

Intentional Innovation Communities: A strategy for radical improvement of Australia’s innovation performance

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Introduction

Contemporary thinking on encouraging innovation within firms has converged on the concepts of “Open Innovation”, “Knowledge Creation” and the proposed democratising of innovation (Bessant and Venables 2008; von Hippel, 2005; Chesbrough, 2006). Within R&D, the generational development of research, that is 1st to 5th generation research models (Table. 1) follows the same evolution towards open innovation, carried by the contextualisation of science through society and industry pressures (Nowotny et al. 2001).

Table 1. Generalised description of the development of research management practice characterised in “generations” of R&D.

	1st Technology as Asset	2nd Project as Asset	3rd Enterprise as Asset	4th Customer as Asset	5th Knowledge as Asset
Core Strategy	R&D isolated	Link to Business	Technology/ Business Integration	Integration With Customer R&D	Collaborative Innovation System
Change Factors	Unpredictable	Inter- dependence	Systematic R&D Management	Accelerated Discontinuous Global Change	Kaleidoscopic Dynamics
Performance	R&D Overhead cost	Cost- Sharing	Balancing Risk/Reward	'Productivity Paradox' 'Multi Dimensional'	Intellectual Capacity/Impact
Structure	Hierarchical; Functionally Driven	Matrix	Distributed Coordination	Communities of Practice	Symbiotic Networks
People	We/They Competition	Proactive Cooperation	Structured Collaboration	Focus on Values and Capacity	Self Managing Knowledge Workers
Process	Minimal Communication	Project to Project Basis	Purposeful R&D/ Portfolio	Feedback Loops and 'information persistence'	Cross-Boundary Learning and Knowledge Flow
Technology	Embryonic	Data-Based	Information- Based	IT as a Competitive Weapon	Intelligent Knowledge Processors

Adapted from Amidon (1996)

The reason for this shift is that it is well understood that the innovation process is creative, dynamic and opportunistic. It follows that an environment that encourages active, spontaneous and ongoing contributions is required to cater for and support this creative process. Isolated examples of firms that encompass this open management ethos (e.g. Gore) demonstrate a shift to Mode 2 type research management models (Table 2), which create an innovation-friendly environment.

However, acknowledging that the source of innovation is not fixed within firms and in fact can be unaffiliated individuals, customers, other users, manufacturers, suppliers and other unexpected actors, leads to the realisation that there is an opportunity to create new institutional forms in the wider community devoted to the production of innovations. The new institutional forms need to be both “hothouses” and “safe houses”.

Table 2: Mode 2 Knowledge Production; Evolution of modern management concepts indicating the overlap with Generational Research (Table 1) management development.

	1950s-1970s	1970s-1990s	21st Century
STAGE	TECHNOLOGY TRANSFER	TECHNOLOGY EXCHANGE-KNOWLEDGE EXCHANGE	KNOWLEDGE INNOVATION SYSTEM
Research Generation	1st	2nd to 4th	4-5 th
Management Attributes	Data Product Accounting Moving something from one place to another i.e.	Information Solution Strategic Planning	Knowledge Innovation Strategy
Management Approach	"creator to receiver". e.g., from engineering to manufacturing; labs to industry	Management of technology focus with a growing recognition of value of research partnerships.	Knowledge network: beyond the confines of a company, laboratory, or place.

Adapted from Amidon (1993)

This is an intentional integration process which will take full advantage of the industrial and societal contextualisation of research that as pointed out by Nowotny et al. (2001) is occurring now. In so doing, the intention is to fully utilise this new entrepreneurial environment to make best use of finite non renewable natural resources, while maintaining and improving our living conditions.

The aim here is, through this mechanism, to create value for Australia from new knowledge and improve our international ranking on innovation performance (Powering Ideas, 2009). This paper introduces and explains the concept of an Intentional Innovation Community and outlines a proposal for implementation of pilots for a demonstration project in a rural / regional setting in Australia.

Rationale

It is a self-evident truth that a bright future for Australia depends on our international competitiveness, which relies on high levels of productivity, which in turn rely on Australia achieving and maintaining a world-class innovation system that has outstanding performance in producing innovations. Within the reports *Venturous Australia* and *Powering Ideas* it is noted that Australia currently ranks in the third and bottom quartiles on most significant international measures of innovation performance. This is more than a surprise and a disappointment to those who have worked long and hard to improve Australia’s innovation performance over the past 20 years; it is a clarion call to change and improve the way we innovate. Our relative decline is masked by the resources boom, but it would be foolish to imagine it isn’t a fact of life.

What is proposed here is innovation in innovation -- new thinking about institutional and social organisation "for innovation". We recognise that as a nation we have talent, energy and creativity to burn, but we (and the talent) just have not worked out how to use it. Some organisations are beginning to tap into this vast pool of talent (e.g. games developers) and it's time to experiment with new forms of social organisation that go directly for the jugular, to radically improve our innovation performance so we can improve our productivity and hence to maintain and improve our international competitiveness. It is clear that more of the same is unlikely to "cut the mustard" and that we need to strike out in new ways to tap Australia’s huge latent ability to innovate.

Intentional Innovation Communities (Atlats⁴)

In this paper innovation is defined as the process that creates new knowledge and uses new and existing knowledge to develop new things that work and are useful and of value in society.

Australia's poor performance relative to our competitors as measured by international innovation rankings is due, in part, to us not yet having found the way to build a critical mass in our innovation effort in our wider community and, in part, to not yet finding the way to fully exploit the strengths of our national peculiarities.

Atlats address both these challenges. They will be new places to assemble critical mass for innovation in Australia and to build on the strengths of our peculiarities. Their design is based on three key propositions:

1. The largest untapped resource in Australia able to produce innovations is the largely unorganised cohorts of individuals who have the skills, aptitude and ability – or latent ability - to produce innovations.
2. These individuals, in the main, live, work and operate outside universities and research institutes.
3. The most direct way to improve our innovation performance as a nation is to transform innovation from being an essentially private process to becoming an essentially social process. (In a private process new knowledge is created by an individual or a small group and held very close-to-the-chest; in a social process innovations may be initiated by one or several individuals, but from the very earliest stages it is more open and welcomes and thrives on collaboration).

The objective here is to radically improve Australia's innovation performance and our international rankings within a manageable time frame.

The plan

We plan to design and implement two sets of pilot projects to establish, operate and evaluate the performance of communities of individuals who, as a cohort, have the skills and experience required to take ideas from their creation through to becoming innovations and that have as their sole and deliberate purpose, the production of innovations.

The communities will be set up as formal structures, possibly as legal entities. It is envisaged that:

- Two pilots will have 7-10 members and a similar number of participants; and
- Two will have 20-30 members and 15-20 participants;
- The run-time for evaluation of the pilots will be 18 months – 6 months for their establishment and 12 months of operation. This should be sufficient time for the pilots to demonstrate they are on the path to showing how to achieve improved innovation performance through institutional innovation and be within the scope of current policy and budget allocations/processes to respond to.

Each community is to be constituted with registered members and registered participants. Registered members will be: unaffiliated individuals (sole operators, independent people, etc.); and individuals affiliated with small, medium-sized and large corporations, universities, research institutes and government agencies, but who operate in a community as individuals and not on behalf of the affiliated organisations that engage them. It is anticipated that only a minority of members will be drawn from existing universities and research institutes and that most will not be affiliated with these institutions or engaged by very small companies, Small to Medium Enterprises (SMEs), larger firms and/or public sector agencies.

Members of a community will be stakeholders who have voting rights for decisions related to establishing and maintaining good governance of the community. They will be recruited from talented and skilled individuals who live or work in the region, in local universities and research institutes, in very small companies, SMEs and larger corporations, and in local, state and Australian government agencies in the region that have a stake in the region.

Registered participants will be: very small companies, SMEs, large corporations, universities and research institutes (and their constituent laboratories, centres, etc.), consulting and related service organisations, public agencies and other bodies and individuals with the skills, experience and ability to add value to the members' ideas and abilities and the products of these qualities. Participants will play a range of roles in working with members in facilitating and

⁴ An Atlatl is a launcher – the Australian aboriginal woomera is a form of atlatl. Pronounced at.lat.il.

assisting in implementing the innovation process, ranging from advancing early stage ideas through to direct participation in prototyping, testing, commercialisation and funding.

For each pilot and demonstration, community members and participants will be carefully and systematically recruited to form a cohort of individuals with the synergistic skills and abilities to create new ideas and to work in groups of individuals and as groups with participants and actors in the wider community to transform their ideas into innovations. The cohort of individual members in a community will have a diversity of skills, capabilities and experience. Some will be inventors and initiators; some will be entrepreneurs; some will have specific business skills, e.g. in developing business models; others will have specific skills in human resource management and in non-business organisation; still others will bring with them a rich network of contacts and alliances capable of adding value to the work of the community, and so on.

Place is important. The pilot and demonstration projects will draw members from the geographical region in which they have a primary interest as this will provide relevant context. Specialisation will also be important, within limits, recognising that innovation is often serendipitous and can lead innovators into unfamiliar territory where they did not intend to go at the start of their journey.

Communities will gain greater definition by: having a sector-specific focus that might include but not exclusively, health, rural health, primary industry and agribusiness, manufacturing, climate change, food production, local government services, financial services, fashion, sporting goods, community welfare; and/or focusing on either commercialisation as the means to create value (for new market-driven products and services) or non-market mechanisms and processes (e.g. for social and institutional innovations).

Focus decisions will include having creation, adoption, adaptation or a combination of these as their starting plan; initially defining the stage of the innovation process in which they will focus their attention, for example earliest idea generation, project emergence, early value-adding, partnering and later stage transformation and realisation with the possibility of a matrix of these foci being likely. In addition it is recognised that in some cases a community may shift its stage-focus away from its initial plan.

It is a requisite that members and participants interact with each other; achieved through face-to-face and cyberspace communications. Web 2.0 tools will be tailored to appropriately enhance collaboration between members of a community, between members and participants and between members and participants in the community and the wider world.

Each community's management team will assemble and maintain cohorts of members and participants with a mix of skills and capabilities matched to the community's needs in advancing ideas and transforming them into innovations. In addition, the incorporated body will own some equity in all intellectual property brought into and generated in the community. However, all inventors, initiators and contributors who add value to an idea/project will acquire equity in the resulting innovation as a function of the quality, quantity and value of their contributions.

Conclusion

As Einstein observed, it is insane to continue to do things in the way that we have before, and expect better outcomes. In Australia this observation seems extremely pertinent, because we are currently benefiting from the exploitation of our limited natural resources, have a demonstrated but fragmented capacity to innovate, and are now experiencing and adjusting to the worldwide trend of socialisation and industrialisation of research.

In order to take advantage of our socio-economic position and particular national peculiarities, a different approach to innovation is clearly required. The approach proposed in this paper is aimed at taking best advantage of our current opportunity; that is to utilise the strength of our innovators and industry, community structure and research capacity to create and maintain contextualised and productive Intentional Innovation Communities.

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