capability to establish. The complex strategic leadership capability, reaching deep into and empowering the middle levels of university management, is harder and yet more essential if we are to avoid universities remaining ‘anti-innovation’ bureaucratic monoliths. Done well, entrepreneurship may be their means to a vibrant future. Not done, or done with low understanding, commitment and capability, especially of the strategic and integrated kind, then they may struggle to have a future.

The model developed in this research has the potential to be further refined and adjusted for individual universities, depending on their stage of development, size and overall extant capability levels. It hopefully provides a conceptual basis for further exploration and managerial practice, and if it stimulates and assists some senior university managers to better address the capabilities issues, then it has succeeded in doing what this study set out to accomplish.
**BIBLIOGRAPHY**


Strategic Types, Capabilities, Environmental Uncertainty and Firm Performance."


Rasmussen, E. and O. J. Borch (2004). *University Resources Facilitating Strategic Entrepreneurship*. Second Bi-annual European Summer University, Twente, University of Twente.


Professor
xxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxx
Dear Professor xxxxxxxx,

I am writing to request your participation in my current research project on entrepreneurial universities.

My name is Barbara Cargill. I am a staff member who has management experience here at Swinburne and who is currently on study leave to complete a Doctor of Business Administration program at SUT.

I am preparing for field work related to my research topic, Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia. I hope the outcome of this project will be more comprehensive models than those already in existence of the organisational and managerial capabilities that our universities need to develop in order to become more genuinely entrepreneurial in their current context. I see the context as making some aspects of these changes very challenging.

I have made a first-pass synthesis of what the higher education literature on entrepreneurial universities (e.g Clark’s work) has to say on the matter, and fused it with some mainstream corporate entrepreneurship literature in order to see what large public/private organisations, and universities in particular, might need to do to get significant results on the entrepreneurial front. I am beginning to see that universities struggle to develop some of this capability partly because some do not seem to fully understand what is involved, and what must be done to support it. This initial synthesis model is enclosed with this letter. You are welcome to keep this irrespective of whether you opt to participate in the later dialogical enquiry stages of this study.

I am asking if you would be prepared to read my initial model, and to then permit me to interview you on two occasions about a number of issues related to your own experiences, observations and thoughts on some of the issues that the model raises regarding entrepreneurial universities in this country. I am interested not only in your experiences in your current role, but in any other you have held at senior level in the sector, and your critique of the model. In dialogue with a number of senior managers and practitioners in the sector, including yourself, I hope to then embellish and re-iterate the model(s). I plan to return the refined outcome to you at a second interview in a more embellished state for a final iteration. I am keen to build models that genuinely help senior managers’ understanding and practice, and of course, to better inform my own once I am finished the DBA. The published models will hopefully offer benefit for many university managers in Australia and beyond.
I have ethics clearance for my planned interviews, and have purposely identified a sample of present and recent past Vice Chancellors, industry experts and policy makers and other selected senior university managers who should be able to critique and embellish the practice model and fill out our understanding of the organisational and managerial capabilities involved.

I can assure you of complete confidentiality, and of the fact that my research design does not require me to identify either specific individuals or institutions. Apart from an acknowledgement of you as one of the contributors to the study, if I should need to cite an example or quotation in the thesis, identity of both individuals and institutions will be fictionalised. In fact, all retained notes and materials will identify you only in this fictionalised form. I am more interested in identifying good practices and issues than in specific cases. I hope this will assure you of a degree of confidentiality and comfort in talking frankly about matters that can be difficult in our often very competitive context.

If you are therefore willing to read the enclosed material and participate in this study, I would be very grateful, and ask that you call me on (03) 9214 8534 or mobile number 0416 174 837, or email me at bcargill@swin.edu.au to arrange an interview time in the coming weeks. I anticipate we would need approximately 1.5 hours at first interview, and possibly less at the second. I would need to tape record our meetings and take notes, and would, of course, need your written consent to participate. The consent form is attached, and you will note that it also authorises me to attend at your premises for the interviews. I would appreciate your signing this consent and returning it to me before our first interview. You should understand that you would be free to withdraw from the study at any time, but I hope it would be sufficiently interesting and useful to you that this does not arise.

If you have any questions regarding the study, please call either myself, or my thesis supervisor, Professor Nita Cherry (9214 5901) at the Faculty of Business and Enterprise here at Swinburne. Additionally, should you have any complaint about the study, either before, during or after any involvement on your part, you should contact:-

The Chair
Human Research Ethics Committee
Swinburne University of Technology
P O Box 218
Hawthorn Vic 3122.

or Associate Professor Linda Brennan as Chair of the Faculty’s Human Research Ethics sub-committee.

I look forward to meeting with you soon, and hope you will agree to participate in this study.

Yours sincerely
“Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia”

Barbara J Cargill

Background to this Research

Like universities throughout the developed world, Australian universities are being pressed by government policy into becoming more connected with the economic development of their societies, more engaged with business and industry in particular, adding more value to the nation, and generally, costing it less, or at least managing to do more with the same amount. Greater accountability, matched with policy frameworks that are at times very intrusive to the internal workings of universities characterises current policy in this country. All forces press universities to be more entrepreneurial, partly because of the innovation and intellectual property that might then be moved outside the university into the knowledge economy, and partly because successful innovation and commercialisation will generate some of the funds no longer available from the public purse. Ideally, ‘being entrepreneurial’ will also result in wealth and job creation as spin-off ventures emerge from the institutions.

We have had a decade or so to get oriented to the concept of an entrepreneurial university, and various authors, including Clark (1998,2003,2004) have attempted to elucidate both what an entrepreneurial university might look like, what it might be able to do for the community, and to a lesser extent, what might need to be done to it to get it to function entrepreneurially. We know quite a number of general things about what university managers might need to think and do to start moving in the entrepreneurial direction, of course assuming that they can see strategic reasons for so doing. We have also had a decade of government policy that is now restricting in many respects the degrees of institutional freedom to operate. Paradoxically, the Australian university is more regulated and accountable than ever, and yet is purported to be liberated to engage in an active free marketplace. We also know that entrepreneurship usually flourishes on opportunity, rather than the environment of threat that many universities currently feel.

We do know that there has been some excellent practice and outcomes in some cases, over the last decade, but not across the board. Some universities seem to be struggling with both the concepts and the actions/behaviours, or cannot see through the paradoxes. Do they actually have the capability? Do they know how to build it? We do not have a great deal of detailed practice advice for senior managers of universities that would make the outcomes more assured. Notwithstanding the few successful examples, can we identify more systematically the capabilities and practices such that one might be able to see what structures and strategies are needed, what policies and processes and systems might need to be built, and how the day-to day culture and decision-making might need to be managed and led for excellent entrepreneurial results? In fact, there is not a lot of available advice to translate the widely accepted general thrust of work like Clark’s into more assured successful practice for most institutions. Some would suggest that there is a tendency to adopt the rhetoric and struggle with the implementation.
The world of corporate entrepreneurship can assist here. Whilst the literature is mostly written for profit-oriented corporations seeking to rejuvenate via new ventures that emerge from within their midst to either spin-off to independent status, or to remain internally as a form of intrapreneurial value-added, there are many messages in the corporate entrepreneurship field that could help Australian universities. This is especially so given that Australian universities are all now public/private hybrid organisation types in any case, so the old ‘public not-for-profit’ ethos no longer applies in toto. The years of practice and research in the corporate entrepreneurship domain have taught senior executives much of what is needed to reliably make a large organisation entrepreneurial. Can some of these ideas be adapted to our Australian context and made to embellish Clark’s broad-brush approach, even allowing for the more difficult context?

This research is interested in developing models of organisational and managerial capability to successfully make the university more entrepreneurial. It will try to address the question of ‘what it takes’ to get entrepreneurial results. It is especially interested in what the senior managers and executives of the university will need to do, rather than what, say, the university council or senate might need to do. In this respect, it is aimed at helping practising university managers to do their job, to understand clearly what is involved in being entrepreneurial, and to indicate what they must do more of, less of, what must be set up to build the capacity, how etc.

In the current Australian context, restrictive or intrusive government policy, coupled with the RQF initiative, is likely to make the entrepreneurial agenda both more difficult and more urgent for some institutions. Whether the goal is wealth alone, or the innovative and vibrant culture that might lead to wealth or strategic competitive advantage, the entrepreneurial challenge will be greater for some, especially where research is reduced and intellectual property of commercial calibre becomes scarce.

By talking with some leading university executives with experiences of the ‘entrepreneurial university’, and some well-placed sector observers and commentators, this study is seeking to enhance an initial model synthesised by the author from the education and the corporate entrepreneurship literatures. This research is being undertaken within the methodological framework of theoretical enquiry with more participative dialogical enquiry to improve the extant theory. It will involve several iterations of the model until it offers good capability description and clear practice signposts.

Your participation is therefore sought for interview and engagement with the initial model that is also enclosed. Your participation in the study would involve two interviews at intervals, would offer you access to the improved models that are developed within the study, and would be undertaken with full confidentiality and anonymity assured. Further details are explained in the accompanying letter of invitation.
AGREEMENT

Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia

I, ………………………………………………………………………………., have read and understood the information in the letter sent to me by Barbara Cargill. Any questions I have asked have been answered to my satisfaction.

I agree to participate in this activity, realising that I may withdraw at any time.

I agree that the interviews may be recorded on audio tape as data on the condition that no part of it is included in any presentation or public display.

I agree that research data collected for this study may be published or provided to other researchers on the condition that anonymity is preserved and that I cannot be identified.

I give permission for the researcher, Barbara Cargill, to have access to the premises of my own organisation for purposes of conducting the agreed interviews.

Name of Participant………………………………………………………………………..

Signature…………………………………………………………………………………

Name of Principal Investigator……………Prof. Barbara Cargill

Signature…………………………………………………………………………………

Date…………………………………………………………………………………...
Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia

List of Questions for Interviews:

N.B. Semi-structured interviews with articulate and engaged senior managers will tend to flow into areas of mutual interest related to the topic. It is therefore expected that some additional matters of clarification may be asked in some cases, and that some of these questions will not be asked, or will be automatically answered by some subjects.

1. Have you had some opportunity to read the initial draft model of entrepreneurial capability that I sent you?

2. Can you see ways in which this rough model could be embellished? Are there capability issues that you think are missing altogether, or are not clear?

3. What organisational systems, structures and processes seem to you to be most vital in building the entrepreneurial uni?

4. What management and leadership capability seems most vital?

5. Taking organisational/managerial capability to include matters of resources, systems, structures, culture, leadership, know-how etc, what do you think is required to create and lead an entrepreneurial university over and above what is in this initial model?


7. How does the current government/DEST policy context affect this, if at all, in your view?

8. If there is a single issue that helps an Australian university to be more entrepreneurial, what is it in your view? Is the issue particular to Australia, or is it more-or-less applicable for universities anywhere?

9. If there is a single issue that hinders an Australian university to be more entrepreneurial, what is it in your view? Is the issue particular to Australia, or is it more-or-less applicable for universities anywhere?

10. If you were in a highly teaching intensive university, post RFQ, what do think ‘being entrepreneurial’ would mean then? Can you see policy constraints to that?
11. If you were in a highly research intensive university post RFQ, what do you think ‘being entrepreneurial’ would mean then? Can you see policy constraints to that?

12. (for senior university managers only) Is making this university more entrepreneurial one of your current goals? Why? What strategic gain are you seeking in this way?

13. (for others) Why do you see universities as pursuing the goal of being entrepreneurial? What strategic gain do you see them as seeking in this way?
## Interview analysis template – What did they say to listed questions?

<table>
<thead>
<tr>
<th>Date of interview</th>
<th>Subject</th>
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<tbody>
<tr>
<td>Question</td>
<td>Response (with quotation as approp).</td>
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<tr>
<td>1-5 Comments on model and aspects of it with chosen emphasis/interpretation on that prompt material.</td>
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<td>Q 6</td>
<td>good example?</td>
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<td>Q7/8/9</td>
<td>policy and context- help/hinder?</td>
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<td>Q10/11</td>
<td>research/teaching intensive entrepreneurial implications?</td>
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<td>Q12/13</td>
<td>aims, goals, intent?</td>
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<td>Date</td>
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<td>What did they say that signalled areas of disagreement with model, or contradiction/difference?</td>
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<td>What did they say that I hadn’t even thought to ask about?</td>
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<td><strong>Meta-reflections</strong> - reactions, observations?</td>
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<td>Themes that came up?</td>
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<td>Themes that were implicit (even if only recognised afterwards on tape replay)?</td>
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<td></td>
<td>Themes that were emerging/evident in my mind?</td>
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<tr>
<th>Five Clusters Emerging from Data in this Study</th>
<th>Strategy</th>
<th>People</th>
<th>Enabling Mechanisms &amp; Processes</th>
<th>Culture &amp; Internal Politics</th>
<th>Context</th>
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<td><strong>Why?</strong></td>
<td><strong>Who? How?</strong></td>
<td><strong>What?</strong></td>
<td><strong>Creating an inner world.</strong></td>
<td><strong>Interfacing with Govt and the outer world.</strong></td>
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<tr>
<td>Clear strategic entrepreneurial intent.</td>
<td>Cohesive senior mgmt team make fast decisions with appropriate consultation and participation.</td>
<td>Devolved budget with high incentive, accountability.</td>
<td>Cohesive senior mgmt team make fast decisions with appropriate consultation and participation.</td>
<td>Well-developed links with professional associations, alumni groups, local business groups and government etc to locate opportunities for partnership and new market openings.</td>
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<td>Core/non-core clarity.</td>
<td>Leaders displaying humility, emotional intelligence, valuing quality, ethical work &amp; respecting collegiality.</td>
<td>Outstanding business planning models for financial analysis and decisions. (Implies full academic unit understanding of all component costs).</td>
<td>Devolution, delegation &amp; empowerment to all levels with good academic participation.</td>
<td>Extensive interaction with business &amp; community.</td>
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<tr>
<td>Revenue generation focus, not cost-cutting.</td>
<td>Top quality leadership and management development/training/mentoring for all managers.</td>
<td>Programs culled as required.</td>
<td>Learning org’n orientation and tolerance for initial errors.</td>
<td>Support and incentive for external networking, esp. by managers.</td>
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<td>Top intellectual property sought and cultivated.</td>
<td>Strong market intelligence.</td>
<td>Empowerment of middle managers (i.e. Heads of Dept, Deans).</td>
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<td>Strategy</td>
<td>People</td>
<td>Enabling Mechanisms &amp; Processes</td>
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<td><strong>Creating an inner world.</strong></td>
<td><strong>Interfacing with Govt and the outer world.</strong></td>
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<td>Recruit/retain people with top intellectual property.</td>
<td>Ensure very strong a) negotiation skills &amp; b) interpersonal skills in all managers.</td>
<td>Adequate admin. &amp; specialist support staff/ systems for projects, contracts etc.</td>
<td>Top quality IP &amp; regular review of academic units.</td>
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<td>Extensive interaction with business and community.</td>
<td>Middle &amp; Snr. Managers good at identifying opportunities &amp; ‘selling’ them.</td>
<td>Speedy accreditation processes.</td>
<td>Focus on empowering ‘middles’ e.g. heads and deans.</td>
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<td>Intentional entrepreneurship plans for uni.</td>
<td>Promote &amp; develop highly strategic leaders, not rule-bound managers.</td>
<td>Low discipline boundaries.</td>
<td>Recruit and retain talented people to boost market attractiveness and capability.</td>
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<tr>
<td>Recruit and retain talented people to boost market attractiveness and capability.</td>
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<td>Budgetary support for all networking, inc. conferences.</td>
<td>Promote positive and successful entrepreneurial self-image as institution to inside and outside world.</td>
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<td>Promote &amp; develop highly strategic leaders, not rule-bound managers.</td>
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<td>Flexible HR reward arrangements.</td>
<td>Recognise entrepreneurial role models &amp; exemplars.</td>
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<td>Incentives at all levels and for everyone.</td>
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<td>Management rewarded for inter-unit collaboration.</td>
<td>Some elected representation of academic constituency at all management groups, including senior executive meeting to ensure participation.</td>
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<td>Management development to: a) build pro-creativity attitudes &amp; to b) ensure managers learn supportive styles for new ventures, containing envy, conflict etc.</td>
<td>Actively encourage and support participation in external networks and internal cross-</td>
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<td>Especialy encourage Social Science ent’ship.</td>
<td>discipline collaborations to boost social capital</td>
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<td>Perf. targets for everyone.</td>
<td>Respect academic values and openly discuss any conflicts with commercial values.</td>
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<td>Culture actively supports innovation &amp; has HR reward/incentive systems.</td>
<td>Review all centralist policy &amp; practices &amp; devolve, delegate where possible.</td>
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<td>Entrepreneurship education for all staff.</td>
<td>Close relationship between academic &amp; general staff and sections</td>
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<td>Organic structures &amp; capability for new projects.</td>
<td>Acknowledge &amp; learn from staff entrepreneurial role models.</td>
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<td>Internal &amp; external networking given prominence, resources &amp; rewards.</td>
<td>Internal and external networking given prominence, resources and rewards.</td>
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<td>Team leaders &amp; managers trained in innovation management with entrepreneurship trg. for all staff.</td>
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<td>Student/support services commercial where possible.</td>
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<td>Venture capital &amp; seed funds created and/or accessed. Outside.</td>
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<td>Education &amp; skill dev’t on innovation and business planning</td>
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<td>for all staff</td>
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<td>Excellent policy frameworks &amp; management info systems as control systems.</td>
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<td>Budgetary provision for corporate venturing and seed funding.</td>
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<td>Liberal consulting policy to encourage external engagement to locate opportunities.</td>
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<td>Performance targets and accountability for all at all levels.</td>
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<td>Flexible HR policies for reward, employment arrangements etc for staff moving between uni and outside ventures.</td>
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<td>Build generous &amp; skilled technology transfer, legal and project office capability.</td>
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<td>Support &amp; incentive for external networking, esp. by managers.</td>
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<td>Coaching/mentoring of novice staff entrepreneurs in new projects/ventures.</td>
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<td>Flexible HR &amp; employment systems to support incentive &amp; altered time fractions etc in movement in &amp; out of spin-off ventures.</td>
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<td>Liberal consulting policy to promote consulting linkages.</td>
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<td>Flexible organisation structure capability.</td>
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<td>Outstanding market intelligence and analysis capability, both domestic and international.</td>
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<td>Excellent policy and regulatory framework to control and guide dev’t without excessive central bottlenecks and decision points.</td>
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<td>Ensure very strong a) negotiation skills &amp; b) interpersonal skills in all managers.</td>
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<td>Spare infrastructure capacity for support of projects/ contracts.</td>
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<td>Actively encourage and support participation in external networks and internal cross-disciplinary</td>
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<td><strong>Collaborations to boost social capital</strong></td>
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<td><strong>Budgetary rewards and incentives for individuals and units/teams who can and do find new markets, and breakthrough developments to serve them.</strong></td>
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<td><strong>Reward good cross-unit collaboration.</strong></td>
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<td><strong>Support and reward new initiatives with high potential to normalise.</strong></td>
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<td><strong>Promote positive and successful entrepreneurial self-image as institution to inside and outside world.</strong></td>
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List of Questions for *Round 2* Interviews:-

1. Intro-
   In trying to build up a model of good practice, or good practical advice for senior managers in Aust unis, I have extracted 5 clusters from the interview data that 17 participants gave me. They are a bit different from Clark’s but overlapping.

This study suggests that the literature, including Clark, has lots of advice to offer those who seek more entrepreneurial institutions in respect to **Enabling mechanisms and Processes** (use cycle diagram)

And some advice, but a bit less to offer on matters of **Culture/Politics**, and what sort of **People** are needed to run with it….BUT

There is little practical advice in the literature re how to go about building org and managerial capability on other 2 clusters, **Context & Strategy**. Participants in this study in this country think these are 2 big issues, and not a lot of practical help in print.

2. Can we look at these 2 areas in particular?
   What’s your understanding of why so many participants talk about Context? Strategy?

3. What practical advice, or advice for practice, would you give a senior manager in an Aust uni re both of these parts of the cycle?

4. What practical advice might you add to the Table4? Any of 5 columns?

5. If I put it to you that being entrepreneurial in our unis is more about means than ends, what do you think the desired end actually is?

6. If I put it to you that being entrepreneurial is not only about the behaviour of individuals but also about how your university systematically looks for ways of creating value and wealth, would that sit with your view of the phenomenon?

7. And if I suggest that Aust unis are apparently not doing all that well at genuinely getting clear strategy together to meet their (acknowledged) complex environments, would you agree? Can you say why this might be so?

8. Any other comments?

Thank you
Will list your name as participant in thesis and acknowledge assistance, but not attribute any comments or identify any person with a particular quote or comment. OK with you?
2 May 2006

Mr xxxxxx
xxxxx
xxxxxxxxxx
xxxxx
xxxxxxx
Dear xxxxx,

It is now some time since my first interview with you which formed a ‘first round’ stage of my current research project into Models of Organisational and Managerial Capability for the Entrepreneurial University in Australia.

Since that interview, where I invited you to comment on a large Table (Table 1 attached), a synthesis of Clark’s work on entrepreneurial elements with other corporate entrepreneurship ideas, I have worked on analysis of all 17 interviews. I have now come to a point in that analysis, foreshadowed to you some months ago at the outset, where I would again appreciate your comment. I would expect this ‘round’ of interviews to be much briefer and more focused, since I am asking you to comment on some data and ideas that, whilst necessarily incomplete, have already focused on some areas of special interest. This final iteration should help me sharpen the models I then present in my thesis.

Perhaps I can best summarise the steps I have taken to reach this point, and the key ‘findings’ as follows:-

-Detailed notes of the taped interviews were coded for themes, as many as occurred.

-Themes were then clustered into logical groups, of which there were five:- Strategy, People, Enabling, Culture & Internal Politics, and Context.

-The 5 clusters were then compared back with Clark’s 5 entrepreneurial university elements, and whilst found to have some overlap, also displayed some notable differences.

-Participants in this study gave far more prominence to issues of strategy, purpose and direction in building entrepreneurial capability. They mostly considered it vital to know what the university was trying to achieve in moving towards more entrepreneurial ways of operating, and few thought it fundamentally about revenue generation, this being a means to a higher order end. The emerging view was that ‘being entrepreneurial’ is really more about high levels of university engagement with total community, and that this
purpose should govern and shape strategic thinking, not ‘being entrepreneurial’ per se. Many clearly felt uneasy with the language of entrepreneurship within the university, preferring other ways of naming and discussing the ideas, although none stepped back from the concepts themselves.

-Participants gave much more emphasis to the external political context within which their universities operate than does Clark, especially the context of government policy. This study revealed some of the ways in which entrepreneurial efforts are frustrated by current government policy, and in which the total Australian context limits entrepreneurial outcomes. It also emphasised the current thinking about engagement with the broader community as being the underpinning of much entrepreneurial activity.

-Participants gave much less importance, attention and detail to the internal enabling mechanisms and processes, finding nothing in my original Table 1 to argue with, and largely accepting that these are the ways in which entrepreneurial capability must actually be developed and put in place. They widely noted that Australian universities are not broadly good at doing this, the best practices being sparsely distributed. They noted that leadership is often found wanting in a variety of ways, and that the broader political and policy context tends to force very conservative thinking and practice into our universities. Many also noted that where we are strategically muddled about what we are trying to do, we tend to achieve very mediocre results.

-The five clusters in this study were diagrammed as a system (attached), since all participants see that each part has a dynamic relationship with each other part. Building capability in one area does have immediate consequences for and impact upon other areas and functions.

-Given the comments of participants, and the emphasis on strategic thrust and purpose, a cycle of management planning and action for capability building was overlaid on the system, (see attached) indicating that to drive and shape a more entrepreneurial university, even if one was hesitant about the language of entrepreneurship, one would do well to begin at the Context and/or Strategy clusters, then move to People issues, then Enabling ones, and so on around the cycle. In arriving again at the Context domain, one would presumably seek to have a much more engaged and outward-looking university, one that responds far more effectively to the total context, including the policy one, and so that returns one to Strategy again. Over time, a kind of spiral of capability development would emerge, rather than a precise cycle, going over and over the same issues again and again.

-In order to see what practical advice or models could be offered to university managers at each stage of the cycle, the individual points of my original Table 1 – all drawn from Clark or the wider corporate entrepreneurship literature -were replotted against the new five clusters. This produced Table 4 (attached). Notably, most of the existing literature points to issues of enabling, of building a culture, and to a lesser extent to the kinds of ‘people’ issues that will be needed to ‘get there’.

Also notably, there is much less helpful practical advice for university managers under the clusters of Strategy and Context, although these are considered the key issues here in Australia at present. My aim is to point to the key conceptual and practice issues that might assist in filling some of the gaps, so that our university managers can see more readily what it is that they might need
to build in terms of organisational and managerial capability to set up the ‘interface with context’ and strategic elements for entrepreneurial outcomes.

Given all this, what I would now like to do is speak with you briefly as the ‘round 2’ stage of this project about the emerging ‘model’ I am presenting here. I am seeking your further input and refinement, perhaps enabling me to better fill out some of those gaps.

I will call your office shortly, to make a follow up time, and, should you be in a State other than Victoria, I may arrange a recorded telephone conversation of our discussion, if this is acceptable to you. Those within Victoria, I would prefer to meet in person.

Yours sincerely,

(Professor) Barbara J Cargill
Australian Graduate School of Entrepeneurhsip
Faculty of Business and Enterprise.
Round 2 Interview Summary Data and Notes

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<tr>
<th>Questions</th>
<th>Points made</th>
<th>Direct quotes</th>
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</thead>
</table>

Participant Name and Number:  
Date of Interview:  
Appendix 9
Participant:-

General reflections/observations about interview:-

Key points to take into thesis analysis and discussion:-
Aggregated Data from Round 1 Interviews by Code
with Source (de-identified) Participants and Selected Quotes

<table>
<thead>
<tr>
<th>Code</th>
<th>Points &amp; Ideas</th>
<th>Participants</th>
<th>Quotes</th>
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<tr>
<td><strong>R</strong></td>
<td>Risk, risk management issues, either disposed to or averse to</td>
<td>1, 4, 7, 8, 10, 12, 14, 16.</td>
<td>‘Universities are by their nature risk averse. They cannot take high risk, only very moderate controlled ones.’</td>
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</table>
| | Former V.C said what he wanted to do and asked the bureaucrats in our corporate area to figure out a legal way. Now the new VC asks the bureaucrats in the corporate area ‘can we?’ and they are so cautious and conservative and risk-averse that they say ‘no’.

Department Heads, Deans, Directors of Centres etc all need a free hand and careful policy and monitoring to prevent serious risks.

Institutions that are predominately publicly funded should not take risks with public monies, but now that more of the revenue comes from private sources, then more commercially savvy risk-taking becomes possible and necessary.

There is risk in over-commercialising things like student services on-campus. Profitability shouldn’t be the only hard-stick, or services may disappear.

Decision-making is very cautious and slow, because university(s) are so risk-averse. | ‘Being entrepreneurial involves willingness to take calculated risks, but if managers feel fearful of consequences, and think that they won’t be supported, then they will not take any risk.’ |
| | | ‘Academics in management jobs are often not risk takers. They like security. I think it’s a part of their temperament.’ |
| | | ‘From what I know there are some definite personality determinants of entrepreneurial behaviour. I think there are some aspects to do with risk-taking that more or less innate, so if the VC isn’t a natural risk-taker, then others in the senior team should be more like that.’ |
| | | ‘Universities in this country are terribly risk averse and getting worse because of the copious corporate governance and accountability rules, and the over-regulation. There’s very little discretionary resource.’ |
| | | ‘We just need a few internal controls to prevent excessive risks being taken.’ |
| | | ‘Caution about risk-taking seizes people up. Academics can debate anything, any plan, but they’re too used to working solo and controlling every aspect themselves. At management level, too much debate just leads to paralysis.’ |
| **DevE**
| Devolution, delegation, Empowerment |
| One of the key managerial elements is the ability to delegate. It needs confidence and trust in people. |
| Empowerment needs to happen within clear structures and boundaries. Why it doesn’t it happen better or more often? |
| The very talented people in this uni at Dean/DVC/Director level are totally empowered by the VC. |
| If the ‘academic heartland’ is rarely stimulated, and there is top quality IP, Deans and Directors are the drivers of their own show and should be. They should be the powerhouses of the uni. |
| Consultation in executive decision-making is vital. Consultation and participation to really empower and involve people. Everyone in a uni is smart, so not easily duped. Have to try to bring people along with you. |
| Senior executives in universities are often detached and aloof, so staff fear management wrath for mistakes and there is no sense of being empowered to do things in a positive way. |
| Vision and leadership can ‘fire people up’ and be a part of empowerment. |
| Empowerment matters because control-freak bureaucracy at any level in the university will kill entrepreneurship. |
| Collective leadership, where other managers have been delegated key roles, is perhaps more about getting ‘buy in’, whilst real direction and vision needs to come more from the top |

1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,

‘I agree very strongly with the necessity in your Table for devolution, delegation and empowerment, but unis don’t do this well. I think they’re afraid that staff will run amok. Maybe there’s no trust. Delegation does need to be very clear.’

‘At this uni, we prefer devolved systems for periphery engagement, because a uni-wide system is not necessarily helpful. The detailed expertise sits with those in faculties and centres.’

‘Actually I think authority is given from the bottom to the top, so that it is essential that the VC be respected. Empowerment and delegation works if there is some respect all round.’

‘I think there’s some tension between academic freedom and the need for everyone to be singing from the same page. But people must be empowered by leaders so that they have a positive ‘can do’ attitude.’

‘Middle managers need to be expediting innovation, not obstructing.’

‘Empowering people and delegating well is just good open management, not just for universities.’

‘Devolution and trust in people down the line are really important. The parallel reporting lines (admin and academic) make this complex in unis, but good delegation and empowerment are really the key. I think it’s especially important that Dep’t Heads, Deans, Directors of Centres get a fairly free hand.’

‘We must get ‘buy in’ from people by truly consulting them when problem solving. They know a lot and it must be tapped. Devolution doesn’t mean tipping extra work on people, but truly involving them. We have to nurture the impetus to innovate, for people to say their piece.’

‘A control-freak VC will absolutely prevent an entrepreneurial university. You can’t be both innovative and totally tidy and controlled. You must have a bit of creative ‘untidiness’, at least structurally.’
<table>
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<th><strong>DevE</strong></th>
<th>from the top. Some things can’t really be delegated. There needs to be a high level of trust in middle management especially, but they need direction and a strategic framework or they get very uncoordinated and strategy is diluted. Decisions shouldn’t all be with VC. Must be devolution to Deans, Heads, Directors, anyone with budgetary responsibility. Universities more complex than corporations, and must have more devolution to get action, ownership. Unis not good at empowering the ‘middles’. Need a broad mandate and delegation to operate. In commercial work, guidelines for negotiation &amp; decisions are needed i.e. knowing the rules and having a licence to act within them. Leaders and managers must be firm on ends and flexible on means so that others can also use initiative and exercise some control over own work.</th>
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<td></td>
<td>‘Trust and openness and approachability [regarding a senior management team] are a means of control in a devolved and empowered system.’ ‘People who work out on the road with industry etc need support and a sense of being trusted and empowered. I think a clear strategy is empowering. You get high buy-in. Good policy and guidelines are also empowering. Clear delegation and being given enough skill to do the job.’ ‘Buy-in is about freedom to act, empowerment, authorisation etc. this gets people involved and committed. Issues of control and freedom, not either/or but how both work together for autonomy/constraint in a uni. interest me. We need both to be empowered.’ ‘I mustn’t always have to run to the VC or DVC for any and every decision. I have no budget freedom and have to go up the line for almost everything. I don’t work in an entrepreneurial uni at present!’ ‘I have round tables at each campus to spread the message and listen, and I expect my senior executives to do the same, to carry the message around.’</td>
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| **Cons**<br>Consulting activity, consulting policy | A liberal consulting policy that makes it worth individuals’ while is important to encourage outside contacts. | 1, 14, 15. | ‘Teaching and consulting entrepreneurship needs lots of line management involvement to enable it but within a clear consulting policy. Some think the consulting work should be organised from outside the uni in a separate entity, but line managers still have to be very involved and on-side.’

‘Humanities and social sciences sell their IP mostly in books, and they do share royalties. It’s more complex with science academics who also need to be able to share a percentage with the uni. Getting this and consulting policies sorted out with enough incentive for all is a key capability issue.’ |
**GES**

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<tr>
<th>Good entrepreneurial staff</th>
<th>Important to choose and employ good enterprising people in the first instance, and then make the culture of innovation and ideas with incentive.</th>
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<td>Some very good entrepreneurial staff are the key rather than whole university being entrepreneurial. Entrepreneurial interest and ability actually rare and special in academics, so need helpful processes to support them, not obstruct them.</td>
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<td>May be difficult to teach everyone to be entrepreneurial so important to employ some in key roles who are already this way. One exemplary professor has got a whole team thinking this way and they are excellent at generating the resources they need and winning profile for the university.</td>
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<td>Entrepreneurship requires good leadership and is closely connected with it. Must be able to ‘fire people up’.</td>
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<td>Some academics are natural entrepreneurs and great at chasing resources externally and internally, needing only a few controls and rules to prevent excessive risk.</td>
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<th>1, 3, 5, 8, 9, 12, 13.</th>
<th>‘I think it’s best if staff are kept a bit lean and hungry for resources. It means the best people stay entrepreneurial and go out and find other resources and grab them.’</th>
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<td>‘We have some very talented people in the middle and senior management roles and they are totally empowered by the VC here to get on and do what they do very well.’</td>
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<td>‘A limitation here in transforming and regenerating this place is the unwillingness or inability of some to transform what they know into real world applications. They are not enterprising people in some cases, and maybe don’t have the make-up to be outward looking and practical.’</td>
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<td>‘Rewards and remedies help mobilise teams and keep some of my really talented people happy. And there are some very talented ones here.’</td>
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<td>‘Some individuals are natural entrepreneurs. They have ideas, they negotiate well, they know when not to push and ask for too much but to go and chase it themselves. They do sensible business plans to help their case.’</td>
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<td>CultO/C</td>
<td>The whole culture needs to be open and outward looking.</td>
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<td>A culture of high academic excellence, a ‘stimulated heartland’ underpins everything.</td>
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<td>A motivating, communicative culture with incentives to achieve entrepreneurial goals keeps people happy and satisfied. Negative people are not entrepreneurial.</td>
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<td>Some different intellectual skills and rewards are needed to shape the outward looking culture we need.</td>
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<td>Don’t need everyone in the uni to be entrepreneurial to change the culture.</td>
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<td>There have been problems in some cases with very inward obstructive unengaged cultures.</td>
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<td>Culture not entirely geared to monetary rewards, especially at senior level – a quirk of universities.</td>
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<td>To be entrepreneurial, it needs a wide cultural commitment from everyone in the university, even if they are not all key players in the mechanisms or ventures.</td>
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<td>Calling a culture ‘innovative’ may be a bit more straightforward for some people than ‘entrepreneurial’.</td>
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<tr>
<td>CultO/C (cont.)</td>
<td>Culture of openness, confidence, trust, positive for innovation</td>
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Enabling infrastructure including legal and technology transfer capability, organisational structure, internal flexibility

It possibly doesn’t need huge resources to see entrepreneurial activity for academics. They tend to do better if kept a little ‘lean and hungry’ and forced on to their own initiative to find resources.

Case of 3M Corp indicates that innovation and empowerment happens when enabled by time, money and free ‘space’ of 15% of work time that does not need to be accounted for. It is resource slack of best kind.

Good legal office capability essential for entrepreneurial ventures. Helpful, fast and commercially savvy.

Need to educate all staff in the uni re what entrepreneurship is and could be. Good potential needs developing and educating to make a whole culture.

Australia needs to develop the external engagement capability and interface skill. It really needs work compared with some other countries.

Having top class facilities is an important element of being set up for entrepreneurial activity. Built environment, equipment etc all need to be in A1 shape to allow community and business use and give confident image.

Some expertise on patents needed and on the setting up of businesses, although some of this can be hired as needed.

‘I think we have to spend just enough to make an infrastructure [for commercialisation]. It’s a necessary but not sufficient cost of getting entrepreneurial and commercial things happening.’

‘Academics often need ‘interpreters’ or ‘go betweens’ to identify what they have to offer the outside world. This is what a commercial interface infrastructure should help do. They can also stimulate some to be genuinely entrepreneurial, and we don’t need everyone doing this, just some.’

‘Many organisational and management systems and processes still don’t ‘touch’ those in humanities and social sciences to be engaged and entrepreneurial. Science parks and suchlike just don’t do it for them. They need a fair bit of additional help to start thinking this way. But they have potential for community education, professional education, outreach work, small CRCs with community and government groups.’

‘We’ve established a ‘shop front’ unit for this interface with professional full-time people in it, to try to help all disciplines, especially the humanities who don’t always get the idea easily.’

‘Market research and analysis is an expert support function. It needs to be highly valued, not just seen as a drain on the purse of academics.’

The outward facing attitude and capability could be partly central and specialised, but you need something more decentralised with academic units too to get closer to the action. This uni is too big to run off a purely central infrastructure. It needs some local capability. The ideal is a strong central co-ordination ‘hub’ and good ‘spokes’ in units.

‘An entrepreneurial culture must have poor performance managed effectively at all levels. An HR system of rewards and remedies is really essential for enabling that culture.’
Cheeseparing on building a good external, tech transfer capability is a mistake. Boot-strappers struggle to succeed. One person units always struggle. You need to buy in expertise spend money, invest in the infrastructure ahead of when it might actually be totally busy. It will take years to repay that investment. This takes high level support and commitment as academics may resent the spending.

One of the key elements enabling entrepreneurial activity is a bit of ready cash. Also need internal flexibility and ability to respond to opportunities, which is also often about having a bit of spare resource at hand.

Need a shop front to make engagement with the university easier for external parties, who don’t want to deal with 10 different pieces of the same uni to get what they want.

We needed a really good financial director with innovative ideas and good legal and technology transfer capability to enable us to set up the joint ventures we’ve done. This is the likely growth area in the research intensive unis. It needs risk management but not to the point of strangling things.

Most market opportunities need a multidisciplinary approach. Real world problems need multidisciplinary teams to solve them, and my uni needed to choose some of those real world issues in which to specialise and then to put the resources together to address the issues. This is hard for unis to do. The forces of specialisation can’t be underestimated. You must enable and facilitate the multidisciplinary work.

‘I think the periphery apparatus such as legal, finance, and tech’ transfer people are just means to an end. They prevent you from extreme errors and foolishness. They help risk management, that’s all.’

‘We are currently aggregating major areas of research into a number of themes, so that centres can become the contact and co-ordination point for outside engagement – matrix structures that bring expertise together.’

‘Being flexible and nimble means that the relationship between faculties and institutes and the centre of the uni for processing decisions need to be quick and with the bulk of the authority devolved for speed. You have to get it right to enable the shop front centres to do their thing.’

‘Ossified, partitioned, siloed structures are to avoided at all costs. We need cross-unit dialogue amongst managers. Our strategic initiatives scheme says they must be cross-unit/faculty. There is financial incentive to collaborate internally.’

‘Some of the vital ingredients for an entrepreneurial university are flexibility, creativity and innovation.’

‘Universities are the quintessential old industrial organisation, trying to move to knowledge intensive ones. I researched how Nokia and GE had transformed themselves in this same way. I found no-one had all the answers, but some things were clear. You do need deep knowledge stocks. And they have to be combined with academic systems and infrastructure to meet market needs, as knowledge alone does nothing. I had to restructure to get things in the right place around the teaching and research activities both of which have different drivers and needs and motivators. Even their costs structures are different. The structures should enable the core tasks better.’
Enab (cont.)
Enabling infrastructure including legal and technology transfer capability, organisational structure, internal flexibility

HR and Finance areas must all help the external focus by setting policy and procedures in place that normalise it and reward it, not obstructing with difficult travel allowance claim procedures, especially where people are employed with the expectation that they will be off-campus a lot of the time.

Organisation structure can and does result in fiefdoms in universities, each semi-autonomous operation quite badly managed in many cases, and semi-insulated from others’ good practice.

Commercialisation staff and efforts across the system are fund starved, and can’t really get senior management to do much beyond talking entrepreneurship, but not really supporting or understanding it.

A one-person infrastructure for commercial activity is just inadequate. A large part of entrepreneurial work is to draw outside companies into joint funding e.g. linkage grants, and that doesn’t take a huge infrastructure as many faculties can also help with this, but enough money is needed to do the networking and schmoozing – i.e. an operational budget with some discretion.

You must have the precursor good management elements of planning and accountability, good finance systems etc before you can become innovative, entrepreneurial, or access and equity oriented – whatever your chosen strategic differentiation is.

Getting a good clear consulting policy sorted out and one that build in incentive is important as an enabling capability.

‘Being industry focused is something TAFE is much better at than most universities. They assume that their livelihood is ‘out there’.

‘You need to have a first class accounting system and finance system with records that are actually accurate and efficient and can provide a record and report that helps decisions. The best universities have really good Directors of Finance with commercial experience. In joint ventures, you need to know where the uni stands, and what the partner has/hasn’t paid etc.’

I note that every system upgrade is not a proper re-engineering but a band-aid bastardisation so as not to upset some people, or the union.

‘Compared with the private enterprise world I knew, there is a lot plain of bad management in universities, just plain amateurish. It doesn’t help get entrepreneurial things happening.’

‘Different disciplines within universities need different kinds of facilitation and incentives and supports. There is no cookbook approach going to work for all disciplines- their contexts and missions vary so much.’

‘Academics want kudos, probably more than money, and I need to create a bridge between them and the business outsiders who want a ready-made success or solution. Even small amount of seed funds would help that bridge building role. I question leadership commitment to entrepreneurship, despite the rhetoric.’

‘We have a planning and resources committee that is charged with making strategically and commercially sensible decisions, not academic ones per se. There is a costing template and a business case has to be made. The decision is not about top-line revenue generation any more, but about bottom line surplus – or at least a good strategic case why we might want to go ahead with something for longer term gains even if it doesn’t cover its costs adequately. It’s a strategic mechanism.’
| **Enab**<br>**(cont.)** | Sustained regeneration requires some good internal processes to allow renewal. Structures can get in the way of renewal and can ossify a place. Budget allocation, models and even workload models possibly matter more | ‘We have strategic funds each year. Staff bid for funds to ‘take us forward’. Strategic priorities are indicated, cases are made, and funds are accounted for and reported on once granted. It helps a bit, but we don’t have enough to seed a lot of initiatives. Still, it helps us to get some things happening.’

‘Our expanded periphery comes in the form of expanded casual staffing, and some private ventures we’ve set up. The former is really about building in elasticity to face the outside world with its variable markets and demand.

‘We adopt some commercial practices but haven’t totally transformed our academic core. We’ve needed some commercial ways to adapt, to enable us to survive, so the old public service bureaucracy is gradually being shed.’ |
| Course development, including speedy accreditation processes | Flexible and nimble operational decisions to capture and colonise market niches relies on speedy course development and accreditation processes, as devolved as they can sensibly be whilst still preserving academic integrity and checks and balances. Course development for best performance in the competitive market place requires universities to get out of the silo mentality and to learn how to make fences between disciplines low enough so that courses can be easily made up of new interdisciplinary elements. Course development requires renewed and leading edge knowledge banks from top academics, plus good organisational processes of regular curriculum review, re-accreditation and engagement with industry, employers, graduates and professions etc throughout that process. | 1, 5, 10, 13, 14, 16, 17. | ‘We need speedy but correct accreditation processes to grab niches.’ ‘The system must cause academics to shift their teaching tasks, rotate them, spin them around so they face change. We’ve restructured all courses, both curriculum overhaul plus total course change. We wanted to force modernisation and innovation.’ ‘Have a look at the success of the Uni of Phoenix. Really good material, not necessarily earth-shattering IP but well packaged, and conveniently delivered. That’s very entrepreneurial. On-line doesn’t have a lot of product appeal, so good local/distance combo packages have taken on. They’ve got an edge especially if they win a reputation for being good early in the piece.’ ‘Every one of our courses has some professional or vocational specification in mind. All programs are ‘applied’ and relate to some vocational or professional outcome. That’s our chosen style, and if that’s what you do, then you have to do it well.’ ‘We have an entrepreneurial skin, but academic values have shaped what we do, so change has been incremental and adaptive to the market rather than driven by the desire to be totally entrepreneurial. It’s just been adjustment to external circumstances and new academic material bit by bit.’ |
| ExecTC | Executive team capability, including general managerial ability | It’s important that academic staff respect their VC, and see him/her as a defender of academic values, standards and excellence, a bastion of integrity. Entrepreneurship could corrupt academic values, but must not and the VC and the exec team have a key role here.

I choose to use my executive team as the ‘steering core’. It does require a team approach.

Senior executive groups and councils of universities in Aust. have not done all that well at steering their unis well on international ventures. It takes patience, a long-term view and a fair bit of guidance and support to get good results. ‘King hit’ success stories are rare.

Executives need expertise in motivating people.

They need to limit the involvement of unions in management decisions, or they risk efforts at being participative turning into being purely bureaucratic. Executives also need to communicate clearly and freely to staff instead of relying on the union to communicate and gossip.’

There is a distinction between good management skills and those for being entrepreneurial. They overlap but are not one and the same thing. Good management is probably a necessary but not sufficient condition for an entrepreneurial university. Good management skills are now expected from every university, in the same way that all public sector management has had to improve greatly in the past two decades, and be more performance driven and accountable etc. | 1, 2, 3, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17. | ‘I don’t think it’s essential for senior managers to role model being entrepreneurs, but it is ideally helpful. It’s more important to understand and enable others’ efforts.’

‘The CEO, the VC must know the internal ‘product’, what IP and people are there to be able to then operate as a key marketer for those products in the outside world. ‘Know your own business’ like a sales executive/opportunity spotter but many don’t.’

‘Most academics are narrow and senior executives are too, not knowing or understanding the ‘wares’ their own uni has to offer. You must still seem like an academic to academic staff, not just managerialist. Managers need academic involvement to show respect for academic values.’

‘The most common sticking point is at about the level of Head of school – they often have potential but poor fulfilment. They have a big role to play but few take it. Their own PhD training doesn’t encourage or develop the capacity to see real world application and engagement. If people at this level of management don’t see it, then how will others?’

‘Deans or PVCs of Research will need to be top strategic managers in the future. Actually the whole executive team will need this.’

‘Many heads of department have come through the system and are not good managers or trained in being entrepreneurial….We may not really have the management capability to be much more entrepreneurial.’

‘The leadership team must have some entrepreneurial flair and understanding in order to enable it in others around the university.’

‘Leadership teams need high skills levels in transformation, handling flatter structures, low control in the traditional sense. That is, they need a bit of Drucker’s “new management” It’s at odds with traditional academic training. The management team must be able to link the traditional highly hierarchical and authoritarian academic system of God professors to a ‘new management’.” |
Highly control oriented executives will cripple any innovative or entrepreneurial spirit in any university at any level. Uniformity and bureaucratic tidiness can be extremely damaging to creativity and initiative.

Management teams need highly capable people who team well together and have top people skills and integrity, the latter crucial, since it means executives will commit to a strategy and believe in it and not then seek to sabotage it or the VC!

In the corporate world, allegiance is to the firm. In universities, primary allegiance is to the discipline, students and perhaps colleagues, and it is therefore harder, but essential to engender a sense of pride and esprit de corps and loyalty in and to the university. The leadership team’s challenge is to get people to pull together and feel committed to the university.

Unless the university is a Cambridge or the like, (and even that is slowly changing) then a strong steering core in the form of a leadership team is necessary. Outstanding knowledge banks and IP is not sufficient for success without that.

Building relational frames within which people are brought together for a sense of internal connectedness is the management key. Also have to connect blue sky thinkers with those of more applied bent, researchers and teachers, academic and administrative. The relational issues even cover building international links, networks. That’s what leaders and managers have to be able to do.

To cut a little financial ‘slack’, management team needs to be willing and able to shift funds, shed moribund

‘I think you must protect academic career paths but from mid career onwards, you need to reorient at least some to supervision, management and leadership to bridge the cultures. Academics nurture and develop students but don’t see that this is what people management will also need – they tend to see management as ‘admin’ and loathsome. There’s a mid-career need to find some potential bridge people.’

‘There’s an odd thing with management teams in universities. If just one person objects, the matter gets sent back to some committee or other for yet further amendment and consideration, and no decision will be made. Decisive leadership is important, but not necessarily all with the VC. Others need to be able to make hard decisions too even without all of the facts.’

‘Many academics are not good managers. In the corporate world you learn the craft all along your career path, but in unis, you are often thrust into a management job for a few years, without experience or training, and quite possibly leave it after 5 years, and little skill is acquired before during or after that stint. Very few at senior level are actually good at strategy, people, budget etc. Even fewer are really charismatic leaders, capable of pulling the fragments together.’

Leaders have to be able to say ‘I don’t know, but let’s find out’. It’s brave, human, honest and endearing.

‘I expect my senior executives to communicate regularly in round tables with staff on all campuses. They need to be committed to change and be able to communicate with staff, two-way.’

‘You must have the precursor good management elements in place before planning and accountability and so forth can do the job strategically.’

‘Managerial and entrepreneurial get very confused together.’

‘Senior managers must be engaged themselves, paying attention to what is happening in the outside world, especially in their disciplines and fields. I
Executive team capability, including general managerial ability, areas, to create that slack. They need to be able to take that pain and pressure.

Good strategic management of universities, of the ‘new public management’ kind, has come late to the sector.

There is a perpetual balancing between the purely managerial and the collegial. There is more professional leadership in Australian universities now – there are layers of DVCs and PVCs as we seek to be more nimble and co-ordinated, to compensate for the collegial style.

Favour reviews the whole organisation unit strategically, done with outsiders. It keeps leadership focused but you’d hope they should be like that anyway.’

‘Management in the university is complex. We’re playing in two dimensions at all times – research with its own logic and needs, and teaching with its very different need and logic, one cross subsidising the other inevitably. Management teams need to be good at considering the complex tradeoffs and implications.’
One of the most important elements of making a university entrepreneurial is a visionary leader with the strategic will to make it happen, to empower. They don’t need to be an entrepreneur themselves necessarily, but need to understand what it takes and let others do it.

Councils and VCs need to see the general state of facilities and campuses as strategic issues, rather than indulging themselves with sumptuous facilities [for them] and leaving campuses shabby for everyone else. It gives a terrible leadership message.

Good leaders in Council, Chancellery and DVC/Dean levels need to see that what we were is not the same as what we need to/could/will become. We must be able to imagine our future positively, and not as a constant threat. i.e We need positive leadership, since fear kills the entrepreneurial.

A key leadership capability is ironically a bit of constancy. Too much change of the institutional mission and purpose is not helpful. CEOs have to be careful not to change the agenda too quickly or too far unless the organisation is in immediate crisis and needs serious and immediate rejuvenation. A continuity of vision to be entrepreneurial is required, as a medium term agenda.

A strong and cohesive leadership team is needed, working with the VC, not against them, so the VC needs to have the skill to develop that team, and get them totally committed to his/her vision.

Culture change is the main key to becoming entrepreneurial but the VC is the key to that. Culture change is a slow process and it must have total leadership commitment for the long haul.

‘I think senior managers need academic involvement to show respect for academic values, so being an active researcher, or attending seminars and so forth does that symbolically.’

‘Deans and VCs that come from certain disciplines such as medicine and science are used to large sums of money and have good people skills from dealing with prickly people – I think its better development for the VC level. In an Arts or Law background, there is less budget and capital equipment. It means poorer university management skills at the top unless you go outside to other sectors to get the skills. I think which discipline the VC comes from is actually significant in preparation for leadership, on whether they’ve got the polish and experience

‘I think entrepreneurship is closer to leadership than management. We need a lot of leadership to really get things moving with vision, firing people up.’

‘The best entrepreneurial examples I’ve seen spin off great vision and leadership drive, with good systems and process to run it.’

‘VCs don’t have to be natural entrepreneurs themselves but they must have others near the top who are in that case.’

‘Vision from the top is important and getting the buy-in and energy levels up can rely more on the next collective leadership layers.’

‘Actually, it takes both leadership and management skills together to transform and build a really entrepreneurial university such as Warwick.’

‘We need a VC with a strategic commitment to making the whole place entrepreneurial, not just a couple of individuals. It’s not a small side issue. It needs to be seen as the main game from the top. Vision is essential and belief in the entrepreneurial concept.’

‘There was no strategic plan worth a pinch when I came here, no way to decide which opportunity to take and which to leave, which would make commercial and strategic sense and which wouldn’t. That’s my job. To put
Leaders need great clarity about what it is their uni does really well, what it wants to stand for, and not waiver from that. Clarity of mission is vital, as it drives everything and it doesn’t have to be exactly the same thing for every university.

‘What’s needed is clear leadership vision and capacity to bring people along behind that vision, so you need to be able to communicate it well to enough people to drive it in the right direction. Not necessarily everyone, but enough to get movement.’
Interface with the outside world is important, and needs some thought given to things like HR systems to make this more possible and recognised.

We have made it too hard for people to go out to industry for a period.

We need to make our IP available to the outside world, and not just for the money, but for the profile it builds in the community for us. Actually, you don’t expect to get rich on research commercialisation. The real pay-off is more in terms of reputation and what it does for the wider community, including business.

To be relevant, we need to be close to business, industry, the community and serving their needs to some extent.

As publicly funded institutions, we should have more of a community thrust and do some things to benefit others, not to make money.

It could be seen that the real issue is not ‘being entrepreneurial’ but being engaged. This may be the real driver.

We’ve not done well at getting philanthropic funds into universities here in Aust compared with Canada, the US and UK, but we haven’t looked out for it a lot either.

It isn’t just money that drives the entrepreneurial university push: it’s more about engagement and actively facing outwards, compared with being sealed away from the community. Conservative, traditional universities are not easily changed on this score. Even if the VC has that outward looking vision, the inertia inside is terrible.

‘You need internal policy to draw everyone, from VC downwards into an engaged stance. You need systematic interactions with the outside world in vertical slices, say, the PVC Research along with senior researchers and a few more junior ones. It’s the way people [inside and outside the university] find each other.’

‘I think there should be performance criteria regarding industry engagement.’

‘External orientation is the ‘front and centre’ capability [for entrepreneurship], combined with the total culture.’

‘It’s a problem here in Australia to get the uni out into the world, interacting to find markets, opportunities, collaborations etc. Scientists are a bit better at it and will do it through publications and conferences, but humanities academics are much less externally oriented. We are particularly inward looking compared with the UK and the USA. We’re more aware of what’s going on in our discipline field, but not in the ‘real world’.’

‘One of the biggest limitations in regeneration is the unwillingness of many academics to transform what they know into real world applications.’

‘Senior executives also have to be outward looking and actively engaged.’

‘An important industrialist told me that he gave up on trying to do business with the Uni sector. He found VET more responsive and engaged.’

‘Industry isn’t properly dealing with issues of insufficient kids going into engineering and some parts of science, and VCs haven’t bothered to form partnerships with industry to resolve this.’

‘We need a whole capacity to predict and identify opportunities in the environment and to respond to them quickly. Some of that could be central and highly expert, some decentralised.’
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<th>OutL (cont.)</th>
<th>Outward looking orientation, engagement with outside world</th>
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<td>Strong links between the inside and the outside have value over and above the money that activity could generate. Must be engaged locally so you can read the local market, but also engaged and tuned in to global markets, and can act as a catalyst for development in both spheres. The synergy produces development inside the university as well. Engagement roles and tasks can be built into position descriptions and performance management discussions and reviews as a way of building in the values of looking outwards. Engagement is harder to quantify and set up as targets, so it hasn’t been well or widely done. Engagement is about a better service to the community, and better eventual gains for the university. Connections with other universities often make very good sense strategically, but you have to have worked on developing those networks, at being out in the bigger world. Leaders need to get involved, especially with government and corporates, lobbying to get political attention. This is a big part of their outside engagement. DVCs and VC need at times to be wheeled out and present with outsiders. Academics are inclined to be isolated and in their own specialised groove, and they need to be much more connected with the rest of the world. Our commercial wing isn’t purely about revenue. It’s</td>
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<td>‘An engaged university must be entrepreneurial, and vice versa.’ ‘I see the university as existing not only for the benefits it can bring to others beyond in the community, but also for its own sake, since knowledge is a ‘good’ in itself. The university must serve and disseminate to others but it deserves to exist anyway.’ ‘We do have to have something to offer outside parties, and that means outstanding IP. But we must be engaged with business and industry and the professions to know what it is they want.’ ‘The uni can add social capital to the community and allow use of facilities etc., but getting a really symbiotic relationship going is hard especially if you’re a big uni.’ ‘Post RQF, I think we’ll see a lot more partnership with outside organisations for research and development, with IP shared between the two- to share costs, share markets, share ventures to fund and use the knowledge.’ ‘I’ve found it difficult to really broaden the world view of academics who are inclined en masse to have very narrow specialised worlds of depth.’ ‘In reducing the structural silos between faculties we may also help them look outwards better and certainly help them respond better.’ ‘Unless you’re like Cambridge, you do need ‘organisational smarts’. You need excellent management and a strong outward focus.’ ‘Entrepreneurial work is about engagement with the outside world. You need to be able to invite them in, need the procedures for doing that, to go to networks with them.’ ‘I think of being outward looking and engaged as part of being entrepreneurial, but it’s also about being very commercially savvy, and above all, strategically managed.’</td>
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Outward looking orientation, engagement with outside world

about profile, reputation, drawing in future business over the medium-long term. So it’s about the relationship with the outside world.

We deliberately try to renew our curriculum via outside engagement with key stakeholders.

‘Engagement is vital. It’s what this uni is all about, relevance to the outside world. It’s hard to provide incentives and encouragement for facing outwards, but we must try.’

‘Senior managers and leaders must be engaged themselves. Not everyone is.’
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<th>Code</th>
<th>Points and Ideas</th>
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<tr>
<td>BusP</td>
<td>Strong need to be able to price sensibly as a result of accurate costing, so net revenue is clear. Financial analysis is really crucial to being entrepreneurial in the uni since we so often get it wrong and don’t costs all things fully. Must leave enough incentive with the unit generating the revenue. Budget allocation models often miss this. Universities are often financially very astute indeed when it comes to getting money out of the government but less good at real business analysis at other times. A finance system has to work on the assumption that staff will be outwardly engaged much of the time. Things like reimbursement processes etc have to be easy and natural. They have to help you strategically, not block. In the commercialisation wings, it becomes important to have a small operating budget, even just the money to get a patent search done, or to get expert tax advice. Having no funds at all stymies activity and kills incentive. Making a strategic decision for us now means that a program must have commercial prospects or a very good strategic reason for being that will generate other definite benefits. It might be Ok to make a loss, but we must know how and why. However things are managed financially, a little bit of discretionary ‘slack’ resource that can be strategically swung into play is essential.</td>
<td>3, 4, 5, 6, 8, 10, 11, 12, 14, 15, 16, 17.</td>
<td>‘One of the best entrepreneurs I know in this uni did a really excellent business plan. It persuaded the VC to seed fund a development and be pretty sure of getting the funds back plus more.’ ‘In my experience, academic staff are not very financially literate and don’t see the need for the corporate overheads and taxes etc. They lack the financial overview that would help them see what a venture or program really needs to make.’ ‘There is certainly a pressure for universities to be much better financially managed.’ ‘I think you need a good financial director with innovative ideas and preferably with commercial experience. You also need good activity based costing, so you can choose knowingly what you cross subsidise and to what extent.’ ‘We really need a first class accounting and finance system that tells what we need to know commercially – accurately and quickly. A good financial director would be a start. The uni system is ill-suited to entrepreneurial business.’ ‘Universities must be much more commercially savvy to settle the tensions between the academic decisions and the basically strategic and financial decisions. Just because a new program idea is academically brilliant doesn’t mean it can go ahead. We now do a business plan template for costing new initiatives, and we must see that we have the resource to teach a program and that disciplined financial thinking has been done. It needs a sound finance system and knowledge of what actual costs are, especially overheads.’ ‘We are diversifying our funding base and being more commercially aware but it is not radical change, just incremental.’</td>
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<td><strong>BusP</strong> (cont.)</td>
<td>Business planning/ business judgement/ Business acumen including financial ‘nous’, internal financial systems for realistic costing and adequate financial incentives.</td>
<td>‘We need astute business planning and good costing processes to be a much more commercially oriented place. We might still do things that aren’t profitable but need to know that we are choosing to do them, not doing them without awareness.’</td>
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University managers need very good market and trend information regarding business and industry problems. They should use their external council members more for this expertise, and read widely in the relevant literatures.

Quite simply, we need excellent market intelligence in universities now.

Fiercely competitive international markets demand being very clever about your target group, and about the organisational style and delivery methodology. Australian unis have been good at this for years, better than UK.

Smart market knowledge is an essential part of teaching operations in particular.

Finding new markets and delivery methods is part of the change, but we haven’t really radically re-engineered a lot of what we do, just adapted to the market incrementally. That’s not really driven by the desire to be entrepreneurial.

‘I think your model needs much more emphasis on market analysis and intelligence to spot gaps and opportunities. It’s essential for the entrepreneurial thrust.’

‘It needs outstanding market analysis to really pick good off-shore market opportunities with longish term potential.’

‘You must have spot-on market intelligence and understanding and it’s hard for universities to do. The mindset is not on customer responsiveness. But to do really top market investigation, you do need to be well-resourced. This sort of expertise is not highly valued in unis.’

‘We need to look at our business to see that we are in the right markets, with the right products, and to choose not to compete head-on in some cases.’

‘Getting to know what your market wants is only possible if you are engaged out there to a high degree and know what it is of worth that you can offer.’

‘I think being entrepreneurial can also extend to the marketing and branding of the university. It’s no use having a brand, being visually attractive, if you don’t live it and be it. A confident image and market presence is part of an entrepreneurial identity to me.’
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<th>Pers</th>
<th>Need rewards for Deans etc who do the outside engagement well.</th>
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<td>Staff will not behave entrepreneurially if the university internal processes are deeply bureaucratic and obstructive. They must be streamlined. HR processes are a case in point.</td>
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<td>Performance targets for absolutely everyone, particularly dollar targets, would not be good, as so much academic work is not quantifiable, but everyone must play their part in helping move the uni in its strategic direction.</td>
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<td>Grass roots academics should not have revenue targets since that seems to rapidly corrupt academic standards and drive desperate commercialism. It isn’t helpful. Groups and departments can have those targets.</td>
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<td>Academics are often thrust into management roles without training or experience, and often very reluctantly.</td>
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<td>A performance-oriented culture is important but that might not always be best achieved by a rigid performance management system. It might be more a cultural issue.</td>
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<td>University entrepreneurial activity, especially when about commercialising someone’s IP is at least partly about keeping the clever person in the sector. Small universities are intellectual breeders/incubators for the Go8 in some respects. People tend to move on and up. Need to try to keep them with us for a while.</td>
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2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14,

‘Performance criteria for getting out into industry just aren’t there.’

‘Flexible HR reward arrangements and incentives are really important for getting people to take entrepreneurial prospects seriously.’

‘It is a serious staff development task to get this [outward focused, real world application orientation] understanding in middle managers. We haven’t yet tackled it.’

‘Those that do innovate are rare. Are they just like this temperamentally or do we not train and develop for it? It’s probably both.’

‘Rewards and remedies help mobilise teams and keep talented people happy, but dollar bonuses don’t necessarily do it at senior level.’

‘We need more flexible performance based ways of employing and terminating people. We need staff who want to do well, and money isn’t necessarily the driver. Appraisal is important as a part of the performance management profile and it needs to be from top to bottom, and is here but it’s only happening on a limited level.’

‘Universities don’t have all values transmitted to all people via performance management programs, but neither do private corporations. It may be unrealistic to get this in total.’

‘I tried to reward integrated behaviour of an entrepreneurial type by getting structures, position descriptions, accountabilities and the performance management system to all align.’
| **Dec’n** | Institutions really need to get some good decision making to occur around the issue of whether to license, to sell, develop or spin-off a venture etc. These are very individual decisions that need to be made to get the maximum benefit for both the university and society at large.  
Limit union involvement in management decisions. It doesn’t work and you must be able to make and implement decisions quickly, in a streamlined way.  
Uni management is generally poor at making go/no go decisions, at closing deals and calculated risk-taking. It is very cautious and very slow.  
One actually needs to be able to make a tough decision, one that might not be universally popular, and make it stick and face down the opposition if necessary. There will always be some of that in a uni.  
Part of devolution is making it clear exactly where the decision on certain things is to be made.  
Although the collegial culture would wish to make many/most decisions on academic grounds, at management level there are many decisions that have to be made on commercial grounds. Both sets of decisions are valid, and need to be kept separate to an extent, but management strategic decisions must rule in the long run.  
2, 3, 4, 5, 6, 12, 14, 15, 16, 17, 19 | ‘Our devolved system makes for very fast decisions.’  
‘We used to have a stronger steering core and faster decisions but it’s now slow, and all done without consultation. I prefer decisive leadership.’  
You can’t allow a democratic ethos where staff by-pass and knee-cap line management. You need some executive decision-making, especially for budget matters, as if that gets too devolved, nothing is strategic.’  
‘Universities aren’t good at time-bounded decisions, at ceasing activities that are no longer useful. They seem very concerned not to upset someone. And there is no sense of urgency.’  
‘There are layers and layers of committees, working groups, meetings and reports and endless consultation when one person could actually make the simple decision. It is absolutely anti-entrepreneurial!’  
‘This is a weird collegiate culture where the top managers are obsessed with finance and people issues, but they cannot make a decision. One should not have to make three or four different reports and presentations to every single level of management to get a straightforward matter decided.’  
‘Because of the traditional emphasis on collegial academic decision making, a key element of being more entrepreneurial is getting your business decision making right.’  
‘We cannot have strategic reviews by building new things indefinitely. You must have reviews that mean something and make clear decisions about stopping some things, and actually have the stopping mechanisms work.’  
‘Large traditional universities are still very collegial and resistant to excessive managerialism. But they are gradually showing more of the ‘new management’ corporate decision style that has swept through the public sector decades ago. It’s come to universities very late.’ |
<table>
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<tr>
<th>AcEx</th>
<th>Academic Excellence of intellectual property, academic values at forefront, gathering top IP and top people to generate it</th>
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<td>Discipline depth tends to build research excellence, although multi-disciplinary teams can be excellent ad hoc arrangements for particular projects.</td>
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<td>Academic values, valuing real excellence must be held tight and never corrupted by the pursuit of short term money.</td>
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<td></td>
<td>The academic talent for applying very good research or IP to the real world is actually quite scarce. Many seem happy to publish and leave it at that, but the desire to do excellent transformation of excellent academic work into real world applications is hard to get going.</td>
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<td>Entrepreneurial universities could easily get financially desperate and prostitute themselves, and sell the wrong things. Respect for themselves and for academic values is therefore crucial.</td>
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<td>The university really needs deep knowledge stocks as its working capital. The pursuit of revenue can become an obsession with academics to the point of degrading those deep knowledge stocks. It has happened in some known places. Rebuilding those deep stocks becomes an urgent strategic issue when that occurs, before reputation is utterly lost.</td>
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<td>To regenerate the university, to keep it vibrant, you need leading edge knowledge banks from top academics, and then good organisational process to bring it all together.</td>
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3, 4, 5, 9, 10, 11, 13, 14, 16.

‘Much of what we really aim to do is about the pursuit of reputation. Academic values are supreme. Dollars drive some entrepreneurial activity, but you must protect academic standards and values.’

‘The bottom line is that you need really top people and top quality output to do anything entrepreneurial with research IP.’

‘If you don’t recruit and retain outstanding people, and then educate them about the entrepreneurial possibilities, then you have nothing, no IP worth anything.’

‘You must have some serious intellectual capital to leverage off. I mean, have some very good people who generate top class knowledge and transfer it. It’s the oldest and most basic university mission.’

‘The most entrepreneurial university I know had a really terrific knowledge base. There was so much to work with.’

‘Nothing will succeed if you don’t have something to offer that will meet the needs of outside parties. Excellence in academic work really matters. We could be entrepreneurial by prostituting ourselves, but we won’t. We are seeking quality all the way.’

‘The academic heartland is the key. You must produce top quality IP as a start, especially in research. It’s less critical for teaching, as much of that IP can be replicated and isn’t that unique.’

‘It’s a challenge to hold onto good people for long enough to get the best value, the benefit and leverage out of their excellent IP.’

‘Excellence should always be defined and judged against your strategic mission. What do you say you are good at, what do you have as your mission to be good at.’
| GFC  | Finance regulation and audit procedures are extremely constraining, especially State Auditor-General’s role, which is very intrusive. Leads to a fear of financial blunder, and a risk aversion that tends to cascade through the university from the VC. Unacceptably high levels of ministerial intervention. Controls extremely pervasive. Serious problem in the competition for grants and research monies, where a successful grant often has to be matched with university funds. A win becomes a burden and a loss of still more of the limited discretionary funds we have. State government in one case requires matching of funds for innovation projects. Ends up a total pyrrhic victory to win grants like this. The single most helpful thing government could do to make it easier for us to be entrepreneurial is to reduce regulation, and, of course, to place more funding into the system in the first place, particularly not so much tagged money. How can we be entrepreneurial when we have almost no discretionary funds, can’t set our own fee levels, or use money in chosen ways? Both levels of governments have gone overboard on command and control accountability attitudes. That leads to massive and intrusive systems and rigidities. It’s regulatory overkill. A key issue in being an entrepreneurial uni is to find | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17. (all participants) | ‘DEST have increased regulation and risk management to the point of being very unhelpful for any entrepreneurial activity.’ ‘Universities are held very tightly accountable for public monies. It’s a ‘cut loose’ or ‘tight control’ tension from a policy point of view. I suspect the sector is overloaded with reporting, red tape and accounting for different lines of funding. It become unhelpful.’ ‘Government policy on this [commercialisation] is unhelpful and contradictory’ ‘I see government as drastically hindering our efforts to be more entrepreneurial. There is massive bureaucratisation and reporting frameworks just get bigger and more intrusive and demanding. It forces a mindset and pushes internal resources into certain mechanisms for reporting. And there are so many regulations so prevent us from doing genuinely market driven things.’ ‘Universities have rapidly expanded their activities but with old-fashioned internal controls, such as councils that really don’t have enough commercial nous.’ ‘I think the regulation and accountability is in too many layers, a bit excessive, and it certainly tends to make universities bureaucratic internally. It happens partly because of there are so many separate programs and funding streams, each of which requires separate accountability/reporting. It’s probably in too many small parcels.’ ‘I see lots of the changes in governance, management requirements and accountability as mostly about good ‘new’ public management. They aren’t intended to make us more entrepreneurial.’ ‘The public and community has a very jaundiced view of universities. They’re very dismissive of our achievements and successes but love to dwell on the one or two failures of management, such as the trouble VU |
creative ways to step over the limiting boundaries imposed by government on how they may conduct their business. Privately owned holding companies help, as you can step over the boundary about ‘not using public money’.

The market is not allowed to sort itself out.

Micromanagement is *distracting* from what we should be doing.

Bureaucrats of the western world seem to have all learned from each other how to regulate and control and account for – to the point of serious overkill. It isn’t just happening in Australia, and not just in Higher Education either.’

The increasing regulation and shrinking discretionary fund pool is making universities more and more risk averse, and directly less entrepreneurial as a consequence.

Research priorities are being excessively shaped by politicians, especially the Ministerial veto of ARC grants. This is outrageous intervention.

Some regulation is reasonable and fair, but micromanagement of numbers etc is very intrusive and burdensome. It stops genuinely enterprising market-driven behaviours.

Most unis are so resource starved that they have no chance of being entrepreneurial. They can’t afford to take any risk, even though they would never be allowed to actually ‘go bust’ as a private industry could.

had or the budget problems RMIT had. In fact everyone then gets beaten for those isolated failures, by massive regulation. We should be, accountable, but they need to find a better way than bureaucratic overkill.’

‘The current higher ed policy is a pig’s breakfast! It’s neither a public system nor a private one and in danger of being the worst of both. Controls are many, and would probably be much the same under either major party. Too much reporting and regulation is simply antithetical to the entrepreneurial university.’

‘We are now hopelessly micromanaged to avoid any possibility of flexibility or market responsiveness! We’ve had to spend millions on extra internal administration for all this reporting. Even the processes of applying for funds have become cumbersome and very, very laborious. Government have a quality system called AUQA but don’t trust it and have therefore devised additional systems and controls.’

‘The whole system is now highly interventionist and no longer trusts senior university executives. That mistrust cascades into internal controls and nervous councils, so that their anxiety ends up running things. It’s not so much accountability as total control.’

‘We are suffering stifling over-regulation. There are many reports needed for various parcels of separate funding. In fact there are some reports needed that appear to never get looked at in Canberra – I recently slaved over one, and in a subsequent ‘phone conversation with the bureaucrats, it was obvious that it hadn’t been looked at many months after it had to be submitted.’

‘Being entrepreneurial requires both funds and expertise, and universities are so under-funded at present that neither is really there to have. I am aware of some venture capitalists who are interested in what unis can offer, but it isn’t well developed enough for them to pick up, needs further work to get it out to the market, and there is just no money to do it.’

‘I do not have enough spare money to make a mistake.’
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<th><strong>GFC (cont)</strong></th>
<th>How can we strategically renew with our hands tied behind our backs on all funding and profile issues? We are so over-regulated and controlled. Universities mirror wider public sector reforms to a great extent, but profile negotiations make sure they cannot be truly entrepreneurial. We are not market driven. The profile is inflexible, we are not funded properly, fees are set, and quite wrongly on things like nursing and teaching – all that has done is make them low status occupations.</th>
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<td>Government (FedGovt, DEST or State) financial and other controls including audit, accountabilities, regulations</td>
<td>‘There have been plenty of anomalies and fast deals done in the past, and to some extent, current regulation stops this. Some unis have been over-funded and allowed to get away with those fast deals. It is a restrictive regime now and intrusive, but it might be fairer and more transparent. I’ve yet to really run into the potential rigidity of a test case on DEST flexibility, trying to really renegotiate profile or cease a course, so I don’t know how restrictive it might really be.’</td>
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<td>‘We are so burdened by internal administration and overburdened by DEST who cannot even digest the data! It seems like reporting and accountability for its own sake.’</td>
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<td>RQFI</td>
<td>Research Quality Framework Implications &amp; Impact (policy level)</td>
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<td>We may actually become obsessed with publications – a risk that industry, and the more outward facing stance is less pursued.</td>
<td>12, 13, 16, 17</td>
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<td>‘As a policy, I think the RQF will be anathema to commercialisation and entrepreneurship. ‘Quality’ will be defined by traditional academic peer-reviewed publications, and the impact dimension seems so woolly that it’s not likely to have much weight compared with quality of publications. It will drive people away from the real world and into their writing.’</td>
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<td>‘The risk is that peer-reviewed, classical publication will drive the show, and we’ll actually lose industry focus.’</td>
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<th>TP</th>
<th>Teaching profile and teaching administrative issues</th>
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<td>Cluster funding, registered subjects and schedules, all that detail locked in, is terribly intrusive and actually not helpful for students [of the uni] either. The micromanagement impinges on profiles, prohibition on closing courses, load control on campuses, inability to swing some places into new initiatives that might actually help access/ equity issues, defined units of study in defined semesters all in advance, regulated fees – all seriously limiting our strategic choices. The teaching micromanagement of numbers, places, subjects, courses, total profile etc simply means that we are not a free market.</td>
<td>1, 3, 6, 10, 12, 15</td>
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<td>‘Policy on the teaching front is very unhelpful. It’s intrusive, and actually builds in inflexibility.’</td>
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<td>‘Some careers are just not attractive at present and so those places are not filled. The system could be much more entrepreneurial about trying to get interest up and fill those places, to create a market demand for them with scholarships, upstream work with schools, downstream deals with employers etc. The core business is undergraduate domestic students and we are not highly entrepreneurial about this part of the business.’</td>
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<td>‘I should be able to make a case to shift load from campus to campus, to renegotiate or change some elements of the profile, not to make a fast deal and pocket the money, but to help students where they need it. It remains to be seen exactly how willing DEST is for such discussions.’</td>
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<td>‘We are quite simply not free to start, stop and move courses.’</td>
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There seems to be a clear government intention to give greater flexibility to universities, give them the freedom to differentiate, but it is implemented with control everywhere.

On the one hand, the government wants us to commercialise the research IP we have, but on the other, it really knows that we have very little of that calibre to run with, so that it can’t amount to much.

There are messages given that government is keen to see research commercialised, but there are very poor incentives to do this.

We try to make the system market driven, and help it adapt, but we are accused of using too many controls and intrusive regulations. The intent is there.

It really is just market rhetoric. The system works specifically against that aim. All unis are actually still pretty similar and are not able to truly differentiate.

This is a nominally market oriented system where the market is expressly forbidden from sorting itself out.

Some regulation is fair, even in a largely market driven system, but we have extreme overkill.

The government knows we are a vital highly successful export industry and yet we are treated like the public service, not recognised as the market oriented institutions that we now are. Wanting a market system and getting one to happen are different, especially when policy attempts tend to show that DEST and the Minister don’t really understand the nature of

- The DEST intent is to push universities into more entrepreneurial, differentiated shape, and to be more connected with stakeholders, clients etc, but there is a gap between the ideal and reality. It clearly wants those things, not so much for the unis to be financially independent, but more for other gains.’

- ‘Ours is a very complex system with major commercial expansion in recent years. Each uni is very complex in itself, and all are trying to market different products in different places to different people. Nothing is mass produced……lots of parts of the market are levelling off and the sector is having to re-evaluate what works in static or declining markets compared with the early growth markets. But it’s all about adapting to that new market state.’

- ‘Universities should be accountable for the public money they take. That part of the deal is OK with me. But they also clearly want us to be entrepreneurial and more self sufficient.’

- ‘The national protocols on what a university is are not going to be changed, and that means continuing public regulation and it also means that it won’t be a truly market driven system….Australia really does need more differentiation, especially if we want to preserve some specialisations.’

- ‘I actually think that the government’s policy heart is in the right place. It wants unis to be better managed, efficient, resourceful, self-sufficient, and market driven, but……..’

- ‘We need a more diverse system of excellence. The Minister talks diversity but doesn’t enable it. We are big on access and equity, and yet those lower socio-economic and mature aged groups have higher drop out rates and so forth, so we get judged and punished because the same sized ruler is run over all unis even when they have stated different missions. They might want a differentiated market driven system but they don’t in any way get the policy to make that happen.’
| **GEMI** (cont.) Government entrepreneurial and market intent | universities, and thus don’t understand the impact of certain policies further down the line. | ‘I’d love to change the ownership of universities from the government, to get a more entrepreneurial style. Councils would then go to an ownership approach, not custodianship. We’d decide what to do in the market and what to charge etc.’

‘In fact, when it does try to intervene in the market, DEST seems to get it wrong. Keeping the fees lower for the ‘high priority professions of teaching and nursing just sent the wrong message to the market. It said they were low status ‘don’t go there’ options, so the intent was Ok but the intervention quite misguided.’

| **OPP** Other portfolio policies. Mismatch/ inconsistency with other gov’t policy or stated intent. | We want economic development in Australia, but our industry is mostly SMEs and mining or service. There’s not much manufacturing and therefore less scope for R&D gains. The R&D innovations tend to structurally find their way overseas to head offices in the global market. We are benefiting others by our research efforts, not Australia. This is a complex policy dilemma.

The interface between industry R&D programs and research isn’t well aligned policy, or maybe it’s just the attitudes that don’t match. Maybe more helpful if the funds focused on knowledge transfer and take-up.

One of the problems is that the best research outcomes and IP go elsewhere to bigger markets via multi-nationals. Aust. has structural problems. We have service industries on the rise and the farm and quarry are subsiding. We must re-invent the nation to survive but policy is currently not coherent on this. | 2, 3, 4, 5, 6, 8, 11, 13, 14, 15. | ‘We want universities to be business/industry engaged, but much of the policy distracts and confuses unis so that they have this focus diminished. And business and industry definitely need more understanding of what unis do and can do. There is an education process needed to make business much quicker on the uptake with universities.’

‘Ironically, we have a conservative centralist controlling government. Not the truly liberal small government one we might think we have according to the party’s name.’

‘DEST policy is very inconsistent. It wants commercialisation but doesn’t offer any dedicated seeding funds to run the infrastructure or tech. transfer. If we really wanted good research, we’d have policy that pointed to much clearer and more specific research priorities and we’d reserve a smallish but sufficient percentage of funds to give to those issues.’

‘Our tax policies, R&D and uni policies are all over the place. They don’t link synergistically at all.’

‘Do universities have to be useful as agents of economic development for this society? Is it all about economics? What about social value adding?’

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| OPP (cont.) | A fundamental lack of resource from the public purse is hamstringing universities. We need to decide if we really do want a knowledge based economy, and if we really do want unis to be able to cut just enough slack to do entrepreneurial things.  
If we seriously want regional interests looked after, and we do want to make efforts for access and equity in higher education, then the policy frameworks need a lot of work.  
In the UK, the RAE caused much of the ‘excellence’ to bundle up in the south east of the country, with no innovation hubs in the midlands or north where there is spare capacity. It seems very possible that we are going to do this here in Australia too, with most of the research intensive unis sitting in places where we have no spare capacity, and most of the regional and more remote areas (which won’t have research intensives) having the spare capacity but no innovation. | ‘Australian business and industry is not well disposed towards universities. That needs some policy work.’  
‘We have a very lean and piecemeal government approach. All research is under-funded and it costs! In some respects we’d be better to just give our IP away to industry, and not try to develop and commercialise in any way ourselves, but I don’t think this what the government has in mind.’ |
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<th>RIS Research intensive universities</th>
<th>All participants</th>
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<td>The Go8 is actually already strongest on industry research, and they will just get stronger at it. They have the bet IP, best licences and patents, best equipment—all the stuff to commercialise, so they should just get better and more entrepreneurial on that front. Post RQF, research intensive unis will do blue sky research and be close to industry work, addressing long-range serious issues like water supply and cleanliness issues. They’ll get very good at some patch. Research intensives would still have many staff who are not research active or especially entrepreneurial so maybe they won’t be that different. They’ll do the same things as now with slightly better funding. They will still have to focus and concentrate to get top quality. Collaborative consortia and virtual teams make a lot of sense in this new era. How else will anyone get the resources for critical mass and to capture and hold the best people? Australia needs to join some of these international teams. Research intensive unis don’t actually make much money from entrepreneurial efforts with their research output, such as commercialising their IP, so post RQF, may be they’ll just carry on as before. Research intensive universities, post RQF, will be more about partnerships with business and industry, with lots of joint ventures and IP shared between the uni and business.</td>
<td>‘I expect that the research intensive universities will still chase ‘impact’ and industry relevance, but we don’t know what the link between ‘quality’ and ‘impact’ actually be.’ ‘It needs enterprising strategic management, and some places will have to give research away I suspect. The research intensives will need to be very entrepreneurial in winning industry and business money as government grants are so controlled and need matching funds much of the time. At least that won’t always be so with industry funds.’ ‘The research intensives will be competing more vigorously for the best people, that’s international competition. No-one wants low grade research. Globally people shop for whole research teams and poach them. It’s a very active market that will emerge for the top people and their top IP. It’s already starting to happen. They’ll have more patents, and spin-offs if the teams are very good. Australia isn’t looking good here. With multinationals the best goes elsewhere and the markets are bigger there.’ ‘An RQF type scheme will force increasing specialisation even in my university [a Go8 major research player]. Solitary researchers won’t fare well. Clusters and teams have a deeper knowledge and resource base and thus greater commercialisation prospects.’ ‘There might be a pull to more theoretical research, and away from applied research, but it didn’t really happen in the UK when they went with an RAE.’ ‘Even a research intensive uni, that will be being entrepreneurial with its IP will still also be entrepreneurial with its teaching IP. They’ll need both, since research commercialisation doesn’t actually make much money. In some countries, the R&amp;D is mostly done inside corporations, so it never really sits as wealth generation inside the universities. eg Japan.’ ‘Quality will drive research and it will be defined as publications. I don’t think the impact factor will have enough weight to change that so I expect...’</td>
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<td>RIS (cont.)</td>
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<td>Research intensive universities</td>
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<td>The research intensives will probably just focus a little more. There is a risk that research intensives will lose some drive to be industry focused. They could get fixated on traditional publications. There will be a need to work at keeping them industry focused, ironically what the government says it wants.</td>
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<td>academics will chase publications and forget really seeking commercial buy-in.’ ‘I expect that the research intensive universities will do more commercialising than they do now. They should have more quality IP to work with.’ ‘I don’t think the research intensives will change much with an RQF. The system is already very concentrated. It could show up some weaknesses in the research intensives, and there will be recognised pockets of top research going on in smaller institutions too. But the game won’t change much.</td>
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<td>Code</td>
<td>Points and Ideas</td>
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<td>TEI</td>
<td>Teaching entrepreneurship and innovation</td>
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<td>Teaching provides easier opportunities for entrepreneurship than research does. Using courseware and that kind of IP is easier to manage for direct and tangible results, and in a shorter time frame. There’s much scope for creativity in this – new markets and new methods. Post RQF, teaching intensive unis will work on delivery of courses and getting closer to market needs. It’s not just what the market wants, but it will want in the near future. That needs to be anticipated. Teaching intensive unis need better market intelligence to pick niches and fill them very well. Being highly entrepreneurial might mean trading some courses and government funded places with other institutions if DEST would allow it, so each could become more specialised. The fiercely competitive international market demands being very innovative on style and delivery organisation as well as actual content. Need excellent market focus on target group, organisational arrangements for delivery etc. Aust’n unis have been very entrepreneurial on this score, but must get better and better. Teaching intensives or teaching only unis will need to be very innovative re courseware, and often be involved in partnerships to access new markets off-shore etc. Teaching intensive universities will need to be very fleet-of-foot to take opportunities and leverage what they can off the IP they hold in their courseware.</td>
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<td>‘Teaching makes money: research only does in the long term. It isn’t too hard to be entrepreneurial with good teaching IP.’</td>
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<td>‘Teaching and learning will run on a marginally profitable basis, whether off-shore or on-shore. I’m not sure that we ought ethically be trying to make buckets of money on this front, just enough.’</td>
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<td>‘It comes down to being entrepreneurial with courses and parts of them – the type, the place, market, delivery style.’</td>
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<td>‘Most community development comes from the skills, knowledge transfer and education from universities and suchlike, so there is more scope for being entrepreneurial here, especially for domestic universities. It’s the biggest theatre of entrepreneurial activity We won’t want to be ‘teaching only’. We’ll do research, funded or unfunded, especially regarding international and cross-cultural issues of the markets from which our international students come, just to keep us relevant to them.’</td>
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<td>‘Teaching only isn’t really an option. To stay market attractive, especially to international students, research is fundamental to the reputation and status of what those customers think they are buying. Australia is probably too small a market to cope with the diversity of teaching-only public universities.’</td>
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| **TEI (cont.)**  
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<th><strong>Teaching entrepreneurship and innovation</strong></th>
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| We mostly have the good course material, so the challenge is really about finding new markets to sell it to, or maybe re-packaging what we have into different cross-disciplinary combinations to service special niches.  
Courseware, how it’s packaged and delivered and for whom is the entrepreneurial arena for teaching intensive places. Private providers might do this better? |
| ‘Teaching intensive unis will need to be very good at packaging and presenting material. I doubt that the material itself needs to be absolutely original, so that IP is less the issues, and smart marketing, sales and service with reputation and style will be the keys.’  
‘I think teaching intensive unis will do more community engagement, especially chasing local research funds and consultancies. Some research work will happen, but on a very applied basis, often regionally funded and valued.’  
‘A teaching intensive smaller university should run for the niches and a narrow profile covering the areas of excellence they have. Being entrepreneurial would mean choosing that narrow focus and doing it very, very well.’ |
<p>| ELC Matters relating to entrepreneurial language and general concept | The key element or driver of an entrepreneurial university is its outward facing style, without which it just isn’t one. This is fundamental to the concept and needs emphasis. Engagement drives diversity in the sector because different communities and contexts cause differentiation. This depends on whether you know what those communities want, and they know what you have to offer. It’s important to define ‘entrepreneurial’. It could be about spin-out ventures and straight out commercialisation, but it’s really much more than that. To mean anything, you need some innovators and entrepreneurs at all levels of the uni, but you also need steady, regular workhorses to keep core operations going. Having everyone be entrepreneurial would be chaotic, so that’s not the goal. Entrepreneurship emerged in Aust universities mostly from learning and teaching, the export market, revenue generation in the ‘90s and so on. We’ve done this very well over many years, very successfully indeed so the concept isn’t new to us. ‘Entrepreneurial’ can be seen as a dated term of the ‘80s and ‘90s. Clark’s studies are quite old, and the US system, against which he makes certain contrasts, is very different. ‘Innovative’ or ‘engaged’ might be better terms now. Entrepreneurship is a means to an end. | 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 15, 16, 17. | “I have difficulty with the word ‘entrepreneurial’. Is it a style or an end in itself? Unis are only able to take very moderate risks and are therefore not truly entrepreneurial to me. I prefer ‘innovative’ or ‘creative’. I don’t know whether it’s the property of individuals or of a whole institution.’ ‘Lots of universities overtly seek entrepreneurial opportunities, but the successful practice is actually very patchy.’ ‘Some institutions are corporate, others are definitely not, and entrepreneurial activity is then deemed appropriate for faculties, but not the centre or ‘whole of institution’. There may not be an entrepreneurial intent for the whole uni. This uni is very collegial and devolved, so we don’t intentionally drive being entrepreneurial from the centre, but parts of the place are highly entrepreneurial in themselves.’ ‘Most universities and their people don’t have a concept of entrepreneurship – there’s a long way to go.’ ‘Actually, Australian universities are much more entrepreneurial than their European equivalents in toto, by choice or necessity we’ve grabbed hold of the concept.’ ‘I don’t believe it’s all about leveraging off IP and commercialisation. It maybe more of a culture or style.’ ‘Start back at the question “What is a university?” If we accept that knowledge generation, dissemination and transfer for wider community good is part of the basic mission, then we need to be a bit entrepreneurial at times to deliver on that mission, especially the transfer part.’ ‘I don’t particularly like the word ‘entrepreneurial’. I prefer ‘engaged’. Innovation, creativity, building wealth and value – they all better describe what we’re doing and why. We do it for the community, not for its own sake, or for private gain.’ |</p>
<table>
<thead>
<tr>
<th>ELC (cont.) Matters relating to entrepreneurial language and general concept</th>
<th>Whilst not using the word entrepreneurial, I’m seeking a commitment to being strategic, good at spotting and pursuing opportunities in a strategically valid way. Do we assume that universities aspire to be entrepreneurial, or that they find themselves in a space where some entrepreneurial activity is necessary? Or is it elements of both? Some universities aspire and self-describe as entrepreneurial: others don’t. When public universities operate entrepreneurially, they do so within a much more rigid framework than private enterprise, so only some of the corporate entrepreneurship ideas apply. Entrepreneurship is the means by which we reach the end point of being like the triple helix concept. Engagement is a bit trite. A more dynamic image is needed.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘You can talk about a firm as a singular entity, with specific benchmarks and so on, but a uni is not that easy. It’s more multiple, complex, diverse and certain functions can be entrepreneurial and use corporate concepts and others can’t. Some corporate entrepreneurship ideas will apply but won’t work in universities. You have to see what will apply, and unis have so many parts. Only some will apply to some parts.’ ‘Entrepreneurial’ is not the terminology I’d use in this university. It doesn’t suit this culture, a bit too ‘in your face!’ It would be seen as likely to corrupt academic values. I’d use ‘strategic’ as a better, neutral word’ ‘The term ‘entrepreneurial’ worries me.’ ‘If we were really entrepreneurial, we wouldn’t do research, because it can never be profitable. Entrepreneurship should mean return on activity, to make oneself more self-sufficient. That’s why some fully private universities in the US only teach. The return on research is only in the medium to long term.’</td>
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</tbody>
</table>
Entrepreneurship and money/revenue

Commercialised research rarely makes much money, and the aim therefore is not so much about the money but the spillover benefits of R&D for wider economic development, he multiplier effect that is potentially much bigger.

There is only ever a smallish percentage of total revenue to be made from research commercialisation, even in the best examples, so being entrepreneurial ought not to be about the money. And we oughtn’t to make huge margins on learning and teaching, so being entrepreneurial has to be about something else.

Australian unis are good at entrepreneurial teaching activities, but can be seen as ‘ripping the guts’ out of some off-shore markets for our gain. There are ethical issues.

Revenues from courses and teaching make much more money than research ever will and universities are better at doing it.

You wouldn’t necessarily do research commercialisation for the money itself, but for the value and dissemination of the knowledge.

Even when making money, it is not for its own sake. We want more discretionary revenue to make other things work better.

Mostly, we are chasing the non-government dollar, which has fewer strings attached.

‘Commercialisation is only a small part [of being entrepreneurial] and it never makes much.’

‘We don’t chase dollars at any cost, especially not quality. Dollars drive some entrepreneurial activity but there must be protection for academic standards and values.’

‘Even Stanford doesn’t get rich from research, but they get heaps from alumni and spin-offs. There’s only about 2-5% of budget in such revenue, but the technology transfer happens in the heads of the graduates and they in turn give a huge amount back to their alma mater.’

‘Australian unis chase short term dollars for all the wrong motives.’

‘The sector is a bit offended by having to chase money too much. It’s seen as a bit grubby, and that we might get corrupted education and research.’

‘It’s really not about the money, but you mustn’t lose money on these external interfaces all the time either.’

‘Research commercialisation doesn’t make much money, especially in some countries where R&D sits mostly inside corporations and doesn’t really belong to the university, or doesn’t get reported that way.’

‘We need to be careful not to over-do the entrepreneurial zeal. It can lead you to close up all sorts of student services in a short-sighted way because they don’t make enough profit, but really, it should be about access and convenience for students, not all about money.’

‘I think being entrepreneurial is all about the money in this country. The pursuit of the dollar has made for some very poor quality teaching in some places. We have been corrupted by the chase for the dollar.’
While not likely to generate large revenue, commercialisation leads to links with industry, and that can generate money in the form of linkage and collaborative grants and research contracts.

Some evidence that the panic for dollars has driven the push to be entrepreneurial. No-one has chosen it for other reasons yet (have they?), so it’s simply a process of adaptation to the regulatory environment, and to try to fund core operations.

‘At senior levels, even though tech transfer doesn’t make much money, managers are interested in it because they want to look as though it does. It’s really about the chase for status and reputational positioning, not just the dollars.’

‘Commercialisation is a bit inconsistent with open dissemination via publications. Some academics see commercialisation as personal gain and some are very good at it. But there must be some incentive to do it.’

‘It’s not all about the money. Money is part of it, but it must also meet strategic goals that might be about other value-added.’

‘For us being entrepreneurial is an implicit goal but I don’t use that word. Profit is not the goal. Surplus to reinvest is.’
| EStrat | Entrepreneurship as strategy for value, for strategic purposes over and above money | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17. | ‘The degree to which universities are outward-facing is a key consideration. We want more unis to be actively engaged with business and industry and outside stakeholders. This is the key entrepreneurial feature for research.’ |
| --- | --- | --- | ‘The links between the outside world and institutions are creative and entrepreneurial in some cases. That is what we want to see.’ |
| | | | ‘Some of our postgraduate and international areas are self-funding entirely and really are aimed at revenue generation, but not with quality compromise. That’s never the aim. So it’s a patchy entrepreneurial thrust, not across the board.’ |
| | | | ‘Engagement is about getting out and making links, transferring and applying knowledge. It should be about being relevant to society, adding value, especially as a publicly funded institution.’ |
| | | | If you are strategically entrepreneurial, you get yourself into collaborative arrangements and networks. I think Deans of Research and the like will need to be top strategic managers to do this well.’ |
| | | | ‘A truly entrepreneurial university would be one that could quickly identify and move into new educational spaces, respond to research needs in industry and create new ventures as a result of the new IP it developed, but that is all part of a bigger capacity to identify and respond quickly to the whole environment.’ |
| | | | ‘In the long run, it’s about profile, reputation, status, relationship building, full engagement and some money, but not just about the money. If we did this engagement well, we’d get the money, and a lot more as well.’ |
| | | | ‘Generating and transferring knowledge is the oldest and most basic university mission. It’s unique. That is the heart of what we do.’ |
| | | | ‘The strategic gain [in entrepreneurial activity] is not only wealth for the university, but for the community. There is some altruistic sense of greater value, a social good beyond money for the uni. |
| | | | Helping university staff work out what industry wants is an important strategic issue given that we want engagement. |
| | | | The main driver of entrepreneurship in the uni is wider economic development, not short term fast money. It’s community wealth we’re chasing. |
| | | | A public university tends to be focused on publicly funded teaching and learning places and research, not on being entrepreneurial except in a very few cases. |
| | | | In most efforts, we must have a profit margin, but not a huge one since community development is a prime reason for much of our educational activity. |
| | | | The push in Australian universities has been partly about chasing dollars but it’s now more about engaging in the new knowledge economy. We need to re-invent the nation. |
| | | | As a public good, we must add financial and social capital. |
| | | | We need everyone in the university, top to bottom, being able to face outwards and share that vision of being engaged. Our efforts should be about broad societal development around the uni, a catalyst both regionally and internationally. The process will be good for us too. |
If you see the university as a plant or tree, with government and community growing up with it all three twisted together and supporting each other, you need to remember that ivy can kill the tree. If all three are to survive and thrive, then the university needs to be a bit taller, a bit separate from the others, and to exist for its own sake, not just to prop up the others. The uni is pivotal to a learned society and ‘above’ the others because knowledge is valuable for its own sake.

More joint ventures are needed to share research IP with industry, a sort of outsourced R&D for industry. Australia is good at this and should do more for mutual benefit.

Society, and government needs to think carefully about what it wants from universities regarding economic and social development. There is currently no integrated vision.

Entrepreneurship started as being about generating revenue in Australian universities, but it’s more than that now. It’s now more about getting community access to the knowledge that the uni generates.

We do all this because we should be contributing to economic development of strategic industries, and if we do it right, we also give something back to society and make more staff happy and incentivated. It should build the image and prestige for the institution and for the individuals.

‘Entrepreneurial’ is Clark’s word for being outward facing and engaged. Money is just the means, not the ends.

‘We must have a clear collective vision to move forward. And you need continuity of vision to be entrepreneurial because it doesn’t happen overnight. Some universities are collectively incapable of working out where they are going, and where there is no collective agenda, academics make and run their own agendas. I think cohesive strategic vision must come from the top.’

‘You need an overall strategic view as to which things must be commercially self-sufficient and profitable, and which things you are simply going to intentionally cross-subsidise. That doesn’t mean not being entrepreneurial, but doing it selectively.’

‘More discretionary money means we can get things to happen, and use some of it with largesse for greater equity, scholarships and so on, so it’s certainly not about money for us but to do things better. We can also be more regionally useful to our various communities, developing them, if we have some surpluses to carry across.’

‘Academics individually want to make a difference to the world, but when we try to make it an institutional agenda, they glaze over a bit.’

‘I’ve changed my mind. I used to think all commercial effort was about raising the money. I now think it’s more about total value.’

‘We just want to get resources to get things to happen.’

‘We used to have a huge emphasis on revenue generation- top line income- but little sense of what actual clear profit or gain was in any venture. There wasn’t much sense of costs, or of real strategic value in doing some things. I want to see a highly strategic rigour applied to every venture. Not everything is about profit, but we must know what profit or loss we will have and make a choice for longer term benefit.

‘Ultimately, many things we do are for generating other-than-dollar value and for future business. We’re committed to equity, continuing education and life-long learning and regional engagement. Money is
<table>
<thead>
<tr>
<th>EStrat (cont.)</th>
<th>Entrepreneurship as strategy for value, for strategic purposes over and above money</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There are some binding legislated limits to how entrepreneurial we can be. As a public entity, there are things we simply cannot do. We cannot decide to move our core business, to do a total domain redefinition, so we do what entrepreneurial things we can within a much more rigid framework.</td>
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<tr>
<td></td>
<td>Instead of the term ‘entrepreneurial’, it could be called engaged and outward looking, in interaction with the rest of the world. That means more strategically to this university and sits with our sense of who we are.</td>
</tr>
<tr>
<td></td>
<td>only a part of those agendas. A social good is also our aim.’</td>
</tr>
<tr>
<td></td>
<td>‘All universities can be entrepreneurial in various ways, depending on their mission.’</td>
</tr>
<tr>
<td></td>
<td>‘I want vibrancy, strategic focus, offering high quality education, distinctive curricula and good applied industry focused research. That’s our goals, not profit. Surplus is just for re-investment.’</td>
</tr>
</tbody>
</table>
Initial Codes Generated for Coding Interview Data.

*Codes generated primarily from responses to Questions 1-5, occurring less frequently elsewhere:*

R  Risk, Risk management issues, either disposed to or averse to

DevE  Devolution, Delegation, Empowerment

Cons  Consulting activity, consulting policy

GES  Good entrepreneurial staff

CultO/C  Culture of openness, confidence, trust, positive for innovation

Enab  Enabling infrastructure incl. legal and technology transfer capability, structure, internal flexibility.

CD  Course development, incl. speedy accreditation processes

ExecTC  Executive team capability incl general managerial ability.

ExecTC(Lead)Exec team Capability (leadership). More specific reference to VC and vision.

OutL  Outward looking orientation, engagement with outside world.


MarkK  Market knowledge and intelligence.

Pers  Personnel/HR policies incl. HR development/training, reward systems and performance management practices.

Dec’n  Decision-making processes and speed.

AcEx  Academic excellence of intellectual property, academic values at forefront, gathering top IP, and top people to generate it.

*Codes generated primarily from responses to Questions 6-9, occurring less frequently elsewhere:*

GFC  Government (Fed Govt,DEST or State) financial and other controls. incl. Audit, accountabilities, regulations
RQFI  Research Quality Framework Implications & Impact (policy level)

TP  Teaching profile and teaching administrative matters

GEMI  Government entrepreneurial & market intent.

OPP  Other portfolio policies. Mismatch/inconsistency with other gov’t policy or stated intent.

**Codes generated primarily from responses to Questions 10 & 11 occurring less frequently elsewhere:**

RIS  Research intensive unis.

TEI  Teaching entrepreneurship and innovation.

**Codes generated primarily from Questions 12 & 13 but also arising spontaneously and widely elsewhere in interviews:**

ELC  Matters relating to entrepreneurship language and general concept.

E$  Entrepreneurship and money/revenue

EStrat  Entrepreneurship as strategy for value, for strategic purposes over and above money.

**Codes generated to assess general level of specific engagement with the Table 1 offered to interviewees as a prompt for discussion and comment and enhancement:**

HT  High engagement with Table. Specific comment and reference to many ideas within the Table

MT  Medium engagement with Table. Moderate reference to ideas and specifics within the Table.

LT  Low engagement with specific ideas and points within the offered Table.

BC  Specific comment about of reference to Burton Clark’s concepts and work.
<table>
<thead>
<tr>
<th>Code</th>
<th>Code significance</th>
<th>Participants</th>
<th>Quotes and Author’s Observations or Points (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HT</strong></td>
<td>This code used to mark examples of respondents who showed <em>High Engagement with table</em>. Specific comment &amp; reference to many ideas within the Table</td>
<td>4, 15</td>
<td>‘What leaps out at me from your Table is that many items come from corporate entrepreneurship and happen all the time there, but don’t happen in universities, although here, at this uni, they used to.’</td>
</tr>
</tbody>
</table>
| **MT** | This code was used to mark examples of respondents who showed *Medium Engagement with table*. Moderate reference to ideas and specific within the Table | 1, 2, 5, 7, 8, 9, 15 | -Had read model and accepted all. Chose to emphasise some elements.  
‘The Covin & Miles categories aren’t mutually exclusive: they blur and overlap, and maybe the Clark elements do too.’  
-Model subtly buries basic need for external engagement which is pivotal to entrepreneurial university.  
‘I struggled to work out what the Table was saying, even though I found I agreed with every point in it. I couldn’t get the bigger picture.’  
‘I’m having trouble digesting this Table, but I like some of the Covin and Miles concepts, especially ‘domain redefinition’.’  
Having argued vigorously about one or two points within the Table and satisfied herself re definitions, then accepted the whole Table.  
‘The Table needs some work to arrive at something of practical use to senior university managers, but there is much in it of value. I can’t disagree with anything in it.’  
‘The Table wouldn’t really help someone trying to get familiar with the concepts. It’s not user friendly. I found it hard to engage with but would endorse most of what’s in it.’ |
This code was used to mark examples of respondents who showed Low Engagement with specific ideas and points within the offered Table.

3, 6, 10, 11, 12, 13, 14, 17.

‘I don’t think much of Clark’s five elements. There are really only two of substance—funding diversity and academic heartland—and all else is secondary.’

‘We don’t have a lot of time for models here.’

No disagreement with any aspect of model, but unclear whether it had even been read.

‘I haven’t thought about this sort of thing for a while but there doesn’t seem to be anything missing from the Table. I’d just give organisational structure more emphasis than appears here.’

No contradiction but little reference to Table either. Used it as spark to talk about ‘hobby horses’.

Much written already about entrepreneurial university, so doubtful whether this study can add much, given complexity and diversity of Aust institutions, but would be good if it could add practical insight.

‘I don’t fully understand the Table. I came from industry and still don’t really understand how universities do what they do.’

‘Nothing really struck me as wrong in the Table but we can’t really be entrepreneurial in the true sense.’
This code was used to mark examples of specific comment about or reference to R. Burton Clark’s concepts and work.

Clark’s elements aren’t mutually exclusive. In practice there is overlap.

‘I think all five of Clark’s elements are right on the money, especially the steering core for its leadership and vision emphasis and culture for its empowered, positive attitude.’

‘I found Clark’s five elements actually unhelpful in trying to make sense of the Table and the general ideas.’

‘Diversifying the funding base’ probably could more sensibly read as ‘diversifying the support base’.

The best example of an entrepreneurial uni was this way because of a strong committee who made the decisions, absolutely like Clark’s ‘steering core’.

Commercialising student and campus services needs great care or many services just die. Is Clark right on this point?

‘Entrepreneurial’ is a dated term of the ‘80s and ‘90s. Clark’s studies are actually now quite old and the US system is very different, so he was interested in some things which are actually quite unexceptional to us now in Australia.’

‘Clark’s work seems a bit facile and dated mostly because so many Australian unis and TAFES are already doing much of what he talked about and quite well, although he really is the authoritative source.’

‘Entrepreneurial is a word Clark seems to have used to distinguish between traditional and more modern. So ‘once traditional, now entrepreneurial’ is the message. Entrepreneurial seems to be Clark’s word for being outward looking, engaged with the rest of the world and vibrant. It comes out as entrepreneurial when that’s what he means I think. Money is just the means, not the ends.’
Good Examples of Entrepreneurial Capability –Building

Responses to Question 6 - “What would you give as an example of excellent entrepreneurial capability-building that you’ve observed? Who? What? How? With what effect?”

Most often mentioned (by 9 participants) is University of Queensland /Uniquest.
- Cited as good example of generous spending initially on infrastructure capability for commercialising. Built a technology transfer unit before it was able to pay its way and to experiment and learn.
- Small number of very clear goals/objectives and senior commitment to the commercialisation agenda.
- Described by several as a ‘commercialisation system’ with excellent scanning ability for IP worthy of commercialisation. Now run as a ‘hub and spokes’ system with core expertise and co-ordination at centre, and out-placed experts in each major faculty, centre etc. Close to academic work and excellent at identifying IP with potential, both research and teaching.
- Strong leadership from VC (past and present) and DVCs who were and are action-oriented and risk taking with some flexibility and ability to swing resources around to create a little ‘slack’ when required to nurture a venture.
- Entrepreneurial in many ways as Ipswich campus is good regional hub of local development, largely teaching based, whilst abundant high end research is also strong on commercial activity.

Mentioned twice
Monash University, especially under Mal Logan, and on international front, although it is noted that they may have ‘got carried away’ here.

Macquarie University, for its very clearly projected, confident image that differentiates it from USydney and UNSW and markets it very well, and for its internationalisation strategy which has generated a lot of revenue for it.

Swinburne University of Technology for being bold enough (under Iain Wallace) to have a declared entrepreneurial strategy, and for being cleverly and successfully niche-oriented especially in the Business area, but also its Astrophysics area where an exemplar entrepreneurial professor has built a niche and grown a business with modest resource and much ingenuity.

Mentioned once as an example
UNSW especially 10-15 years ago. Very clear research enabling and consulting policies that encouraged and made entrepreneurial action easy. Empowered academic staff to locate their own resources within the bounds of that clear policy. Encouraged and facilitated outside engagement to this end.
UTas for doing a deal with the Tasmanian State Government of mutual benefit. Provided ongoing links with outside world and funding, plus value added for government departments.

Uni of Wollongong (especially 5-10 years ago) for being extremely well-managed and focussed with clear engagement with local region, and good relationships with DEST (or precursor) that created some opportunistic benefits. VC was the key.

RMIT University for its international student successes, onshore and offshore, that have generated huge revenue. A really big successful entrepreneurial business!

UMelb for its Melbourne Private initiative that was the right idea in its context, even if not appropriate in later changed policy scene. Also cited for former VCAlan Gilbert’s instigation of the Group of Eight universities – entrepreneurial because it said ‘we’re very good because we say we are’, and positioned them well.

Griffith Uni (in its early foundation years) for clarity of purpose/mission and a structure that made growth easy, and development was all scanned and evaluated within a clear strategic vision. Strong culture maintained it for many years. Entrepreneurial in that it found its niche, stuck to it and facilitated its own growth well.

Uni WA for being a prestigious and enterprising research body.

The VET sector of Australia for being far more entrepreneurial and outward-facing and engaged than any university.

A State Government funded project in Regional Victoria that gave a skilled and experienced technology transfer person generous resources and a very free and empowered hand to do his best for 2 years. The project succeeded in establishing several entrepreneurial ventures.

Overseas

Oxford University’s Isis Innovation

University of Warwick for its foundation VC’s vision, and whole strategy of regional and community engagement, relevance and value-adding, all built on world class academic excellence and intellectual property.
### TABLE 2 - SUMMARY OF INTERVIEW RESPONSES BY QUESTION NUMBER and PARTICIPANT

<table>
<thead>
<tr>
<th>Part. num ber</th>
<th>Questions 1-5 Response to Table 1 – MACRO Entrep’l university overview</th>
<th>Questions 1-5 Response to Table 1 – MICRO Detailed org’n/mgt capabilities</th>
<th>Question 6 Good example &amp; why?</th>
<th>Questions 7-9 Policy &amp; context-help/hinder?</th>
<th>Q 10 &amp; 11 Research/teaching intensive/entrep’l implication?</th>
<th>Q 12 &amp; 13 Aims/goals/ intent?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overall agreement with Table. -Unsure if ‘entrep’l’ is about individuals or organisation. -Unis risk averse by nature &amp; regulation in Aust. Not very entrepreneurial really. -Prefer ‘innovative’ to ‘entrep’l’. -Devolution, delegation, empowerment of middles is key. -Liberal consulting policy. -Open, confident culture where ideas come forward. -Spend just enough on commercialisation infrastructure. -Spendy course accreditation.</td>
<td>UNSW 10-15 yrs ago. Clear consulting policy, research structures &amp; processes, clear steps &amp; boundaries. Empowered &amp; motivated researchers. Maybe UQ/Uni-Quest too.</td>
<td>RQF will discourage industry links &amp; push to traditional publication. DEST regs hamper teaching –built-in rigidity. Intrusive over-regulation, especially financial. Fear</td>
<td>Go8 trad unis will get V. limited $ in real research RQF will discourage IP, patents, equipment commercialisation, so</td>
<td>Difficulty/confusion with word “entrep’l”. Style or end in itself? V. limited $ in real research commercialisation, so about strategic gain for uni &amp; community.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Overall agreement with Table. -Entrepreneurial about looking outwards to world and transferring knowledge for others’ benefit. Aust unis not very ent’l yet, very inward focus</td>
<td>Maybe UQ on research commercialisation.</td>
<td>-Lack of mandate to transform culture to open, trusting, decisive, vibrant, at leading edge of knowledge so courses &amp; research are also vibrant. -Head &amp; Deans should be empowered to drive, often obstruct.</td>
<td>-Research intensives will be same but better funded. Maybe more focussed. -Research entrepreneurship needs to serve community. -Teaching entrepreneurship needs to serve community.</td>
<td>Engagement, adding value to community, not about the money. Being entre’l is about outward facing to the world, transferring knowledge.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>‘Entrepreneurial’ confused with good, accountable, de-bureaucratised ‘new’ management. -About adding value &amp; not just $ -Unis catalysts of dev’t in their regions (local &amp; inter’l). -Exec group have key role in strategy, vision, leadership, getting ‘buy in’, firing people up. -Mechanisms of finance, HR, top market intelligence etc necessary but not sufficient. -Optimistic culture of opportunity.</td>
<td>UQ – Ipswich good example of local/regional engagement. High-end research commercialisation done well. Top’l ship team &amp; good systems/processes.</td>
<td>Accountability is to be expected, but mired in bureaucratic overkill. Gov’t fails to acknowledge good practice, intrusive, command/control view.</td>
<td>-Not much $ made from research, but research intensives will go on as before - more funds, more competition. -High scope for ent’l teaching, adding value.</td>
<td>Adding value to community, not just about economic dev’t – Broad societal dev’t in &amp; around uni is entrepreneurship aim.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>High endorsement of Table. -Sees unis &amp; knowledge as social good, so entre’ship about dissemination/transfer. -Need for creativity to operate around gov’t policy controls. -Entre’p ship or Innovation?</td>
<td>UQ - commercialisation system. -Warwick. World class IP built &amp; high regional/community engagement’t. Great vision in founder VC.</td>
<td>Current policy a pig’s breakfast! Neither truly public, nor fully private/market driven. -Over-controlled -More differentiation in system needed.</td>
<td>-Teaching entre’ship needs innovative content on delivery style, organisation &amp; content. New markets. -Res. intens. Will seek partnerships/networks with bus., other unis.</td>
<td>Not for $ itself, but for value &amp; dissemination of knowledge to bus., industry, community. -Knowledge a good in itself.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Outward-facing, engaged adding value, serving community is being entrep’l’. Rest just enables that. -Total value not purely profit concerns uppermost. -Having outstanding IP and people is the key. Something to offer.</td>
<td>None offered.</td>
<td>-Highly regulated, intrusive controls etc seriously limit entre’ship. -Profile rigidity serious. -Micromanged in overkill effort to make efficient/accountable. -What market?! No market allowed to run.</td>
<td>-Teach. intensive will innovate via on-line, top IP in courseware, new markets, partnerships. -Res. intens. Will seek partnerships/networks with bus., other unis.</td>
<td>More discretionary $ is to enable other things. Not $ for its own sake. -Don’t like ‘entrep’l’, prefer innovative, engaged, value adding.</td>
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<td>11</td>
<td>Generally Ok with Table, but with high emphasis on org structure as enabler of ent’ship. -More attuned to innovation than e’ship per se. -Both require deep knowledge stocks, acad. excellence., and external engagement to get result</td>
<td>-Transforming ossified culture/structure is vital. -Needs flexible, permeable units, cohesive leadership team, open outward-facing culture. -Market intelligence essential for teaching ent’ship, and top IP in courseware.</td>
<td>None offered</td>
<td>-Highly interventionist policy that shows no understanding of teaching/ research work. -Prevents market responsiveness. -No vision for what is uni’s place in society.</td>
<td>-No place for teaching-only uni in Aust. Will lose repute &amp; custom. -All research work will concentrate in few, rich places, not best for Aust econ dev’t. or research unis’ external orient’n.</td>
<td>-Entrepre’l thrust has been all about the $ here in Aust since ’80s/’90s. -Pursuit of $ can corrupt unis, distract from acad. values of serving, bettering.</td>
</tr>
<tr>
<td>15</td>
<td>Accepted Table &amp; concept but does not use entrep’l language. -Seeks ‘commercial savvy’, high strategic focus to all activity, and entrepreneurial thrust is only part of that. -All unis can be entrepreneurial in own way, depends on their mission. Engagement is vital.</td>
<td>-Must have precursor good mg’n’t elements eg. Good marketing, market intelligence, costing, sound academic &amp; commercial decision mechanisms, &amp; incentive systems. -Strategic focus essential for evaluating opportunities &amp; risks, but must be communicated by leadership team for good buy-in.</td>
<td>Macquarie for marketing selves well, differentiating from USyd, UNSW. -SUT for niche strategy. -UMelb’s previous VC for starting ‘Go8’ concept of elitism, superb positioning.</td>
<td>-DEST very intrusive. -Hinder by severely underfunding essentials. -Accountability &amp; fair profile systems are potentially positive but micromanagement &amp; loss of flexibility a serious limit to ent’ship.</td>
<td>Research intensive will do more commercialisation, with more resource. Teaching intens. Will do more community engagement, esp. with local funds for local, hands-on research.</td>
<td>Being strategic, spotting &amp; pursuing opportunities is main aim, not $$ per se. -Reputation, value-adding, access, equity, life-long learning, social good are real aims.</td>
</tr>
<tr>
<td>16</td>
<td>Entrep’ ship in Aust unis an aspiration or necessity driven? -Table largely agreed with, but avoids language of ent’ship. -Managerial &amp; entrepreneurial ideas get very mixed. -Strategic aim central. -Knowledge generation &amp; transmission at core both need sustained regeneration.</td>
<td>-Need good processes for sustained regeneration, vibrant curriculum, responsiveness, action orientation. Rigorous external review at times. -Engagement/external focus with industry, business, professions vital. Managers need to model this. -Structures, culture can ossify, so inertia wins. Needs decisive l’ship. -Budget models important.</td>
<td>Griffith in early years. Strong strategic vision &amp; good growth mechanisms. -UQ for research commercialisation ‘hub &amp; spokes’ system -RMIT’s international efforts over many years.</td>
<td>-Over-regulating government, very control oriented. -Strategic renewal &amp; market responsiveness hard with hands tied. -Disjointed/ un-thought out policy with serious export trade consequences</td>
<td>Teaching intens. will get clever &amp; innovative re courseware, how packaged, for whom &amp; how delivered. -Private providers may thrive. -Res.intens. need to stay industry focused, not driven by publication.</td>
<td>-Outward looking, adding value, getting resources back. -Vibrancy, high quality curricula, relevance. -Money is the means not the end itself, so being entrepreneurial is not the end game.</td>
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<tr>
<td>17</td>
<td>Aust unis are entrep’l via diverse funding bases, &amp; wider public sector management reforms of 80’s/90s. -Can highly regulated, public legal entities, ever be really entrepreneurial? Doubtful. -Aim to be engaged, outward-looking. Support of community.</td>
<td>-Market intelligence, top business planning &amp; costing systems needed -Care to balance research &amp; re-subsidy needs with total profit focus. -Respect &amp; preserve collegial culture whilst ensuring strong steering core. Academic values must shape &amp; drive most things.</td>
<td>None offered</td>
<td>-Not free to stop/start/ move courses in profile or to charge what market will bear. -Highly regulated, inflexible, not market-driven. No freedom to differentiate. -Intrusive admin controls overburden unis</td>
<td>-Post RQF, research intensives won’t change much but weaknesses exposed, some smaller unis also good at some things. -Teaching intens unis to run for niches, narrower profile, do them well.</td>
<td>-No-one has chosen entrepreneurial path. Driven by financial panic. Adapting to environment &amp; policy regulations etc. -Could be an active strategic choice to do things differently.</td>
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</table>
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<td>4</td>
<td>-Much of what happens in corporate ent’ship doesn’t happen in unis, (esp. not his uni now) i.e. consultation, participation, empowerment. -Strong agreement with Table. -Put strong emphasis on steering core, dec’n-making, vision and leadership within model. -Suggests resource slack (time &amp; $) is vital. -Flexible HR rewards, incentives needed. -Top staff and IP are the core. -Culture with incentives built in. -Proactive seeking of industry problems to solve needed for good entrep’1 research. -Prof of Astrophysics at SUT has very entrep’1 flair and has built area with clever resource acquisition and external focus. Has built huge profile &amp; does excellent business planning. -Gov’t policy very unhelpful &amp; contradictory. -State govt’ puts up some commercialisation $ but requires unis to match. -Many grants tied and just inadequate. -Teaching IP makes real $, so course delivery, research. getting close to market -Aust unis chase short term $. Wrong motive for entrepreneurship.</td>
<td>-Gov’t policy very unhelpful &amp; contradictory. -State govt’ puts up some commercialisation $ but requires unis to match. -Many grants tied and just inadequate.</td>
<td>-Reduced interest in traditional research.</td>
<td>-Teaching IP makes real $, so course delivery, research. getting close to market</td>
<td>-Main driver is wider economic dev’t &amp; knowledge transfer to wider world, not short term $ from research. -Aust unis chase short term $. Wrong motive for entrepreneurship.</td>
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<td>7</td>
<td>-Hard for universities to be truly entrepreneurial in Aust because of over-regulated context. -Research entrep’1ship never makes much $, teaching does, so really about linkages, status &amp; profile. -Confused by Table as finds uni rarely does much of this. -Market intelligence/investigation vital for customer responsiveness. Uni’s not good at it. -Needs enough seedling funds &amp; infrastructure investment to build tech transfer capability. Most don’t invest enough. -Devolution &amp; trust in senior line managers. -UQ/UniQuest- was given high priority, large initial $ injection, high calibre technology transfer experts; grew into hub &amp; spokes model. Has mgt support. -Oxford’s ISIS Innovations also good. -Intrusive govt’ regulation contradicts market rhetoric. -Insufficient discretionary $ in the system. -Can’t be entrep’1 until can set priorities &amp;fees, use $ in chosen ways -RQF will force specialisation, even in best res.intensives. -Danger is for publications to become sole focus. Lose industry external links? -Teaching will be entrep’1 with course IP. -Strong links between inside &amp; outside have value beyond $. Must have &amp; but not the main game in uni. -High engagement is goal for mutual benefit. Then about $ and support.</td>
<td>None offered.</td>
<td>-Auditors general/gov’t all over universities. -Gov’ policy ‘heart’ in right place re market forces but bureaucratic micro-management kills. -Stifling over-regulation.</td>
<td>-RQF could be anathema to being entrep’1 &amp; commercial as focus goes on traditional academic publications, not industry links. -Teaching unis will need to be fast to take opportunities to use IP.</td>
<td>-Entrepl’1 uni started with grab for $ to off-set lost gov’t revenue. Now about getting knowledge to community, adding value, links with bus/industry. -Not just about the $</td>
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<td>12</td>
<td>-Unis not good at time-bounded decisions. Very risk averse. Could be entrepreneurial but rarely are. -Table is useful, but can it ever happen? -Motivation, esprit-de-corps &amp; desire to do best for whole uni is lacking. -Decision-making is key managerial/leadership issue. Too slow, too stymied in committees &amp; fear of risk. Paralysis occurs. -Org structure makes silos, not enough co-operation. -Finance system crucial. -Need to empower middles. -Much management training needed.</td>
<td>-State Govt’ funded project for regional development in collaboration with a regional university was well funded and project director given very free hand to make decisions. Successful &amp; satisfying</td>
<td>-State Govt’ wants unis to be entrepreneurial but resources &amp; expertise scarce- lean, piecemeal policy approach, so potential not realised. -Research seriously underfunded, so IP rarely mature enough to commercialise. -Research more my thing but teaching ent’ship will spin around good course materials, new markets, consulting &amp; multi-disciplinary response. Unis need new processes to combine &amp; sell this sort of IP.</td>
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<td>-Aim is $ in form of research linkage &amp; other grants, not commercialisation $. -Should contribute to econ. dev’t in strategic industries. -Partly $ driven but also societal value, image &amp; prestige.</td>
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<td>14</td>
<td>-Confused by Table as works entirely in tech.transfer from industry b’ground. -Sees ent’ship in uni as about engagement with external world. -Sees it partly as enabling extra earning &amp; status for academics, to hold them in university. -Empowered &amp; properly resourced tech transfer unit is vital. -Sr management strategic commitment to all ent’ship in terms of time, seeding $ &amp; decisiveness. -Delegation re decisions needed so TT people &amp; line managers can go ahead within guidelines, not everything going to top. -Total culture &amp; buy-in needed.</td>
<td>-Gov’t wants unis to be entrepreneurial but resources &amp; expertise scarce- lean, piecemeal policy approach, so potential not realised. -Research seriously underfunded, so IP rarely mature enough to commercialise. -Research more my thing but teaching ent’ship will spin around good course materials, new markets, consulting &amp; multi-disciplinary response. Unis need new processes to combine &amp; sell this sort of IP.</td>
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<td>2</td>
<td>-External engagement &amp; connection for mutual benefit is key, maybe not clear enough in Table. -Unis need to be entrepreneurial, more for national benefit than for financial independence of to save govt’ spending.</td>
<td>-High external orientation, where senior managers know what IP exists in uni with outside potential. -Needs policy to draw all staff, top to bottom, into outward focus. -HR, performance targets etc, plus top market &amp; industry knowledge. -Clear decisions re licence/spin-off/ sell/develop for greatest benefit.</td>
<td>-Only newish to area, but maybe UQ/UniQuest?</td>
<td>-Gov’t intent clear to push system to be ent’l, differentiated, connected with stakeholders &amp; accountable. -Sector overloaded with reporting, fragmented programs &amp; tight controls. Inconsistent.</td>
<td>-Post RQF, res.intensive will still chase impact, industry relevance. -Unclear link between quality &amp; impact. -Teaching ent’l ship will mean market response, outreach, niches, smart delivery, consulting.</td>
<td>-Commericalised research rarely makes $$, so real aim is spillover R&amp;D benefit for whole economy. Aust has structural, needs knowledge.</td>
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<td>3</td>
<td>-Models seems largely irrelevant if academic heartland is truly stimulated to generate highest quality IP. -Some unis don’t set out to be entrep’1: It’s an assumed part of energised, devolved faculty/centre leadership &amp; initiative, not mostly top driven. -Rests on having top IP &amp; depth.</td>
<td>-Much more emphasis on market analysis/intelligence needed. -True costing of projects for overheads &amp; actual net gain very important. Most do this badly. -Culture of engagement &amp; excellence. Reward same. -Get talented people in middle mg’t &amp; fully empower. Centre mostly co-ordinates &amp; ensures acad values.</td>
<td>-UTas deal with State. -Monash under Logan, esp internationally. -UMelb’s Melb Private a great idea at time. -Macquarie’s internat’l strategy. -UQ on research front. -SUT for niches &amp; declared ent’l strategy</td>
<td>-Gov’t intent for flexibility, but implemented as control. -Excessive ministerial/ dept’l intrusion on cluster funding, grants, teaching schedules etc. -Many grants need to be matched, crippling consequences for unis.</td>
<td>-Teaching unis must seek niches &amp; differentiate to survive. -Private providers are serious threat. -Research intensive will need to work harder at winning bus/industry $$ to offset govt controls &amp; need to match $$.</td>
<td>-Really about pursuit of reputation &amp; academic excellence. These should drive all entrepreneurial effort. -Some ent’l projects driven for $$, but protecting acad standards is vital.</td>
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<td>6</td>
<td>-Unis in Aust have expanded entrep’1 activities but with old fashioned controls, insufficient commercial ‘nous’, &amp; trouble getting good staff. -Our unis more ent’l than in EU, but not yet at TAFE level. -Ent’l re getting govt funds but not at solving demand problems. -Low interest in Table detail.</td>
<td>-Physical infrastructures/buildings must be in top shape for ent’l ship. eg. Labs, equip., classrooms, not just VCs offices! -Mgt needs to encourage, reward innovation &amp; tackle poor performance. -Top people &amp; performance mg’t. -Unions defused, not running show -External interface units improved.</td>
<td>-Not big enough as a country to have many good examples. -Technology parks are still ‘hopeless’. -UWA has lots of Nobel prizewinners- high profile gets press and $$ -TAFE does it better.</td>
<td>-Regulation tends to make unis bureaucratic internally, as they have so much reporting to do. -$$ tend to come in too many fragments, all separately accountable. -Poorly aligned gov’t policy on R&amp;D, industry &amp; research.</td>
<td>-Teaching intens. need top market intelligence, diverse system, niches, plus excellent delivery. -Res.intensives will compete vigorously for govt controls &amp; need to match $$.</td>
<td>-Entre’p ship about engaging with knowledge economy. -These should drive all entrepreneurial effort.</td>
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</table>
| 13 | -Academic heartland the key. Top quality IP needed but needs steering core, vision & smart marketing intelligence to succeed even with top IP. -Building good relationships internally/externally is mg’t priority, otherwise academics disconnected, solitary, negative. -Control with freedom empowers | -UQ’s hub & spokes model of commercialisation, puts smart administrative commercial nous alongside academics. Doesn’t ask academics to be both intellectually driven & ent’l as well. | -Research priorities being shaped by politicians. -Micromanagement of numbers, courses, profile. Intrusive, and burdensome. -Some regulation & accountability fair, but prevents entrep’ ship. | -Teaching intensives must be very good at packaging, presenting, marketing, servicing. e.g Phoenix -Research intensives will focus more. -Risk is they will get publication obsessed: industry focus lost? | -Entrepreneurship a means to an end. -Helps get resources to make other things happen. -Status, reputation & position driven for senior execs., not mostly about $$. At junior levels, it’s $$.
Clustered Codes Sorted into Domains/Elements of a Larger System.

**Strategy**
*Purposes. Directions. Why? Why be entrepreneurial? To what end?*

- **OutL** Outward looking orientation, engagement with outside world.
- **ELC** Matters relating to entrepreneurship language and general concept.
- **ES** Entrepreneurship and money/revenue
- **EStrat** Entrepreneurship as strategy for value, for strategic purposes over and above money.

**People**
*Leadership capability. Who? Who will steer/drive the entrepreneurial university? How should they do it?*

- **ExecTC** Executive team capability incl general managerial ability.
- **ExecTC(Lead)** Exec team Capability (leadership). More specific reference to VC and vision.
- **GES** Good entrepreneurial staff

**Enabling Mechanisms and Processes**
*What should be done internally to make the university entrepreneurial*

- **Cons** Consulting activity, consulting policy
- **Pers** Personnel/HR policies incl. HR development/training, reward systems and performance management practices.
- **Enab** Enabling infrastructure incl. legal and technology transfer capability, structure, internal flexibility.
- **CD** Course development, incl. speedy accreditation processes
- **MarkK** Market knowledge and intelligence.
**Culture and Internal Politics**

*What sort of internal world should we seek to create?*

- Dec’n  Decision-making processes and speed.
- AcEx  Academic excellence of intellectual property, academic values at forefront, gathering top IP, and top people to generate it.
- DevE  Devolution, Delegation, Empowerment
- CultO/C  Culture of openness, confidence, trust, positive for innovation
- R  Risk, Risk management issues, either disposed to or averse to

**Context**

*Interfacing with government policy and external political reality*

- RIS  Research intensive unis.
- TEI  Teaching entrepreneurship and innovation
- GFC  Government (Fed Govt, DEST or State) financial and other controls. incl. Audit, accountabilities, regulations
- RQFI  Research Quality Framework Implications & Impact (policy level)
- TP  Teaching profile and teaching administrative matters
- GEMI  Government entrepreneurial & market intent.
- OPP  Other portfolio policies. Mismatch/inconsistency with other gov’t policy or stated intent.
Appendix 17/Figure 5.

The Clustered Elements of Organisational and Managerial Capability in Becoming an Entrepreneurial University in the Australian Context – Codes Clustered Illustrating Themes in Round 1 Data.
STRATEGY
Clear strategic entrepreneurial intent & plans
Core/non-core clarity
Revenue generation focus, not cost-cutting
Top intellectual property sought & cultivated
Recruit/retain people with top IP to boost market attractiveness & capability
Extensive interaction with business & community
Promote/develop strategic leaders, not rule-bound bureaucrats

CONTEXT
Well-developed links with professional associations, alumni, business groups, government etc to locate opportunities for partnership and new market openings.
Extensive interaction with business & community.
Support & incentive for external networking, esp. by managers.

PEOPLE
Cohesive senior management team making f decisions with good consultation & participation.
Leaders displaying humility, emotional intelligence, valuing quality, ethical work & respecting collegiality.
Top quality leadership & mgmt dev’t/ training/ mentoring for all managers.
Ensure strong negotiation & interpersonal skills in all managers.
Promote & develop very strategic leaders, not rule-bound managers.
Middle & senior managers good at identifying & selling opportunities.

CULTURE & INTERNAL POLITICS
Cohesive senior mgmt team make fast decisions with appropriate consultation & participation.
Devolution, delegation & empowerment to all levels with good academic participation.
Learning organisation orientation & tolerance for initial errors.
Empowerment of middle managers (ie Deans/ Heads of Dept).
Regular review of academic units.
Promote positive entrep’l self-image.
Elected academic reps at all management meetings.
Recognise exemplar entrepreneurs.
Encourage networking, external & internal across university.
Respect academic values & discuss potential commercial conflicts.

ENABLING MECHANISMS & PROCESSES (see Appendix 6 for full lists)
Devolved budgets
Top business planning, financial/cost analysis.
Programs culled, quick accreditation.
Strong market intelligence.
Specialists for tech transfer.
Budgets for networking.
Flexible strategic HR policies.
Incentives to collaborate.
Top management development & entrep’re development education for all.
Organic/flexible structures.
Seed capital. Performance targets.
Spare infrastructure capacity.

Appendix 18/Figure 6.
Key Points from Original Table 1 Mapped onto Five Clusters of Current Study
<table>
<thead>
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<th>Code</th>
<th>Points &amp; Ideas</th>
<th>Participants</th>
<th>Quotes</th>
</tr>
</thead>
</table>
| **R** | Risk, risk management issues, either disposed to or averse to | 11, 16. | ‘I’ve found many external Council members to be decidedly risk averse. They worry about their accountabilities and obsess about internal matters of finance and buildings, the sorts of things they tend to know about, and hardly ever really encourage or contribute to a really outward looking institution, although they ideally should.’  
‘It’s a balancing act. We clearly need some risk management and controls, but we don’t need control-freakishness.’ |
| **DevE** | Devolution, delegation, Empowerment | 1, 16, 13, 10 | ‘Especially at the level of Dean, you really need the right managers in place who can enable rather than control or repress. They must be able to give room to staff to ‘run’, to empower them to innovate.’  
‘The hard thing in being really helpful to entrepreneurial people and possibilities is that unis are often very large, more than a bit bureaucratic, and sometimes for good reasons. We need to be able to loosen things enough to get initiatives to happen, to devolve enough to offset the natural bureaucratic tendency in a big institution.’  
‘Control oriented managers can close up all innovation if they refuse to devolve, or delegate anything.’  
‘Our external environment is currently encouraging control and restriction, so the role of management inside the university is to retain an innovative internal climate despite this. We do have internal discretion and choice about how we create innovation, regeneration, empowerment and energy.’ |
### Cons
Consulting activity, consulting policy

One of the key ways of translating knowledge into external real world application is via consulting.

12  ‘I think consulting is a key method for disseminating our research, and not just in sciences and engineering. Social and humanities and education work translates well as consulting, well beyond the traditional publications. It can really add value to the world, and not necessarily in the form of dollars. Trouble is most universities don’t have flexible or encouraging approaches to consulting. Some are so rigid that is invariably ends in tears.’

### GES
Good entrepreneurial staff

No new points or quotes added in Round 2

### CultO/C
Culture of openness, confidence, trust, positive for innovation

What is needed is not just a few managers taking the lead in being outwardly focused. We need cultures that are outwardly oriented and engaged throughout.

Our culture needs to be one of high awareness of the outside world in all its various sectors and dimensions.

5, 7, 8, 9, 14. ‘I think we have to build that engaged culture from top to bottom, but especially at very senior level, because those people cannot afford to take their eye off the ball and senior folks are key culture shapers.’

‘It’s hard to be entrepreneurial in just one small part of a uni – it will get swamped. We need to be entrepreneurial all over, to make a whole culture.’

‘A whole culture is needed to make it easy compared with hard to be entrepreneurial. A unis probably have barriers but some are more blocking than others.’

‘It becomes very difficult to train and educate entrepreneurs for the world, to ‘spawn’ them, if the culture of the university is not itself quite entrepreneurial. It needs to be a whole enveloping culture of entrepreneurship talked about, modelled and lived.’
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| **Enab**  
Enabling infrastructure including legal and technology transfer capability, organisational structure, internal flexibility | Specialist planning staff can do much of the research that goes into good industry analysis and environmental scans, to seek out statistics on trends etc. You need good planners and forecasters to do this work for senior managers to then work with.  
To get good entrepreneurial efforts happening within a logical framework requires it to be located in a strategic plan in some way, and that means that strategic planning processes must be well set up in the uni, with all operating plans for faculties and units sitting under the strategic plan and definitely linked to it. The planning system needs to be well-oiled and integrated in order for entrepreneurial efforts to make any sense and ‘fit’ into the scheme of things  
Industry contact needs to be centrally co-ordinated, especially in large universities to prevent multiple faculties door-knocking various community and business bodies in an unprofessional way. It needs data bases and protocols in place to do that co-ordination. | 3, 11,12,15. | ‘The corporate entrepreneurship literature is a bit more about the internal enabling in those places and it doesn’t necessarily fit well with what we’d have to do inside a university.’ |
| **CD**  
Course development, including speedy accreditation processes | No new points or quotes added in Round 2 |  |  |
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<td>ExecTC</td>
<td>The senior executive team in any university must be very outward focused and actively engaged in relationship development with government and business, especially when in regional/rural locations.</td>
<td>1, 5, 6, 7, 8, 10, 11, 13, 16, 17,</td>
<td>‘It would help if more of our senior university managers read a good strategic planning and management text book! I personally did lots of industry high level research and analysis to try to lead by example. I was trying to get a 10 year vision and time frame in everyone’s mind and I went to CEOs at the top. I was trying to model a template process and orientation to my PVCs and DVCs. It didn’t really work. They didn’t want to think about the outside world much, but it’s a must-do for university executive teams’.</td>
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<td>Cannot leave planners and forecasters to do all the industry analysis or it gets very marginalised. It needs line managers, all the way to the top and especially at the top, to synthesise this information and make quality input on the basis of their own field intelligence.</td>
<td></td>
<td>‘I think it’s especially important to have really good people at the top. You can have policies and processes for being entrepreneurial but if they don’t have ‘it’, then nothing happens.’</td>
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<td>We need more diverse senior management groups with strong strategic and value-adding backgrounds, especially in the not-for-profit and government sectors. Across the system, senior managers are too often very insular.</td>
<td></td>
<td>‘Too many senior staff have never been anywhere else other than a university. Some excellent strategy making is now done in public sector and non-profits as they become more corporate. We need their diverse views and experience.’</td>
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<td></td>
<td>Good and promising managers within the university need active grooming and exposure to outside management practice to become more broad in their outlook and less inclined to ‘navel-gazing’.</td>
<td></td>
<td>‘Actually, strategic planning is the same in a university as it is in any other large complex organisation. Managers need to pick up a book by Porter or suchlike and read it to get a logical grip on the strategic choices. Look at good corporate strategy and processes elsewhere and copy them!’</td>
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<td></td>
<td>In dual sector universities, it is often the managers with a TAFE background that have most natural entrepreneurial tendencies – well honed by commercial and competitive exposure over years.</td>
<td></td>
<td>‘I’m looking for my senior managers to get experience via interchanges and assignments in government or other organisations. It helps broaden their view and develop their strategic capability.’</td>
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<td>It is hard to teach strategic thinking to those who don’t have it naturally but concerted efforts to run senior workshops and scenarios with councillors and senior</td>
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<td>‘The executive group cannot afford to be siloed – they must teach and cross-pollinate and learn to get collective strategy together.’</td>
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<td>ExecTC (cont.) Executive team capability including general managerial ability</td>
<td>managers, where there is questioning and learning together from each other can help develop the thinking. We work in an environment which is constrained and regulated. That means that the executive team must understand those limitations, and work within them, but that doesn’t mean we give up on creative, highly strategic thinking. There is an ample supply of literature on corporate culture and on strategic thinking, and there is no excuse for universities not using that supply of knowledge. Senior managers must be familiar with this sort of managerial expertise.</td>
<td></td>
<td>‘From Council down, we need to develop high external awareness and capacity to think strategically within those contextual issues. Now the trick is to carry that awareness and thinking right deep into the whole university. That requires very particular communication and leadership ability, to carry that awareness right through.’</td>
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<td>‘A large number of our senior staff have never really been outside the university- they’ve insufficient public and private sector exposure. Our context is extremely complex, much more so than for many industries, and it is hard to build strategy, but the more exposure and awareness senior staff have, the better.’</td>
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<td>‘We really most particularly need middle and senior managers to be outward-looking, people like deans, whereas it might be less crucial for some others.’</td>
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<tr>
<td>ExecTC(Lead)</td>
<td>It seems very important that the leadership and management style at the top not be autocratic, and that not all of our vision comes from them. The processes of participative leadership in creating a vision and getting the shared understanding are vital for the getting the passion and commitment we need. Without the passion and buy-in, the rest of the cycle goes nowhere. Strategy, making it and getting it to go somewhere all depends on the person at the top. It really is all about the leadership. The interface with government and political entities is a fairly selective and sensitive matter and senior managers need to be good at it, but not have everyone running around trying to do that. That is a job for a VC to co-ordinate if not personally do, and would expect them to be doing a lot of it. VCs may not be really encouraged or supported by their own councils to be strategic and context oriented. Councils have their part to play in appointing and shaping the VC.</td>
<td>3, 4, 13, 15, 16,</td>
<td>‘The calibre and style of senior and middle management is the key – you sink or swim with them.’</td>
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<td>‘It’s very hard to be innovative if you are under siege and afraid of your own senior manager’s response. Having a rule bound person at or near the top is the undoing of everything entrepreneurial and innovative.’</td>
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<td>‘Very strong leadership is needed to get a unified, shared vision with clarity that will hold the near-anarchic forces of a university together. It is inclined to want to break up almost daily!’</td>
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<td>‘It helps to insist that strategic choices are made, not blurred and compromised.’ ’Both sophisticated analysis of information about contexts, and very complex synthesis of it all are what makes the judgment needed at the top. It is the synthesis skill that is essential for great leadership in our sort of situation. Some VCs have it in buckets, others less so.’</td>
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<td>‘We used not to be very good at strategic management generally, but the current VC articulates our mission and direction superbly, and all the senior team buy-in, and now all our strategic management tools such as budget and initiatives funding align with that strategy and the team building of academic and administrative elements is fusing us into one university going somewhere.’</td>
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<tr>
<td>OutL</td>
<td>We have only just discovered that ‘navel gazing’ won’t work in such a volatile environment. Unless we look outwards and read the context continuously, we are lost. Knowledge of the context of the institution is the starting point and strategy flows from that, so that is where one would logically start in your cyclic model. Involving key stakeholders in strategic planning is always helpful. Do we in universities? Old-fashioned SWOT analyses are an obvious starting device for strategy. We need to understand industry trends, the changing nature of organisational life, the sector trends, in order to see the opportunities and threats. We really need to build very broad constituency bases with the whole community: business, alumni, government and prospective students. It all adds up to respect and support for you in the long run. Work out who the constituents are and they’d better not all be in Canberra. Being outward looking does involve technical skills of gathering and analysing market intelligence, and other demographic data and suchlike. It isn’t all that easy to do it well.</td>
<td>1, 2, 3, 5, 6, 7, 8, 9, 10, 11,</td>
<td>‘A whole culture of looking outwards has to be built from top to bottom, especially at the very senior level who cannot afford to take their eye off the outside world.’ ‘I think it’s good to look at your emerging model as a cycle. You might enter the cycle a bit differently depending on the uni’s maturity and character, but ‘context’ is crucial and probably the starting point for many.’ ‘I only ever once seriously took an industry analysis, a prototype report actually, to council for strategic consideration. They were only very mildly interested and didn’t want to see another one. My senior management team, the ones I wanted to enthuse with this process, so they would run with it, didn’t raise any interest either. It was a methodology for being outward –looking and informed, and they didn’t want to know, so getting it embedded is tough.’ ‘I think being very engaged and a bit entrepreneurial can be a marketing and positioning thing –it comes across as dynamic, innovative and the place to be.’ ‘From where I’m sitting, many universities are still very internally focused and still not really looking at and meeting external needs – it’s more comfortable to stay with the pipe dreams!’ ‘I think we need to relate well to all parts of our outer context, and that does mean telling government at times what we are going to do, not asking them, and not begging. Be an equal two-way player in the relationship.’</td>
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<td><strong>OutL</strong>&lt;br&gt;(cont.)&lt;br&gt;Outward looking&lt;br&gt;orientation, engagement with outside world</td>
<td>We have to check all the environment all the time. We watch the political landscape, the financial movements, the market developments here and abroad. We watch everything, and cannot afford to be inward looking. Benchmarking is another way of looking outwards to see what others of like kind do. Deeper analysis of the context eventually should lead to high cultural awareness of the outside world and how to work with it and for it.</td>
<td></td>
<td>‘Detailed industry and market analysis needs to be systematic and deep. There are techniques for old fashioned scanning and SWOT analyses etc, and other tools for reading context. The superficial won’t give you any strategic edge.’&lt;br&gt;‘Engagement must be bilateral, mutually respectful and genuinely add value to both parties. We need people at all levels of the university doing this whilst all working to the same strategic ends.’</td>
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<td><strong>BusP</strong>&lt;br&gt;Business planning/&lt;br&gt;business judgment/ business acumen including financial ‘nous’, internal financial systems for realistic costing and adequate financial incentives</td>
<td>Much more skilled business development and business planning skills are needed to succeed as ‘entrepreneurial’. Many dabble and waste opportunities, not following through fully on some investments so that they become wasted money and opportunity.</td>
<td>14.</td>
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<td><strong>MarkK</strong> Marketing knowledge and intelligence</td>
<td>There is the pull of the market, and the push of one’s own ambitions and mission, coupled with government policy directives and constraints, so the market scene is actually very complex. It requires significant skill to read it well. Multi-layered local and international markets are not easy to read, and we’ve ironically done better at locating and opening international ones than we have at identifying new ones locally. That doesn’t mean that there aren’t more or different local ones. We have more stakeholders than the average service organisation and it takes more work to identify what each wants and needs.</td>
<td>3, 8, 10, 12.</td>
<td>‘On the undergraduate and post graduate sides of teaching, we are working out what students and other key stakeholders want. Especially business and industry. We’re a market provider to a large extent and have to do the detailed and deep analysis of what is wanted and needed. That means systematically talking with employers and the like, not just flicking through the student feedback surveys. I think it actually requires very good market research skills and some specialists who do this for you all the time as a conscious exercise.’ ‘We undoubtedly need very good specialist market research done on a regular basis.’</td>
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<td><strong>Pers</strong> Personnel/HR policies including HR development/training, reward systems and performance mgt. practices</td>
<td>There is a need to recruit for management positions from beyond the university system, or at least from those who have been in universities and in other government, non-profit and even private corporate worlds, although they must understand and respect academic quality, and to some extent, collegial values. We need much more flexible employment policies that really do allow some people to move in and out of the university sector into business spin-offs and the like and then back again without huge career and financial damage.</td>
<td>12, 17,</td>
<td>‘I see an increasing preference to appoint people who’ve been ‘outside’ universities in other worlds. We need people who understand context and have been outside their own uni. Even with this, you must make a serious effort to mentor and groom the senior and up-coming managers you do have, get them some outside experience on interchange and the like.’ ‘ Rewards and recognition for industry contact and engagement must be built into promotion policies or we are not serious about wanting it.’</td>
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| **Dec’n**  
Decision making processes and speed | No new points or quotes added in Round 2. | | |
| **AcEx**  
Academic Excellence of Intellectual Property, academic values at forefront, gathering top IP and top people to generate it. | No new points or quotes added in Round 2 | | |
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<td>GFC</td>
<td>Federal and state gov’t issues are used as a blaming point but we’ve not pushed ourselves as a sector to be engaged and entrepreneurial. It’s easy to blame ‘them’. The reality is that standardised yardsticks and measures in the system force undifferentiated, non-strategic performance. We may be aware of the context and aware of strategy possibilities but are constrained so that not much creative strategic thinking occurs. In fact, some institutions seem so nervous and uncertain about the future that they don’t do it. That is a cop-out. Some blurred and even contradictory government policy in higher education (in relation to market responsiveness and entrepreneurial efforts generally) has in part led to universities having blurred missions. With blurred missions, unis are inclined to grab at everything, instead of really strategically thinking about where it takes them and whether it does fit their mission. There is some financial desperation in this grabbing too. Tagged funding, profile negotiations that get locked in and even required presence on non-viable campuses are all constraints to true strategic management. The government context, especially many of the measures of performance does not support differentiation.</td>
<td>2, 3, 5, 7, 10, 11, 16, 17,</td>
<td>‘I think the many references to government policy and over-regulation and micro-management can be a bit of a cop-out.’ ‘Any plea to DEST for special measures to match a special and difficult mission is seen as a try-on to escape accountability. All it does is force uniformity not accountability. It cannot help but limit strategic and entrepreneurial efforts, but it shouldn’t stop them entirely.’ ‘Context is everything. Universities are not autonomous and choices are limited, especially here in Australia. We do look outwards but we are so constrained as governments organisations that it defines our opportunities.’ ‘Actually government policy still doesn’t recognise the difference of missions. There is no incentive to be strategically different, and many of the uniform measures and performance indicators actually punish some unis for trying to be a bit different. So it isn’t surprising that muddled thinking in many universities in this country equals muddled and mediocre performance. Some of that is just reflecting government’s lack of clear and supporting policy.’ ‘The Australian scene makes it hard as an institution to say what you are not going to do – profile negotiations make it very difficult to stop things. Government turns out to be very reluctant to actually let you stop a program or close things, or get out of a particular discipline when you make the decision that you want to be out of it as it’s not your strength. They won’t actually let the market forces look after the demand issue.’</td>
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<td>RQFI</td>
<td>No new points or quotes added in Round 2.</td>
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<td>TP</td>
<td>No new points or quotes added in Round 2.</td>
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<td>GEMI</td>
<td>The government seems not to support commercialisation directly, with any special funding whilst saying that they want us to do it. It leads to a sense of frustration where it is often asked whether it mightn’t just be better to give our IP away than to try to be strategically commercial. The costs of getting things commercially launched are high.</td>
<td>9, 14,</td>
<td>‘Many Australian universities are clearly situated in the wrong place. They are not in large enough communities with which to engage, certainly not local ones. They have to look nationally and internationally, and that is much harder, especially when the location is also deeply unattractive to international and local students. But politics and government nervousness means the institution must stay there. There isn’t a ready market to work with for them.’</td>
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<td>OPP</td>
<td>No new points or quotes added in Round 2.</td>
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<td><strong>RIS</strong></td>
<td>Research intensive universities</td>
<td>No new points or quotes added in Round 2.</td>
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<td><strong>TEI</strong></td>
<td>Teaching entrepreneurship and innovation</td>
<td>1.</td>
<td>‘It is clearly easier and less constraining to be entrepreneurial in teaching domains, but there is less scope to be very innovative and creative with research funding and other aspects of the uni’s operations.’</td>
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<td><strong>ELC</strong></td>
<td>Matters relating to entrepreneurial language and general concept</td>
<td>5, 9, 10, 14, 15, 17,</td>
<td>‘We don’t use entrepreneurial language here but we behave that way often.’ ‘The entrepreneurship concept is Ok with most VCs but many are uncomfortable with the term. For them, and for me, it is about strategy, first and last.’ ‘I like the words ‘innovative’ and ‘creative’ better than entrepreneurial. What we want is innovative and creative efforts that find their way into engagement with the society so that everyone benefits, both economically and socially.’ ‘We need a deep and innovatory relationship with the community.’</td>
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<td><strong>ES</strong></td>
<td>Entrepreneurship and money/revenue</td>
<td>4</td>
<td>‘You cannot cost-cut your way to prosperity.’</td>
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| EStrat | We want to be value-adding, and not just economically, but in a socio-cultural way as well. Government has two main goals – firstly to achieve competitiveness in the system, to have it operating as a market place, nationally and internationally, which will drive standards up, and secondly, to achieve diversity within the system. If we serve the community in engaged ways, it will force diversification into universities, and they will add value to those communities, socially and economically. To start good planning and strategy, we need old-fashioned environmental scanning and SWOT analyses, but with plenty of focus on the OT (opportunities and threats external to the uni) part and less on the SW (strengths and weaknesses) that can just be more navel-gazing, inward directed. Many universities are beginning to recognise that they aren’t very good at strategy-making and at least they do now recognise this. If you understand your mission, then you can also see how being entrepreneurial will fit into and serve that. Being engaged and quite entrepreneurial can help with one’s marketing positioning – a dynamic image. | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 | ‘It isn’t just money or research opportunity, but being known in the community and turned to often as a partner.’  
‘It’s a quality issue- being grounded in particular needs of particular communities, then you deliver quality for that target group, so diversity is driven by the stakeholders’ needs.’  
‘To do this, you have to be able to do excellent environmental scanning. It raises lots of questions, pushes the institution beyond its comfort zone and stirs anxiety.’  
‘I want us to be a sustainable organisation that can pursue its mission successfully, and since that mission here is about the world of work, then that is what we must find ways to do. We need to add value in deep ways to that end.’  
‘It’s not about the dollars per se, so it must be about competitive advantage and differentiation in the Australian scene – to get an edge, and do things better than the next uni.’  
‘I see that the point is to be relevant, to satisfy stakeholders, to generate resources to do the things you want to do. There’s also issues of reputation and public profile and image, and being entrepreneurial is about the only way one can chase growth in what is pretty much a contracting market , at least at UG level.’  
‘We need to be competitive, to be relevant, to have some advantage over lesser universities. I’d say value-adding. That’s what it’s all about in the long run. Lustre rather than lucre!’ |
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<td>EStrat</td>
<td>Money is necessary but not sufficient. Increasing pace of change in the environment means greater competition, and positioning and prestige mean a lot for survival of an institution, so the strategic ends are not the money <em>per se</em>.</td>
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<td>“Context drives strategy. We need to be very clear about what we are trying to do to stay afloat in this context.’</td>
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<td>(cont.)</td>
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<td>‘Esteem is what’s wanted. We must add value to the community in some substantial way via either research or teaching and learning service.’</td>
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<td>Clarity of one’s own mission and values is critical. Some Australian universities still appear not to know theirs.</td>
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<td>‘There are structural reasons and impediments in this current context for us perhaps not being as strategic as we might.’</td>
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<td>Perhaps too many years of succeeding on the international student front, where the challenge was pretty much ‘low hanging fruit’ and not strategically very difficult to do, has lulled us into not being strategically as savvy as we ought to be. It also tended to distort our values in some instances.</td>
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<td>‘Government policy is very narrow on research commercialisation. It thinks it really is about revenue, but no-one really gets much from research, and there are other gains government doesn’t seem to fully understand.’</td>
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<td>What’s it about? Taking knowledge to others in the world and teaching locals to be more global, and on the research front, disseminating knowledge to make it accessible to the world. There’s a science push and a business pull, and money matters but mission counts.</td>
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<td>‘It should never be just about the money. At worst we should look for break-even, but the mission is about knowledge, and all entrepreneurial activity should be knowledge driven, value adding, and complementing our own capabilities.’</td>
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<td>Some think that we get more return on IP by publishing, so for some it’s still the main game. Putting value into communities is the main game and that can be done by publishing, or by much more engaged approaches. It should fuel a two way relationship for medium to long term gain for both parties.</td>
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<td>‘We’re ultimately not in it for the money but for the ongoing two way relationship of both resources and opportunities. Commercialisation should generate more supported research and add relevance to what we do.’</td>
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<td>‘Improving the overall welfare of Australia, of local and global communities of which we are a part through education and research. Making societies and lives better, making individuals better by adding value to them <em>via</em> our knowledge. That’s the point.’</td>
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<tr>
<td>EStrat</td>
<td>Entrepreneurship in a university is a means towards a much bigger educational end.</td>
<td>‘The end goal is not normally to be entrepreneurial for its own sake. It’s to provide top education and/or research in line with the institutional mission. And to deliver on that mission, you have to make strategic choices, and many of them will be entrepreneurial, for both the institutional revenue and for the knowledge economy benefits generally.’</td>
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<td>(cont.)</td>
<td>Whether it’s framed as entrepreneurship or innovation (and many are more comfortable with this terminology), it’s essential to deliver on the main mission, the creation, preservation and transmission of knowledge. You also must be relevant and positively regarded in society for long range relationships of mutual benefit.</td>
<td>‘Entrepreneurial activity in the uni must be purpose directed activity’.</td>
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<td>It should be thought about as a means to an end such as revenue generation or institution-building, or profile and prestige building. There isn’t one end, but multiple ends. Revenue generation has been a big driver for entrepreneurship but it isn’t enough alone and doesn’t strategically get you far.</td>
<td>‘For many, it’s ultimately about reputation, prestige, relevance, status, adding value, playing a big role in a society.’</td>
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<td>If we see entrepreneurship as helping advance our mission and the commitments we have made, that makes strategic sense. It’s just a means of getting resources and adding value, or economic development or knowledge transfer or whatever.</td>
<td>‘Academic values aren’t ever satisfied just with money.’</td>
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<td>To do the best most productive research and to get the best possible educational outcomes for our students, we are entrepreneurial by strategic choice.</td>
<td>‘If we earn a lot of money, we can use it to add value to other things we hold dear. It enables us to do some preferred things of value and in line with our mission.’</td>
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<td>‘Entrepreneurship is largely about being fully engaged with industry and the community to add value, information, knowledge and expertise. Adding value could be in the form of a more cohesive community that need less welfare expenditure. This is what we are striving for in the bigger picture, so the individual ventures or projects aren’t the real point.’</td>
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<td>‘Our stated purpose is to make the world a better place, so for us it’s about adding value and being entrepreneurial serves that.’</td>
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<tr>
<td>HT, MT LT</td>
<td>These codes were not relevant to the Round 2 interviews of this study.</td>
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<tr>
<td>BC</td>
<td>[This code was used to mark examples of specific comment about or reference to R. Burton Clark’s concepts and work.] Clark’s material was gathered about 10 or more years ago and from the EU and USA. It’s different here and now. We are much more market oriented than those systems ever were or are still.</td>
<td>3, 16</td>
<td>‘Clark is a sociologist/educationist, but not clear about the nuts and bolts of internal management of a university. He was writing about post Thatcher British universities that were resource starved and needing to find other revenues. He also uses the backdrop of a very conservative USA scene. Much is different in the present Australian context, and in fact we are well-down the path of being a very active market pace and have already learned how to generate substantial revenues from international education and students.’</td>
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**Aggregated Data from Round 2 by Key Questions**
Main Points and Quotations Grouped, Source Participants (de-identified) listed

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| 1. What is your understanding of why might Context and Strategy issues are being raised and discussed by so many participants in this study in Round1? | All 17 participants. (responses not in any particular order)                  | Universities seem to have a certain momentum and commitment to students that means they ‘chug along’ with or without a sharp strategy. Perhaps they suddenly need a more competitive edge.  

Perhaps the age and attitude distribution of staff has meant that many have lost or never had a desire to be very engaged with and challenged by the world. But that won’t do any more.

The rate of change in the HE sector is causing turmoil, and many new systems are appearing. It raises anxiety and uncertainty generally. It’s actually hard to do good environmental scanning since it will raise anxiety and it will push the institution well out of its comfort zone.

‘Well context has always been important and we blame Canberra for what we can’t do in regards to strategic management. I think many VCs and the like now do recognise that they are not all that good or experienced at strategic management, so perhaps that is now being talked about a lot.’

‘Private and public corporations are just as regulated and accountable these days in many ways, so universities just use ‘over-regulation’ as an easy cop out excuse for what is hard to do. Nonetheless, we really do have a lot of regulation and the whole system of higher education is risk averse.’

‘The kinds of people we have in a university tend to be security minded and many of the success determinants require focus and narrowness of them. In this respect, the system is narrowing and non-creative. Perhaps that’s why we find people at the top who have a bit of a struggle to think more entrepreneurially, strategically and widely. The system hasn’t encouraged or nurtured those capacities in them very much, and now suddenly demands it.’

‘Many universities are still very internally focused and still not really looking at meeting external needs.’
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| 1. What is your understanding of why might Context and Strategy issues are being raised and discussed by so many participants in this study in Round1? (cont.) | Perhaps there is still squeamishness in the system about the hard-edged reality of needing revenue and paying business and industry links...that might make many talk a lot about ‘community’ and make themselves feel good that way, but the context is volatile, competitive and pushing them to think strategically as a matter of urgency, even though it might be uncomfortable.  

The government policy constraints make us collectively very aware of strategy, even if unable to actually do much. That is why there is actually not much creative strategic thinking happening.  

‘I suspect we’ve been sloppy about strategic thinking for too long. We’re all a bit undifferentiated and unidimensional. Maybe our capacity for it has atrophied, or was never that good and we now sort of know that?’  

‘I think we look outwards because we are so constrained as government organisations and our opportunities are so defined and constrained. We are starting to search hard for strategic openings.’  

The entrepreneurial template is projected on to universities because of resource constraints and government policy, but universities are not tending to be self-defining as entrepreneurial. They are still coming to grips with what the context is doing to them.  

When universities were fully government funded, strategy didn’t matter. Now they are more like large commercial corporations, or at least half and half, and strategy does matter.  

I don’t see any clear strategy in this institution! But I see a lot of need for it.’  

‘We’re at a stage where we need to be much more competitive but we’re still so very risk averse, and so is government.’  

‘It’s very logical. Once we were fully publicly funded, and not any more. We now must look out to that context and think it through. We have to check all the environment all the time. Strategy was all a formula once, but we can’t just manage by keeping the books in order now. External context and internal choice drives strategic thinking.’ |
### Question(s)
What is your understanding of why might Context and Strategy issues are being raised and discussed by so many participants in this study in Round1?

### Participants

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<td>‘The money tap has been turned off – we’ve got to look out to see where the money and opportunities are coming from. Universities are seriously starting to differentiate to survive. It’s happening more by contextual push driving the change, but it’s coupled with some actual institutional choices.’</td>
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<td>‘An entrepreneurial, innovative culture is essential when times are hard, as they are in universities in Australia. The adversity starts to force innovative thinking.’</td>
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<td>Modern economies are desperate for innovation and universities must be too. It’s easy to blame government context for all our problems and difficulties in being more entrepreneurial, but I don’t think that stacks up.’</td>
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<td>Clark wrote his material about 10 years ago for the EU and the USA. It’s different here and now. Aust’n universities are half public-half private and even the public part is much more market oriented than Clark would have ever expected. The imperatives of a complex environment that we must read to survive are starting to make us aware that standing still just won’t do. We must move and develop to survive.’</td>
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<td>‘By international standards we are extremely market oriented in this country and we have an eye on both government directions and those markets all the time. We live by our wits – very close to the financial edge all the time with no resource buffer.’</td>
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<td>We are probably at the beginning of a new era in Australia. The RQF and things like it will push universities to think realistically about who they are, where they’re heading and they will become more hard headed in their thinking.</td>
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<td>‘Some still seem to believe that we can all one day be ANUs, but most are now starting to realise that they need to seek another mission and some should be thinking that way right now.’</td>
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<td>Historically, mission and strategy weren’t important. They are now. There’s more pressure to find a niche or position.</td>
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| 3. Is being entrepreneurial more about means than ends *per se*, and if so, what would the desired end goals be? (cont.) | Money is necessary but not sufficient for a successful university. In a changing external environment, the pace of change means more competition. Entrepreneurial activity is thus at least partly driven by need for positioning and prestige.  
‘We need to be competitive to be relevant – to have some advantage over lesser universities. I’d say value-adding, that’s what it’s about in the long run. It has to be more about lustre than lucre!’  
Esteem is what’s wanted. Adding value to the community in some substantial way via either research or teaching and learning service…that’s the purpose.  
‘Government policy on research is very narrow. They think it is about commercialisation and revenue. But it’s more about dissemination of knowledge, trying to make it accessible to the world, Money does matter but beyond that, mission counts. It shouldn’t just be about money. At worst things should perhaps break even. Entrepreneurial things should be knowledge driven, value adding and complementing our own capabilities.’  
‘We’re ultimately not in the commercialisation of IP for the money, since we don’t get all much in return, but for the ongoing relationships it builds that provide more opportunities and research resources over time. It should generate more supported research, as we prove relevance.’  
Putting value into communities is the real aim, as that’s for the medium – long term survival of the institution.  
It’s a means towards a much bigger educational end.  
‘ I think it’s about improving the overall welfare of Australia, the local and global communities through education and research. We should be making societies better, making individuals better and adding value *via* knowledge and know-how.’  
‘We need innovation in our society and in our universities, and a deep relationship between the society and the university that is innovatory.’ |
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<td>‘Whether we frame it as entrepreneurial or innovative, it’s essential to deliver on the university’s main mission – creation, preservation and transmission of knowledge- and being relevant and positively regarded in society just helps the transmission.’</td>
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<td>The end is not normally to be entrepreneurial for its own sake. It’s to provide top educational and /or research in line with the institutional mission. To deliver on the mission, we must make strategic choices, and many will be entrepreneurial, for both the revenue and for the knowledge transfer and benefits generally.</td>
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<td>‘It’s only ever a means to ends such as revenue raising, institution building, profile and prestige enhancement etc. The ultimate end game? There’s not just one but several possible ends. Revenue has been a big driver of entrepreneurship but it isn’t enough alone.’</td>
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<td>‘It must be purpose directed activity. For many, it’s ultimately about reputation, prestige, relevance, status and adding value – or playing a big role in society.’</td>
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<td>‘Academic values aren’t ever satisfied with just money. If we earn a lot of money, we can use it to add value and relevance to the other things we hold dear and it enables us to do some of those preferred things of value.’</td>
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<td>Being entrepreneurial is a means to getting resources to advance the mission of the university, and it can add economic development to a region, value to a community, create knowledge etc.</td>
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<td>We could add value in many ways through consulting and knowledge transfer, and not necessarily in dollar terms. A more cohesive community that is less welfare dependent is also evidence of added value.</td>
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<td>‘Our stated purpose is to make the world a better place! Being entrepreneurial serves that.’</td>
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<td>We want to provide the best possible educational outcomes for our students, the best and most effective research and a useful degree of engagement so that society benefits economically and socially.</td>
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4. Is ‘being entrepreneurial’ about the behaviour of some individuals, or is it about the university system that might systematically look for ways of creating and nurturing opportunities to add value/wealth?

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| 4.          | All 17 participants responded in some way to these questions. (responses not in any particular order) | ‘I can give you an example of a highly naturally entrepreneurial academic here who reads the context well, makes his own strategy and kick starts a whole entrepreneurial chain of people around him, so it’s obvious we must have good individuals and excellent IP, but we must also have the middle and senior managers who will nurture and support that effort. The systems do matter.’  
‘Systems and procedures can streamline and enable things, but only if there’s something there to work with. You need very open channels between capable individuals, good systems and the outside world. The 3M example is of a quite conservative organisation that found systems and ways to enable innovation, and without the organisational support, it couldn’t have happened.’  
‘It’s much more than just a characteristic of individuals, a bit like leadership. It’s a characteristic of culture, systems, processes, especially to nurture the potential entrepreneurs.’  
Individually can be subject to the luck of the draw and could be obstructed. We need to enable not disable.  
Must be about both. Capable entrepreneurial individuals will succeed but we want more and fewer accidental successes, so processes matter and so do structures. We have to encourage creativity and responsiveness and move the whole system into having an outward orientation and doing better environmental scanning.  
People are very important, especially the middle and senior managers who must be ‘can do’ people so that others feel supported and encouraged.  
‘You can have policies and processes but if we don’t have the right people (in management roles), nothing happens.’  
‘You can have A1 people with unsupportive or restrictive processes and the culture won’t work. Some limitations and risk management is always important but systems must enable entrepreneurial efforts. You certainly need good innovative people but it’s usually a combination of people and systems that produces consistent results.’ |
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<td>4. Is ‘being entrepreneurial’ about the behaviour of some individuals, or is it about the university system that might systematically look for ways of creating and nurturing opportunities to add value/wealth? (cont.)</td>
<td>It must be about both the individuals and the organisational processes. Non-creative people can’t easily be made so, but creative people can certainly be stopped. Culture and folk-lore need to make the system rewarding and value innovation, and middle managers have a big part to play.’</td>
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<td>‘I think that both individuals and the organisational systems matter but don’t have a strong view. We are more entrepreneurial than we outwardly look in this university, and there have been vast successes on the international education front. I guess it’s mostly not about standout individuals but how the whole industry and institution picks up ideas and works with them.’</td>
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<td>‘It must be both and they don’t always align. We have enabling processes like seed funding to nurture innovation but talented entrepreneurial people are essential too. There are certainly some individuals, I can think of one dean in particular, who are control freakish and that obstruction of innovation stands out and shows as a whole area of underachievement because of him.’</td>
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<td>Both. A whole culture is needed to make innovation and entrepreneurship easy not hard. All universities have barriers to being entrepreneurial but some are more blocking than others.</td>
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<td>‘It’s both a property of individuals and of the whole organisation. Some people are more entrepreneurial than others, but there is a culture to help the process and it can be learned.’</td>
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<td>It must definitely be about both. It can’t just be about innovative people. The ideas start there, but an innovative culture must nurture the stars and the majority of staff as a whole. It’s not good enough just to have an idea. It needs to find its way into a value-adding outlet. Entrepreneurship is about making something happen, so the culture and systems do matter.’</td>
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<td>Both the people and the system. Individuals won’t necessarily serve institutional processes. If a uni has a mission, then individuals need to be harnessed to it and supported in doing new things.</td>
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<td>‘Individuals always operate in a social context. It must be about the processes, systems and managerial style. Individuals have to enact via the agency of an organisational system to get things done.’</td>
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<td>‘Both. We awarded $25,000 to a faculty as part of a strategic initiatives fund scheme to explore opportunities for their program offshore in Asia. They now have a $7 million contract. That’s organisational seed funding. Without it, they might not have been able to get individuals’ ideas to go anywhere. Good entrepreneurial people are essential but they need enabling support.’</td>
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<td>‘It must be both. One without the other won’t get far. Very entrepreneurial individuals can be dogged and still get somewhere but they are few and far between in a university. There’s many others who can and will be entrepreneurial or innovative if encouraged and supported by the whole organisational system.’</td>
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<td>Processes and systems must create helpful enabling cultures that attract creative people and hold them in the university. Those creative people can either be helped or obstructed, and if the latter, then they won’t stay long.</td>
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| 5. How do you see Australian universities doing with strategy? Are they getting clear strategy together to meet admittedly very complex environments? Why do you think they are/are not doing well at this aspect of management? | All 17 participants responded in some way to these questions. (responses not in any particular order) | ‘I think we are doing poorly as a whole. The processes for getting buy-in and genuine participation are weak in a number of universities. If uni staff aren’t involved, then strategic thinking lacks creativity and goes no-where. It ends in platitudes. Not enough of our people understand why we must be entrepreneurial and engaged, and really serious about adding value.’  
‘We don’t read the context well and we blame government for nearly everything.’  
We seem to be performing in a middling way on this. We can’t make really effective strategy without effective relationships with and knowledge of the outside world. It is very difficult to get a very distinctive strategic plan. Many look alike. We make one to satisfy Council with platitudes but hope that the executive can make it more operationally distinctive. For us it makes sense to start with the context and then to craft a strategy out of what we know, but until we really identify the communities we serve and our mission, the strategy is woolly.  
‘I suspect that Australian universities as a whole don’t do strategy all that well at present, although I don’t have a lot of evidence for that perception. I suspect that engagement and scanning don’t yet do well enough to assist, with a notable exception in University of Melbourne who have a bold new strategic direction, and only time will tell if it’s too bold or not!’  
‘I have a mixed view. Recruitment processes in universities don’t value strategic management skill enough, or they haven’t in the past. It’s a hostile environment in Australia for universities and with high and increasing regulation. The media and public are also hostile, so I’m not too critical of how we do on strategy making. There isn’t much scope or reward for being very strategic.’  
Any pleas to DEST for special or different performance measures to match an institutional mission are seen as a try-on to escape accountability. That produces uniformity, not differentiated strategies.  
Looking at the sameness of many of the strategic plans of universities in this country will tell you that we still don’t do all that well at making strategy. It is easier and less constrained to be entrepreneurial in teaching domains. |
### Question(s)

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The environments we operate within are very, very complex. We are entrepreneurial especially on the international student side compared with, say, NZ, UK, Canada who do think we are entrepreneurial.

‘I wouldn’t want to be overly critical about strategies. In some respects we’ve done very well as a country, but the scene is changing all the time. International students bubbles can burst, and then what? Where will the revenue come from then? What’s the plan beyond that?’

There are a few positive examples of universities making definite strategic plans that would differentiate them, but there is not a lot of radical thinking and certainly most don’t go for bold differentiated niches. If universities segmented markets and relationships, then they would get differentiated strategies as they entrepreneurially add value to each of those different markets or groups.

‘I think some universities do have good strategic thinking. Melbourne has a distinct strategy but I can see that not many others do. There is a very high level of constraint in the context that moulds us into the same kind of beast. For a start, there are no serious sources of investment or seed capital, the kind that industry would use to develop new angles. So there are structural reasons for us not being so strategic as a sector.’

‘We live or die on operating reserves. The capacity to do something new and to take that risk is really slim.’

There have been mistakes made, especially around 2000, but as a sector, there is also learning. Hopefully we now handle strategic choices better. It is much harder to define mission precisely, what you will do and what you won’t. In the best universities, entrepreneurial actions fall clearly in with an overarching strategy, and in others, less well-lead, the lack of clear vision means that opportunities are missed, and just not thought about.

‘There seems to be much talk of innovation and engagement (rather than entrepreneurship) but little clear strategy for doing it. Prestige, image, stability, scholarship and academic values of quality seem to drive most strategy, but I doubt whether institutions actually want to be truly entrepreneurial. In some cases, we might do better to just give the IP away and stop pretending to be entrepreneurial. I think many can’t really see how it fits it into their strategy.’
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<td>The country has been very entrepreneurial regarding international education, but much less so on other fronts. Ultimate positioning is still being learned as we come out of publicly funded history. We’re not practised as institutions or as senior managers on developing strategy.</td>
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<td>‘To be fair, our contexts are highly complex. It isn’t easy to build strategy!’</td>
<td>‘I don’t see Australian universities as doing well with strategy. Many strategic plans still look the same and there is a lot of rhetoric about making hard decisions but not much action. There’s much still to be learned and more choices to explore. Most universities are still hoping for growth. Differentiation is the key, not growth. A growth treadmill is a trap, especially at present. There is a near suicidal tendency to predicate all plans on growth, and it is that mindset built on growth that is still afraid to stop things, to close things.’</td>
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<td>We are well-differentiated, very market oriented and quite strategic on the international education front. Notably, this has been a less regulated area, and there has been good strategic learning from our own and others’ mistakes. Some have done extremely well on this, and not by accident. Some trailblazers got in early, and have had the early mover advantage for years. That’s strategic management. On the home front, we are not so strategic and are more constrained also.</td>
<td>‘Strategic management is still fairly underdeveloped in most of our universities. It’s testing executives in ways not done before. Our environment is now so competitive and volatile that not many have the experience for it. We’re only just now starting to move beyond the disintegrated assorted communities of scholars we used to be to a more institutional identity and consciousness. I think strategic management still can’t be too heavy-handed with those scholars or it loses them.’</td>
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<td>‘Simple environments can generate complex strategies, and complex environments can produce simple strategies, but when absolutely everything is complex, then finding the good strategic ways through and a good position for the Australian university, is very hard.’</td>
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<td>5. How do you see Australian universities doing with strategy? Are they getting clear strategy together to meet admittedly very complex environments? Why do you think they are/are not doing well at this aspect of management?</td>
<td>There is a lot of woolly strategy but not a lot of sharp, clear purposes and thrusts in the whole sector. Environments are unbelievably complex at present so making strategic choices is actually hard. Strategy says what we do and should flag what to stop, not do. But we’re not so good at this and complex environments make it hard to work out what to stop, so many plans still look alike and blurred. ‘It’s [strategy] a weak link in many universities, although I do think some are now getting more clear and differentiated, and I include Deakin and Melbourne in this. Start with what you are good at. This is the start of a good strategy. Get an identity forged out of who you are and what you do well, and then consider the context and how you can best play to that.’ There are a few, even quite prestigious universities, really wallowing with no emerging identity, no clear idea of who they are and what their strengths and weaknesses are, and their strategic plans which reflect this and suggest that they will do ‘mainly everything.’ ‘We cannot predicate everything on growth. We must find a more strategic position and do it well to survive.’ A degree of crisis and urgency seems to have taught some universities to make better strategic plans over the past 15 years or so. There are a few good examples, such as UQ. Perhaps the heat is still not high enough on some institutions for them to feel the imperative. Context, especially government policy, still tends to drive the strategies of many universities all into the same shape, and the measures of performance do that too. Tagged funding, required presence on non-viable regional campuses etc are all constraints to strategic management. Additionally, universities are still learning strategic management in some respects. All considered, some institutions are doing quite well with strategic management, and not just on the international front. ‘Institutions are variable on strategic thinking but we are much more constrained than outside businesses.’</td>
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The Entrepreneurial University – Is it ‘All About the Money’ or Does ‘Being Entrepreneurial’ Mean Something Different for a University?

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Summary:

This paper examines the context in which Australian universities, like many universities of the developed world, have embarked on the process of becoming entrepreneurial. It looks at what such universities aim to achieve, how and most particularly, why. Reference is made to corporate entrepreneurship literature for some insight.

The seminal work of Clark (1998, 2003 2004) on universities indicates much of the impetus to their becoming more entrepreneurial relates to generating diversified sources of revenue. A segment of data from a larger current study of the capabilities required to create an entrepreneurial university is then examined. The issue of why Australian universities are seeking to become more entrepreneurial is explored. Results indicate that a high proportion of senior Australian university leaders choose not to use the term ‘entrepreneurial’, instead seeing the more comprehensive concept of being engaged or connected with the total community as enveloping the entrepreneurial agenda. Most see reputation, prestige and image as more fundamental than making money per se, and all entrepreneurial effort is a means to that broader end.
The Entrepreneurial University – Is it ‘All About the Money’ or Does ‘Being Entrepreneurial’ Mean Something Different for a University?

The Australian University Context:

Australian universities currently face turbulent times, times of intense and almost continuous change and challenge. They are not alone in this. Many higher education systems in many developed countries with market-driven economies are also experiencing some degree of the same turbulence (Slaughter & Leslie, 1997). Others with similar patterns include Canada, New Zealand, the United Kingdom, the United States of America and much of Europe as well. Their governments are choosing to spend less on their higher education systems, whilst also asking more of them.

Universities are asked to educate significantly greater proportions of populations to take their place in what are fast becoming knowledge economies (Slaughter & Leslie, 1997:1-2). They are also expected to contribute to the economic development of those knowledge economies. Accordingly, governments are placing clear research and development priorities before universities, priorities that identify target industries and desired economic impact (Powers, 2004). A publicly funded research university is expected to be “...a generator of future economic growth in ever more direct ways.” (Etzkowitz, 2004:64). Such policy encourages institutions in developed countries to seek closer relationships with both government and industry. At the same time, the policy requires them to drive resource efficiency and quality management approaches through all aspects of their business, requiring a high level of both financial and outcome accountability. The complex and intertwined relationships between higher education, business and government have been described by Etzkowitz (2004:64) as a triple helix, a genomic image of almost biological oneness that is certainly intended to imply interdependence and synergy. Clearly, in such intertwined scenarios, the ivory tower of higher education is ‘demolished’ in developed economies and the political economic changes we see in these relationships, now almost global, are structural and are not likely to revert or disappear (Slaughter & Leslie, 1997:6; Clark, 1998; Marginson & Considine, 2000).

In Australia, universities accordingly find themselves faced with diminishing or at best static public funding, with high student demand and increasingly scarce qualified academic employees. These parameters tend to lead to high academic workloads and a number of other resource stringencies. The Australian Government policy framework, seeking efficiency and excellence in the system, has generated competitive dynamics between and even within institutions possibly rather more aggressively competitive than was ever anticipated according to some observers (Slaughter & Leslie, 1997; Marginson & Considine, 2000). What is very clear is that the policy framework does shift the once fully publicly funded system of Australia towards one that is more privatised in nature, more exposed to national and international market forces, and quite intentionally so (Clark, 1998, 2003; Slaughter & Leslie, 1997:111). The desired outcomes include both higher quality of higher education and greater resource efficiency, and a degree of self-sufficiency from...
Australian universities in the face of diminishing public funds that are likely to diminish further.

Such a policy framework has some elements that universities find interventionist and a little contradictory. Australian Government policy is requiring high levels of accountability and, at the same time, driving the competitive market of higher education harder and faster towards a more deregulated, privatised system (Marginson & Considine, 2000; Harman, 2005). In some respects pressed into ‘free’ market-driven mode, universities in Australia are also having many aspects of their internal operations mandated and restricted. For example, whilst being encouraged by Government to develop very creative and market-responsive courses, regulation related to the Higher Education Support Act of 2003 (HESA) now requires each institution to register all subjects and courses over one year in advance of operation with a central bureaucracy, and leaves no scope for quick change and little market responsiveness in curriculum.

There are paradoxes here. The deregulation of the system allows universities to generate revenues for themselves in ways previously neither needed nor permitted, and yet the central bureaucracy caps many fee levels and prescribes certain fees that may or may not be collected. Australian universities are directly encouraged to innovate, and yet may not strategically innovate by opting to either commence or abandon teaching in certain disciplines – all these facets of institutional profile are negotiated well in advance and not readily changeable. This is a paradoxical, even contradictory and certainly a challenging environment – free but not free, deregulated but controlled in some respects from Canberra. Undoubtedly, there is great opportunity in the de-regulated higher education market, now more fully exposed to international pressures and trends. The market forces offer exciting opportunity to create partnerships with industry, with other institutions and with government itself in order to build quality options for Australia. There is also high potential for complexity, challenge and threat.

This makes the task of university strategic management a very complex one at this time in Australia. Senior university executives are finding themselves ironically with more ‘power’ on paper, more capacity to chart a specific strategic course for their institution, and yet with less room to actually move an institution through this turbulence in order to maximise opportunity and minimise threat. The Australian Government is clearly encouraging universities to become more financially independent via its education reforms. Indeed it is expressly urging them to become more entrepreneurial, largely as a means by which each institution can self-fund to a far greater degree (Clark, 1998, 2003; Gallagher, 2000; Marginson & Considine, 2000). This in itself is an institutional strategic choice being prescribed by Government policy, and it is the same one that many governments have also firmly encouraged in universities around the developed world. Australia is a case in point, but the pattern is much bigger.

The antithesis of the traditional ‘ivory tower’ of learning, the entrepreneurial university, is a much more economically and societally focused model. It is not just a more commercialised entity than the traditional university, although an entrepreneurial university will be much more commercial. It is an institution that is actively engaged with the task of contributing to the entirety of a cultured and
competitive Australian society. It will be honouring its intellectual and social purpose of improving the quality of Australian life for the whole community (National Board of Employment, Education & Training, 1990). This engagement with society, with industry and with business will make it an outward-looking institution to some extent, and in taking government funds to support part of this mission, each university will also become more accountable for public funds, and more accountable for its own internal workings (Grigg, 1994:275). In this wider sense, the *entrepreneurial university is commercial, but it is more*. It is outward-looking, self-sufficient, engaged with and actively contributing to the common good in its society, and doing much of that by contributing to economic development, as will be elaborated later.

This more actively engaged role, the role of third party in the triple helix of business, government and higher education (Etzkowitz 2004:64), generates some deep ambivalence in some educators (see for example Clark, 1998; Slaughter & Leslie, 1997; Harman, 2005; Lee & Rhoads, 2004; Harley, Muller-Camen & Collin, 2003). It has nonetheless become an utterly inescapable concept, and permeates all current Australian Government policy on higher education. It has done so since the creation of the Unified National System in the late 1980s.

Whilst in common parlance we might associate the concept of ‘being entrepreneurial’ with the mode of taking and making opportunity in business, of starting new businesses, the context for Australian universities could also be seen as one with as many limitations and threats as opportunities. Can these universities truly be entrepreneurial in such a threatening and challenging context? Do they actually have the capacity to make the strategic choice to be entrepreneurial, and to then enact that choice? It would seem entirely possible for some universities in difficult circumstances to achieve entrepreneurial style and outcomes. Clark, (1998) presents us with five very well-documented cases of such university transformations (for example, University of Twente in the Netherlands, and Warwick University in the UK), often against the backdrop of resource constraint and serious challenge, threat and near emergency. The fact that these international exemplars exist, and that there are now more recent success stories (Clark, 2004) suggests that it *is* possible. The sense of institutional emergency in those documented cases may even have helped the new entrepreneurial cultures and outcomes to emerge.

Certainly, by 2000, a senior Australian education bureaucrat, described to an OECD conference the entrepreneurial trend as ‘well advanced’ in Australian universities, although he acknowledged that the practice was very patchy at that stage. He indicated that the Government administration’s point of view was that universities still needed to do more learning about how to best take advantage of the opportunities presented by the policy framework, only in its initial stages at that point (Gallagher, 2000). Five years later, the trend is much more pronounced, the learning is greater and the debates about the ethical propriety of universities needing to be commercially astute and active are subsiding somewhat (Harman, 2005; Clark, 2003). Many opportunities have been entrepreneurially grasped, and government policy initiatives continue to drive the entrepreneurial response, or at least to outwardly encourage it as part of the active higher education marketplace. The trend is not confined to Australia either. The entrepreneurial university, the *triple helix* partner described above, is a phenomenon of the developed western world. Those in the higher education ‘industry’ are now focusing not so much on whether to, but on *how* to embed the
concept, explore its full potential, marry it to the underlying academic culture and mission, and see it as an ongoing and sustainable way of thinking and operating, rather than as a fad of the cash-strapped ‘90s (Clark, 2003, 2004).

What Does ‘Being Entrepreneurial’ Mean?

The terms ‘entrepreneurial’ and the whole field of entrepreneurship are neither singular nor simple ones with which to engage. Until the 1990s, the fields of theory development and research into aspects of entrepreneurship were badly plagued by lack of clarity and agreement on key definitions and terms. Schumpeter’s (1934) seminal early works of the 1930s and 1940s had taken entrepreneurship as being about acts of ‘creative destruction’ (of market equilibrium) which carried an invention or creation into innovation which resulted in a new business which could grow successfully (Kirchoff, 1991:8). Over the ensuing decades, consensus on definitions has been more difficult to obtain, as is often the case in rapidly growing, emergent academic disciplines.

Gartner (1989) believes that the essential and defining ingredient in entrepreneurship is that new organisations are created. Others see the defining dimension as being that innovation, (or entrepreneurial discovery) has occurred (Jennings, 1994; Kirzner, 1997:64; Brazeal, 1999:36; Covin & Miles, 1999:49). Sharma & Chrisman (1999) created a landmark synthesis of much of the literature to that time, and defined entrepreneurship as “…acts of organizational creation, renewal or innovation that occur within or outside an existing organization” (Sharma & Chrisman, 1999:17). This inclusive definition, inclined to relate more to the actions of the single entrepreneur than to activities emerging from an existing organisation, has become something of a platform on which subsequent research has been based. Certainly, the definition sees entrepreneurship as a step further along than the simple act of technology transfer, since research has shown that the fact that a university sells, licenses or otherwise transfers its technology to another organisation does not alone mean increased jobs or new business creation. Often larger firms buy a technology from university research and never actually use or commercialise some aspects of it (Harmon et al., 1997:432-433).

Entrepreneurship may create new organisations, but when considered against the backdrop of multinational global economies, and against the current Australian university context, it is possibly more likely to relate to the renewal or innovation elements of the definition than to organisation creation per se. In such a context, traditional definitions may be a little narrow. Current usage of the entrepreneurial descriptor in the university setting has embraced the simpler phenomenon of commercialisation that is clearly more about the harnessing of whatever property, goods and services the organisation holds for financial returns, that is, about making money (Marginson & Considine, 2000). However, what is implied by Sharma & Chrisman (1999) is rather more than simple commercialisation. Use of the term ‘entrepreneurial’ in this university context has looked to the broadest elements of what is more usually known as corporate entrepreneurship, those that are more to do with a positive, pro-active, enterprising, self-sufficient culture: that is, innovating, creating organisations, making money, looking for self-sufficiency, positive interaction with the broader society that adds value to the university and to the society. This is a broad-spectrum view of entrepreneurship, encompassing
organisational creation, but also many of the attitudes and orientations that underpin such activity. Thus, taking their definition of entrepreneurship as a starting point, Sharma & Chrisman (1999) logically concluded that corporate entrepreneurship (CE) could be defined as “...the process whereby an individual or a group of individuals, in a association with an existing organization, create a new organization or innovation within that organization” (Sharma & Chrisman, 1999:17). Effectively, the processes of organisational creation, renewal and innovation emanate from within an organisation, rather from an individual entrepreneur and do so for the organisation’s on-going benefit. This very broad definition of corporate entrepreneurship may be helpful when considering the entrepreneurial university, since it will allow us to consider both the means to entrepreneurship and the ends, that is the wealth and value-adding outcomes the activity is seeking. Whether the value is entirely financial or not is a question this paper will attempt to clarify.

Covin & Miles (1999: 48) suggest that there are three main phenomena that can present as facets of CE. These are where an established organisation enters a new business, where an individual or group champions new products and ideas within an existing organization, and where a more general entrepreneurial philosophy or mindset permeates a whole organisation’s operations and style. These all imply that an innovation has been involved, but innovation alone, in Covin & Miles’ eyes, would not be sufficient to be true CE. They would see that a major ‘shake-up’ effect needs to have taken place which truly “...revitalizes, reinvigorates and reinvents” the organisation (Covin & Miles, 1999: 50). This directs attention to the actions and behaviours within the organization, and their eventual outcomes. Sharma & Chrisman (1999: 18-19) see that two main thrusts can fit under the CE umbrella term, namely strategic renewal and corporate venturing. The former is more to do with revitalisation and change within the existing business, and the latter more to do with creation of new business organisations within the existing corporation.

By contrast, Lyon, Lumpkin & Dess (2000:1056) are more focused on the holistic entrepreneurial orientation of a firm which consists of “...processes, structures and/or behaviours that can be described as aggressive, innovative, proactive, risk taking, or autonomy seeking”. The focus here is on the competitive aggressiveness and the intensity of efforts to ‘best’ rivals. This is more oriented to a variety of internal processes and attitudes, and less to eventual rejuvenation outcomes, an important distinction since there is active debate in the literature about whether CE is really about eventual corporate outcomes of wealth generation or increased chances of viability or really more to do with ‘style’. The debate continues over whether to and how we could measure those outcomes, since much of the literature recognises that CE outcomes and ‘pay off’ may actually take years to become evident, and it is always embedded in many complex variables and contexts which make it hard to see what has exactly caused or resulted in what (see for example Lyon et al, 2000; Zahra, Jennings & Kuratko, 1999).

It is really only since the early 1990s that the concepts of entrepreneurship have in any way been applied to public sector entities and to universities as organisational types, and these present some especially complex problems in terms of outcomes, since financial balance sheets are not the most obvious way of ‘reading’ corporate success for a university or public not-for-profit entity, and the evaluative dimensions are therefore complex. However, given that wealth creation is a potential
consequence of CE, even if a little slow to become apparent, Australian universities are naturally potentially interested in it in their current circumstances, as are the universities of most developed nations.

Corporate Entrepreneurship and the University:

In the context in which Australian universities now find themselves, a CE approach has much to offer, since virtually all would acknowledge that they need both renewal and revitalisation in the existing organisation and creation of new lines of business beyond the existing ones in order to generate wealth. In fact most Australian institutions have dipped their toes into this water, in a variety of ways that will be elaborated later, but many, if not all have some maturing to do before gaining full potential benefits (Marginson & Considine, 2000; Gallagher, 2000:47). They have been notably successful at commercialising the intellectual property of their courses, by taking course to new off-shore markets, and by drawing full fee-paying international students on-shore to Australia. Some of this activity has been decidedly entrepreneurial and financially successful.

However, CE does not necessarily sit entirely comfortably with the ethos of traditional universities, especially those that have historically been largely publicly funded, and there is much learning to do to fully explore becoming an entrepreneurial university and all that it might mean (Clark, 1998). Certainly, universities’ move towards entrepreneurial activity has not been without some problems and ‘growing pains’ anywhere in the world where universities have embraced the concepts (Clark, 1998, 2003, 2004). There are issues of balance to achieve in terms of education for general public good, as compared with education as ‘commodity’. Some note that there is a tendency towards seeing academics as instrumental research and development workers, or profit-oriented sales people who are expected to make profit at all points, and whose every activity must add favourably to the balance sheet or risk being discontinued (Williams, 2001:22). This involves potential changes in the nature of academic work, and in some quarters, has triggered resistance to such change. It could potentially lead to neglect of students and depletion of resource and focus on undergraduate teaching (Slaughter & Leslie, 1997:202; Lee & Rhoads, 2004). There are also dilemmas of academic standards, especially when universities are receiving substantial fees for services, and then sometimes feel somewhat pressured to provide the desired outcomes. Commercial transactions around education do not necessarily compromise standards, but there are certainly some checks and balances required to protect the standards (Slaughter & Leslie, 1997; Harman & Harman, 2004).

Senior Australian education bureaucrat Michael Gallagher, although very positive about the entrepreneurial development of Australian universities, also acknowledges that there are still some unresolved issues and tensions about intrinsic and extrinsic motivators as well as more practical matters, for example, handling the legalities of especially complex intellectual property matters that are made so because much intellectual property is in formative stage at the point of commercial licensing or sale, and is not a completed product. There are additional potential complications with royalties or profit sharing in organisations where profit has never been an element, let alone the systems for sharing it about. There are also issues of uneven access to rewards given that some disciplines have roaring markets and others almost none
Notably, Gallagher’s comments are mostly to do with commercialisation per se. He does not describe or acknowledge many of the difficulties within universities in attempting to manage themselves as more innovative, self-sufficient, enterprising entities. The transformation to the triple helix partnership with government and business, to the outward-looking, societally valued and value-adding organisation, is not much addressed and the assumption throughout is that the end-goal is revenue.

In examining why many universities in Australia and around the world have at least started to move in this direction (even if not yet operating in a highly entrepreneurial manner or with very evident results), it becomes apparent that some have sought what Hitt, Ireland, Camp & Sexton (Hitt et al. 2002:1) see as a more general entrepreneurial ‘mindset’ which they say is absolutely required for any firm or organisation to compete successfully in the current competitive landscape. In this an organisation’s entrepreneurialism may be more a state of awareness and culture than any specific activities. If that mindset then re-energises the university, and revitalises its staff to think more creatively and innovatively, then that in itself may be a good thing.

Certainly Miles & Covin (2002) among others acknowledge that a desire for culture change and for generally encouraging a ‘bottom up’ sense of commitment and energy to the enterprise is what drives many firms to CE initiatives. They see culture change as being a necessary antecedent component of CE, but it is probably not enough. Nor is it likely to be sufficient for an Australian university. Since a generalised mindset that does not also become entrepreneurial and innovative practice will not deliver results. CE is therefore fundamentally about achieving that mindset for specific gains on the strategic, reputational and financial fronts (Miles & Covin, 2002; Hitt et al., 2002; Zahra et al., 1999; Covin & Miles, 1999; Ireland, Hitt, Camp & Sexton, 2001).

Universities, especially in Australia and the U.K. face deeply competitive scenarios, competing directly for funds, industry contacts, grants, staff and the best students. CE has the potential to provide benefit on four different but associated fronts according to Covin and Miles (1999). They firstly describe sustained regeneration that emerges in the form of a stream of new products, programs and services that can give broader market presence and attract new clientele. Secondly, they describe organisational rejuvenation that emerges more in the form of new and improved internal processes and structures that enable greater innovation to surface. Such innovation could find outlet as intrapreneurship, or as true entrepreneurship as spin-off ventures, saleable intellectual property etc. The third type of CE they describe might also enable strategic renewal in the form of fundamentally altering the university’s relationship with its environment, markets and competitors. CE of this sort would be tightly linked with the university’s strategy generally, and might see it, for example, opening new campuses, operating in new markets, with new programs, in new modes, such as online, which would introduce it to completely new customers. Fourthly, CE could provide complete domain redefinition that lifts the organisation out of its current area of competition to another arena altogether, where it is not competing head-on with its normal rivals. This tends to be a ‘first mover’ approach that pioneers a whole new area of operation. Australian universities would find this latter approach more difficult than private firms, simply because they are normally established by Parliamentary Acts of their home States which define the educational mission and core activities and constrain the domain to a significant extent. Nonetheless, all four
general thrusts of CE could have some meaning for a university, and most especially the first of these three (Covin & Miles, 1999).

In essence, CE is here considered very much about securing or reinforcing a competitive position. It is about creating and expanding markets for and capitalising on the existing intellectual property that the university holds and might generate in the future (Miles & Covin, 2002: 27). Indeed, it could be seen as entrepreneurship for purposes of ‘creative destruction’ of market equilibrium for competitive advantage (as the traditional ‘Austrian school’ economists would have it (Kirzner, 1997:67)), especially at a time where higher education in Australia has become a very active and tough competitive marketplace. CE is also about the generation of new tacit knowledge, and securing more value from the organisation’s existing competencies. It is therefore about organisational performance, not just culture change for its own sake and very much a ‘strategic lever’ with capacity to amplify both reputational and financial outcomes – ironically for either better or worse, depending on the wisdom of the decisions taken (Miles & Covin, 2002: 21).

Financial gains, or the lure of same, are what is often seen as the driving reasons for CE in universities (Clark, 1998). Universities have good reason to engage with CE to generate greater wealth and financial independence in the face of rapidly shrinking public funding, although the literature urges caution here in that many forms of CE do not generate a great deal of revenue, and may actually carry considerable risk (Miles & Covin, 2002: 34). Importantly, financial returns may take a long time to materialise, so that short-term desire for revenue is not likely to be satisfied, although longer-term returns may be available. Researchers have struggled with the issue of demonstrating clear financial gain from CE, since so many variables are at work over time, and time lags make it difficult to clearly spot the causal links, as mentioned earlier. In reviewing twenty-five years of research into antecedents and consequences of CE, Zahra et al., (1999:56-7) concluded that there is sufficient evidence overall to indicate that in-firm entrepreneurial activities do lead to superior performance, but they concede the evidence is difficult to access with clarity, and that one should anticipate time lags. Zahra’s earlier work (Zahra & Covin, 1995) more clearly indicated a three to five year financial time lag, whilst acknowledging that some organisational performance improvement of a more intangible, cultural kind would appear sooner. They especially noted the financial gains where organisations were in hostile environments – arguably where many Australian universities currently find themselves.

Ireland et al., (2001:49-51) argue that the improved organisational performance will only emerge where the CE activities are clearly integrated with the mainstream strategic management thrust of the organisation, as distinct from being peripheral activity that is considered as an optional ‘extra’. They start with the assumption that the creation of wealth is fundamentally what both strategic management and CE are about, and when they are fully integrated activities, led from the top as such, that they become effective in generating that wealth. What also seems clear is that CE ‘...represents an effective strategic response to environmental turbulence’ (Morris & Jones, 1999; 72) and that under conditions of turbulence, a CE orientation is generally positively associated with improved firm performance. But does the turbulence of the context and the desire to generate wealth entirely sum up the motivations for a
university to be entrepreneurial? Is it the crux of what universities, as public/private hybrid organisations, strategically desire?

Morris & Jones claims a strategic link between CE and organisational performance even for public sector organisations, which in many cases also now face turbulent and competitive environments. This turbulence is what Kuratko, Ireland & Hornsby (2004:13-14) say forms the external triggers for CE, as competition intensifies, technology rapidly changes and products tend to have shorter life cycles. Even in the face of those triggers, the internal organisational environment needs to respond appropriately via structures, systems and processes, and all this tends to activate more effectively if management has anticipated the need for radical change before a crisis emerges rather than in purely reactive mode (Kuratko et al., 2004:14). Even with more entrepreneurial orientations, unless the strategy-structure ‘marriage’ is very well fine-tuned, Jennings & Hindle (2004) demonstrated that performance gains might not be forthcoming, so the causal relationships remain under-researched and not entirely clear. Nonetheless, given the level of environmental turbulence that Australian universities currently face, it is abundantly clear that senior university managers need to be developing strategic management regimes which fully incorporate CE now, not at some future time. It has become virtually a strategic imperative. The argument here is that modern universities really have no strategic choice other than to be decisively entrepreneurial, but it is not entirely clear exactly what they hope to gain and why.

We have had a decade or so to get oriented to the concept of an entrepreneurial university, and various authors, including Clark (1998,2003,2004) have attempted to elucidate both what an entrepreneurial university might look like, what it might be able to do for the community, and to a lesser extent, what might need to be done to it to get it to function entrepreneurially. His work stands out as the trail-blazing work on describing the entrepreneurial university, although many others have now embraced the concept. As such, his work forms a sort of seminal touchstone on what we know about such institutions. We know quite a number of general things about what university managers might need to think and do to start moving in the entrepreneurial direction, of course assuming that they can see strategic reasons for so doing. Again, the issue is ‘why?’ What do university leaders believe they will gain?

Clark’s Five Elements of the Entrepreneurial University

Burton Clark is very clear that all five of the entrepreneurial university elements he identifies need to interlock and interact to give a truly entrepreneurial style and set of outcomes to a university. He describes the ‘..perpetual momentum’ that is required to really transform traditional universities into this new style (Clark, 2003:111). If we examine each of his five elements and note his later refinements that point to some of the managerial and leadership practice implications, a picture should at least start to emerge of what Clark, as one of the major thought leaders in this field, thinks should happen in universities to make them entrepreneurial, what senior managers should do, and most specifically, why they should aim for this.

In relation to the diversified funding base, Clark states that a university seeking to become entrepreneurial must move from sole dependence on government block grants, and whilst seeking to increase its share of government research funds that are competitively won, must nonetheless work extremely hard to develop the ‘third
stream’ of funds in particular (Clark, 2003:102-108). This third stream of ‘all other sources’ can be made up of such components as:-
- other (non-education) government sources,
- private organisational sources such as professional associations, philanthropic foundations, and businesses
- university-generated income from tuition fees, alumni donations, endowments, earned income from campus operations and services, royalties, licensing fees and IP profits (Clark, 2003:102-108).

Clark notes that in pursuing this revenue, a university is seeking self-reliance and discretionary income. It must take care in this pursuit that it takes and makes revenues from ethical sources, rather than ‘..turn(ing) the university into a shopping mall’ (Clark, 2003:108). This relates to the earlier discussion in this paper on strategy and clarity of purpose in senior university managers who must hold a clear concept of the primary mission of the educational institution, and encourage only those forms of revenue generation that do not corrupt that mission, even whilst diversifying it.

Clark does warn that diversifying funding bases almost inevitably means an expansion and proliferation of certain parts of a university bureaucracy. In a sense, the institution needs to build a ‘..bureaucracy of change’ (Clark, 2003:108) to handle the functions of, say, international student recruitment, legal offices, technology transfer offices, continuing and outreach education units, grants and contract administration offices, and conference and project management operations….the units who do the income generation enabling for the academic faculties. Administrative specialists are needed for these functions. Senior managers will need to facilitate this inevitable growth of bureaucracy by creating realistic budgets for that expansion, and selecting genuine experts to staff such specialised roles, often requiring people with considerable commercial experience beyond universities who come at high price. They will also need to ensure that the academic units fully understand and appreciate the need for such expansion of central administration without seeing it as a huge diversion of resources from the ‘real work’ of the university, effectively squandering money rather than making it.

The second of Clark’s elements is that of strengthening the steering core. Here, he sees that universities must be pro-actively, intentionally and wilfully entrepreneurial, rather than passively waiting for it to happen or simply hoping it will. This requires a strong administrative backbone that runs from the top of the university, through faculties and ultimately to departments, institutes or academic units below that. A reasonably clear managerial chain of command that is able to plan strategy, make decisions and implement with some clarity and authority is the essence of that backbone (Clark, 2004:357). A central management group needs to have sufficient executive capacity to steer with speed and flexibility, rather than letting the university drift sluggishly where it will (Clark, 1998). This requires a talented management capability at all levels that can make decisions, and having plotted a strategy, is also capable of implementing it with vigour. It does not at all imply lack of collegial participation in those decisions. Clark is at pains to stress the need for collegiality in getting good decisions and in then getting full ‘buy in’ from all. Effectively, the central managerial values must be reconciled with traditional democratic academic ones (Clark, 2003:109).
Neither does this imply a highly centralist style, and Clark points out that it becomes very important to ‘...balance interests across multiple levels’ (Clark, 2004:359), so that all levels are actively empowered and aligned with the collective will to be entrepreneurial. This means that faculty academics must participate in central councils, boards and committees, and that a large amount of genuine devolution takes place. It also means that academic and administrative personnel must be closely integrated and mutually collaborative and supportive. The careful balance between levels, and the exact structures for decision-making and devolution that will achieve that balance are very individual to each university according to Clark. He therefore notes that it is especially unhelpful when government level policy makers and bureaucrats prescribe structures, forms and even processes for all universities (Clark, 2004:359).

In the current Australian setting, there is a relatively high level of government intrusiveness to this domain, and more foreshadowed by the Minister. This suggests that the strengthened steering core of Australian universities may actually be working in slightly over-regulated circumstances, not entirely free to do things precisely as they would like. It does not suggest that working on a strengthened steering core is not possible. This second element demands excellent managerial and leadership skills of those at various levels in the university, and especially implies skillful devolution and empowerment, so that a strong steering core does not equate with a highly centralist control style, which Clark signals is anathema for the entrepreneurial university (Clark, 2004:359). In fact it puts more emphasis on persuasive leadership than on controlling management. Nothing in Clark’s discussion suggests that a strengthened steering core is an important end-goal for its own sake. He sees it as a means, an essential component of the entrepreneurial approach, which is largely about gaining diversified funding bases and the discretionary resources that can then be turned to institutional ends.

Clark’s third element of expanding the developmental periphery of the university suggests that a considerable amount of boundary blurring needs to occur, between disciplines, between academic units, and between the institution per se and the organisations that it spawns, or with which it works in joint venture relationship or similar. He notes that teaching outreach work, innovative programs and research projects often come in transdisciplinary niches, and there must be very low barriers to those nexus points being occupied quickly (Clark, 2004:360). An expanded developmental periphery is therefore likely to have a number of partnerships with business, industry and government at any given time. It is likely to result in many non-traditional units that cross old boundaries. It is also likely to have some part-owned interests in ventures or projects (Clark, 2004:360), to be actively seeking outside connections and networks to aid development, and it is likely to be highly engaged with its community at various levels.

Although Clark does not embellish this element much further. It is implicit that he sees that the management of these points of developmental contact requires the expanded administrative capability that was mentioned earlier, as units for teaching outreach, alumni engagement etc all require sufficient staffing and resources to be effective. Managers at all levels are likely to need excellent negotiating skills to engage in the work at the university periphery, and strong interpersonal skills to build the working networks that ultimately create many opportunities. Again, Clark does
not specifically point to the expanded periphery as an end-goal. It is a means by which the university might become more entrepreneurially capable.

Fourthly, Clark’s element of *stimulated academic heartland* is one that seems essential to his observations of how an entrepreneurial university is created and maintained, even if is not easy to translate to practical application. Clark states that keeping academic departments and units vibrant, dynamic and motivated is vital. He notes that management must take care to involve the ‘academic heartland’ in participative ways whenever possible, and that those who are best positioned to generate revenues for their university, must be strongly encouraged and ‘incentivated’ to do that, for the benefit of all in their institution (Clark, 2004:360). He indicates that a stimulated heartland will seek to achieve world class quality in their work, whether research or teaching. He does not elaborate further on how this stimulation might best be done.

Finally, the fifth element of Clark’s framework is that of creating *an integrated entrepreneurial culture*. It is seen as involving a widespread commitment to entrepreneurial change and development by everyone in the institution. He notes that culture change takes time and is necessarily ‘..incrementally fashioned’ (Clark, 2003:111) to eventually create its own perpetual momentum or dynamism which is what must happen to succeed as an entrepreneurial university. Ideas, beliefs, attitudes and values are all part of the entrepreneurial culture, and all staff must ultimately be aligned to a high degree on these aspects for good entrepreneurial results (Clark, 2004:361). A self-image as a prestigious entrepreneurial entity ultimately also engenders a community image as prestigious and entrepreneurial according to Clark. He cites some good examples of the power of this positive self-image in Monash and Warwick Universities (2004:363-364). How do managers build such integrated cultures? Clark does not elaborate here, but it is noteworthy that he specifically indicates that prestige and image are a key part of ‘being entrepreneurial’.

Burton Clark’s work from 1998 onwards has certainly established a concept of the entrepreneurial university, and outlined some dimensions or elements involved in bringing it about, although specific practice detail is not plentiful. Others in higher education have also added some ideas on how the university might be made more entrepreneurial in day-to-day practice, most building on Clark’s framework. Still, in much of this work, the basic assumption that universities would seek to be entrepreneurial for the primary strategic purpose of raising their own revenues, has largely stayed intact. We are left assuming that it really is ‘all about the money’, that gaining additional discretionary revenue is the driving force behind all efforts to be more entrepreneurial.

Out of the efforts made thus far in Australia and in other developed countries, we now know some things more clearly. We do know that there has been some excellent practice and outcomes in some cases, over the last decade, but not across the board. Some universities seem to be struggling with both the concepts and the actions/behaviours, or cannot see through the paradoxes. Do they actually have the capability? Do they know how to build it? We do not have a great deal of detailed practice advice for senior managers of universities that would make the outcomes more assured. In fact, there is not a lot of available advice to translate the widely accepted general thrust of work like Clark’s into more assured successful practice for
most institutions. Some would suggest that there is a tendency to adopt the rhetoric and struggle with the implementation. Perhaps the struggle is in part centred around not being entirely and irrevocably sure about why we are trying to do this. Action without clear purpose is bound to be erratic and patchily successful.

The Study – Method and Sample

To better understand the ‘why?’, a segment of data from a larger study is discussed here. With a view to better understanding the organisational and managerial capabilities that Australian universities need to develop to become more comprehensively and systematically entrepreneurial, the author of this paper undertook a larger study in which a theoretical model of entrepreneurial capability was developed, fusing Clark’s (1998, 2003, 2004) five elements of university operation with the four corporate entrepreneurship thrusts outlined by Covin & Miles (1999). Additional embellishments to the models were made from a wider CE literature, all signalling the kind of organisational and managerial capabilities that Australian universities would need to develop for greater entrepreneurial success.

The study then presented this fusion of theoretical enquiry to a sample of seventeen (17) experienced Australian university leaders and managers and commentators for dialogical exploration and refinement. The sample comprised seven current vice chancellors, two recent former vice chancellors, four senior technology transfer and commercialisation managers from major universities, and four higher education sector government policy makers and commentators with excellent overview of the Australian university system. All participants were from the States of Victoria or the Australian Capital Territory, which in combination, provide a diversity of institutional type that would be closely representative of the entire Australian system of higher education. The study design calls for inputs from the first round of discussions to be analysed and incorporated into the model development and then presented back to the respondents in a second iteration for further refinement and input. This second iteration is currently in progress, and final results are therefore not available. However, preliminary analysis of the first round interviews reveals some clear trends, many of which will not be discussed in this paper.

Of particular relevance to this paper are the responses relating to the question asked of all participants in the study regarding why most Australian universities have explicitly embarked on a path towards ‘being entrepreneurial’. The question sought to elicit the subjects’ understanding of universities’ motives in pursuing entrepreneurial strategies. What was the strategic intent? Is it, in fact, all about the money? Have Australian universities attempted to develop entrepreneurial approaches for the main purpose of generating revenue to replace the lost or diminishing public funding? Is it driven by purely financial desperation, a desire to stabilise precarious funding situations? In Clark’s (1998) terms, is it mostly about ‘diversifying the funding base’? Alternatively, is it more related to other desired outcomes that will enhance competitiveness or strategic advantage as one might expect in drawing from the corporate entrepreneurship arena? Are they clear about why they are doing what they are doing in this direction?
Findings

In this study, the overwhelming majority of respondents believed that Australian universities had embraced the entrepreneurial agenda initially, vigorously and quite crudely in response to reduced government funding. Pressed into generating revenues from alternative sources, most described the urgency with which institutions had sought to find new markets for the most readily saleable intellectual property they held, their teaching ‘courseware’. From the 1980s onwards, and most especially throughout the ‘90s, they saw Australian universities becoming more skilled at market analysis, both on-shore and off-shore, and better at finding innovative ways to repackage existing curriculum, to deliver it differently, or more efficiently to new markets for fee revenue. In the main, they believed that this had been effective in generating substantial new streams of revenue for the system. Some universities had done much better at this than others, having either better market intelligence, better teaching ‘courseware’ and intellectual property, better delivery mechanisms and styles, or better internal systems to enable nimble movement to fill emerging market opportunities. Diversifying and enhancing the funding base had been linked unequivocally to institutional survival.

All noted that universities had been much slower to attempt to generate revenues via the intellectual property emerging from their research activities, and that many were still exploring the best ways to do this. Many had realistically noted that commercialising research is slower, potentially riskier, and unlikely to make vast amounts of money, since even in the most research-entrepreneurial universities in the world, only a relatively small percentage of total university revenue is derived from research licences, sales, profit shares or the like. Whilst a single respondent in the sample felt that the urgent drive for additional funds was still the prime motive behind virtually all entrepreneurial activity in Australian universities on both the teaching and research fronts, all others saw the agenda for most universities as having now matured and developed in various ways to being a much more complex set of considerations and possible outcomes.

The near-consensus view was that Australian universities (and quite probably their counterparts in other developed nations) were really now seeking a more generally outward facing mode of operation that can be termed as ‘engaged’ with their respective local, regional, national and international communities- both business and civic- so that knowledge generation is also clearly linked with knowledge transfer and dissemination in ways additional to the classical academic publication pathway. Perhaps partly driven by government policy and incentives, but also driven by a desire to be more relevant and useful to their broader society, just at the ‘triple helix’ (Etzkowitz, 2004) concept would indicate, the subjects described a growing desire in Australian universities to engage with the world for a number of reasons related to both what could be given to society and what might then in turn be drawn back into the university from that society. Most respondents used the language of ‘engagement’ and ‘connectedness’, most specifically in relation to the attempts by universities to form links with business, government, industry and the general community. Several indicated an uneasiness with the term ‘entrepreneurial’, more for the negative reaction and connotations it still tended to stir in their institutions than for any personal aversion to the term. Several crystallised the new relationship they sought as being more about reputation, prestige and image than about revenue, although all conceded
that new revenue sources were crucial and necessary, but not sufficient for longer term success.

In recognising that the new agenda for ‘being entrepreneurial’ is more about building a set of synergistic external relationships and connections with the outside world for mutual benefit, most respondents also observed that the internal workings of the universities also need to be much more connected, a series of deep structural, systemic, processual and cultural capabilities that each was prepared to concede was not yet uniformly in place in most Australian universities, nor probably in those of other nations. ‘Being entrepreneurial’, now not only about the money, but a key part of the pursuit of the competitive advantage that prestige, reputation and image may give, calls the internal operations of virtually the entire university into question. In this scenario, all respondents thought that Clark’s five elements of the entrepreneurial university (Clark, 1998; 2003, 2004) would need some greater development and elaboration to give clearer signposts to university leaders about the internal transformations required for strategic success. The ‘connectedness’ agenda points to connectedness with the outside world, and connectedness within, a significant challenge to universities that have traditionally been comprised of a degree of semi-siloed separateness, of diverse agendas, and of a tendency to strategically aim at doing ‘mainly everything’. Strategic focus and a true diversification within the sector was seen as the only way forward, and ‘being entrepreneurial’ would undoubtedly lead to genuine innovation and difference in such a system.

Conclusions

The larger study discussed in this paper is still in progress, but one clear emerging finding indicates that senior leaders and managers within and around the Australian higher education sector see that its universities are definitely seeking to be more entrepreneurial, and that this was originally, and still remains substantially driven by the pursuit of diversified sources of funding. However, the study reveals that this is no longer the only motive for seeking an entrepreneurial style and outcomes. Of emerging greater awareness and importance is the desire to be more connected and engaged with the outside world, and via that set of relationships, to both give and gain greater benefit in the long term. Entrepreneurial universities in this study are chasing strategic advantage and ever-greater leverage from the intellectual property and knowledge stores they hold to assist their long term survival and health. They now understand that it is not all about the short term money.

The respondents in the reported study-in-progress do also understand that to gain the connectedness they now desire will require a great deal more internal maturing and transformation than they have yet achieved across the board. There are heartening glimpses of what that connectedness might look like in a highly evolved entrepreneurial university, but none see that learning process as in any way complete. They do see that ‘being’entrepreneurial’, even if another term is increasingly preferred, is a strategy which has come into focus, underlining that the starting point for any strategic success is to understand why the university is choosing to move in that direction and for what benefits. At least at the top, Australian universities seem to have moved beyond the rhetoric of the entrepreneurial university, and commenced the more demanding transformation of truly living it.

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References:


