



Smart State is also Creative State: Opportunities for Queensland in the Creative Industries

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Abstract

This paper analyses and critiques the Queensland Government's Research and Development (R&D) strategy that undergirds the smart state policy agenda. We argue that this strategy poorly addresses: R&D opportunities deriving from the applied social and creative disciplines; and the role of the social and creative disciplines in the development and commercialisation process for all research. Furthermore, we suggest this derives from a view of 'smart' which is biased towards science and technology.

Queensland can no longer afford to understand the social and creative disciplines as commercially irrelevant, 'civilising' disciplines. Instead they must be recognised as the vanguard of economic growth. In particular, the proposed R&D strategy does nothing to position Queensland for the emerging wave of innovation needed to meet demand for content creation in entertainment, education, government, and health information, in order to exploit universal networked broadband architectures currently in development.

Not only is research in the applied social and creative disciplines required for its own commercial potential, but also because such research must be hybridised with science and technology research to realise the commercial potential of the latter. Commercialisation depends on 'whole product value propositions' not just basic research. We suggest that there needs to be mechanisms whereby research in the social and creative disciplines can be meaningfully hybridised with basic research in technology to create new commercial opportunities for Queensland. To this end we describe two examples of research driven commercialisation outside science/technology, namely interaction design and broadcasting.

Introduction

While there is increasing discussion of knowledge-based economies, knowledge-intensive firms and knowledge societies – or in Queensland's case, the Smart State – little attention has been given to rigorous and foundational social analysis of what these terms mean. Queensland is not alone in this. Research on the assumptions underpinning contemporary knowledge-related public policy from around the world (Graham and Rooney 2001) has shown that there is little evidence of such assumptions being well informed by any appropriate knowledge-related theoretical framework, and that as a consequence, basic conceptual errors in policy formulation are common. Policy prescriptions that focus on science, technology and engineering as the foci of knowledge-related public policy are common. Knowledge embodied in culture, the arts, humanities, social sciences, social skills, entertainment, spirituality and many other aspects of normal life, are not considered as central knowledge policy concerns. The implicit assumption in such a view is that knowledge only has instrumental value and only in the context of economy, industry, and commerce. Such technocratic concerns deal only with the surface features of knowledge systems. There are much deeper social, cultural and communication processes that act to bring about knowledge creation and use, as well as innovation and commercialisation of technology (Rooney et al. forthcoming). These are, however, ignored in current policy discourse surrounding the Smart State.

These biases result in two widespread and counterproductive social phenomena. First, the social infrastructure required to develop, commercialise and diffuse new technology is ignored or mis-specified, and under-resourced. For example, 70 per cent of large information technology projects fail (McDonald and Thorpe 1998), often because of human infrastructure problems (Hearn, Mandeville and Anthony 1998), and almost 50 per cent of manufacturing supply chain malfunctions are human/cultural (Svensson 2000). We will suggest that such 'human infrastructure failures' do not reflect simple human error, but rather, complete mis-specification of the educative, cultural, and institutional requirements of knowledge innovations. Second, aspects of knowledge systems that reside in 'everyday' human/social organisations are ignored. For example, in health care and ecological remediation, the importance of recognising tacit local knowledge systems is increasingly recognised as pivotal to successful implementation of new knowledge (Rooney et al. forthcoming).

Knowledge is created, distributed and used in social systems. For example, innovations in knowledge often proceed from un-programmed activity (Bryant and Wells 1998), new ideas and breakthroughs are not completed to order, creativity often proceeds unpredictably (Howkins 2001), and knowledge development proceeds in social networks of dense connectivity (Potts forthcoming).

However, proposed research expenditure priorities in the Smart State suite of policies, reflect a science/technology led agenda for Queensland at the expense of new economy imperatives for research in knowledge consumption services. The 'knowledge consumption services' sector derives from the applied social and creative disciplines (business, education, leisure and entertainment, media and

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communications) and represents 25 per cent of exemplary economies. However, the new science sector (agricultural biotech, fiber, construction materials, energy and pharmaceuticals) for example, accounts for only about 15 per cent of these economies (Rifkin 2000: 52). In fact all modern economies are consumption driven (60 per cent of GDP in Australia and 62 per cent of US GDP (Hearn, Mandeville and Anthony 1998)) and the social technologies that manage consumption all derive from the social and creative disciplines. Knowledge consumption industries are clearly not as research intensive as science based industries but, historically, research expenditure in Queensland has devoted only 3.7 per cent to research in the applied social and creative disciplines (Department of Information and the Information Economy [DIIE] 2002) and the currently proposed strategy does not significantly alter this allocation. By contrast, it devotes 52.4 per cent of R&D expenditure to Agricultural Sciences, an area that accounts for four per cent of GDP (Crossman 2000: 8).

The Queensland economy has traditionally been based upon the agricultural and resource sectors, with R&D within the state also directed to the needs of the mining and agricultural sectors. It is widely acknowledged that the Queensland economy is in a period of transition from a primary industry to service industry economy (DIIE 2002). However, the term 'services' is a catch-all that does not adequately specify the particular industry sectors that are evidencing strong growth. The cluster of industries that represents the vanguard of the new economy we would identify as 'knowledge consumption services'. The knowledge consumption services are education, government and health information, entertainment, business, and specifically, financial services and media and communication. They form the interface between consumers and innovation of all kinds. They also develop knowledge innovations in their own right. The growth rates in the knowledge consumption services sectors are often stronger than average growth rates for OECD countries in general (Rifkin 2000). For example, education is now Queensland's second largest services export (Qld Department of State Development 2002).

Worldwide, the creative industries sector has been among the fastest growing of the global economy. Several analysts (Creative Industries Task Force 2000; Howkins 2001; OECD 1998; Rifkin 2000) point to the crucial role they play in the new economy with growth rates better than twice those of advanced economies as a whole. In the US, entertainment, rather than defence, is now the driver of new technology take-up (Rifkin 2000: 161). Creative production has become the model for new economy business practice (highly outsourced; producer model; project management within just-in-time teams, etc). Rifkin (2000: 163-4) claims that cultural production will ascend to the first tier of economic life, with information and services moving to the second tier, manufacturing to the third tier and agriculture to the fourth tier. Although available data are incomplete, it is also evident that there has been strong growth in the creative industries in Queensland itself over the past ten years.

Queensland's R&D strategy is explicit about the relevance of creative industries as a sector that includes 'enabling technologies' like multimedia, broadcasting, 3D

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and games. Its applications fields also include knowledge consumption services such as creative arts and entertainment. However, none of these areas, acknowledged as R&D or R&D-influenced sectors, have been targeted for state-level investment to this date. And yet both the opportunities to leverage private sector investment through strategic state involvement and the value of leveraging existing infrastructure and traditional industries (such as the broadcasting infrastructure that exists today in Queensland) could be centrally addressed by the creative industries in Queensland.

The need to develop virtual clusters and bandwidth capacity would also be addressed in significant ways if the R&D strategy engaged with the demand for broadband from the creative retail and consumer sectors.

Positioning Social Sciences and Social Policy research in a knowledge economy

Queensland's R&D strategy acknowledges Social Science and Social Policy research and does open a small window for the social and creative disciplines. However, it mistakenly positions the social and creative disciplines as only relevant to social and environmental issues, though of course they are relevant, and their value derives solely from public good arguments. This demonstrates a lack of understanding of the key ways in which they are implicated in, and integral to, the development of a knowledge economy.

If we look, for example, at the changes to the operation of media internationally we see that global media and communications policy used to be based on scarcity, and brought protection, universal service and public interest to the fore. However, in both world-wide trends and in supranational policy formation contexts, it is now being driven by a trade-in-services template associated with the World Trade Organisation and similar forums. In this model, media are now placed alongside telecommunications, e-commerce, banking and financial services, and education. This is markedly different from older cultural industries models based on the media's perceived role in providing content critical to citizenship, the information base necessary for a functioning democracy, and their importance as vehicles for national cultural expression.

The new services industry model overturns many of the assumptions embodied in the old framework. This new model is driven by the 'big three' – convergence, globalisation and digitisation. New technological and business factors include digital transmission systems, multi-channel marketplaces, competing delivery platforms, fragmented audiences, changing ownership patterns and deregulation. There has been an attempt to minimise the role of the state, and a corresponding growth in supranational forms of governance.

In economics, however, new growth theory has pointed to the limitations for wealth creation of only micro-economic efficiency gains and liberalisation strategies. Governments are now attempting to advance knowledge-based economy models. This implies a renewed role for the state in setting 21st century industry policies, to prioritise innovation and R&D-driven industries, intensive reskilling and education

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of the population and to focus on universalising the benefits of connectivity through mass Information Communication Technology (ICT) literacy upgrades.

Like prototypical service industries, such as telecommunications, health, education and financial services, media involve higher value-added inputs at the content creation end of the value chain. This is where the claims for their place in the knowledge-based economy come in – where issues of copyright and Intellectual Property ownership and exploitation are key.

The opportunity for media, culture and communications to be part of the emerging knowledge-based economy model is based on two key trends:

- content creation will become more important than it is in the current content industries (distribution, not production, is where most profit-making currently occurs); and,
- the content industries will be characterised increasingly by their inputs into other industries (services, but also manufacturing and even primary), as the knowledge-based economy expands.

This thinking suggests that the future of the new economy does not lie solely in the development of scientific or knowledge silos but in the creation and integration of content to develop sustainable interactive environments. It allies individual artistic, design, writing and production talent with the broad social and commercial reach of information technology, media and entertainment.

Within the creative industries, standard approaches to industry development are usually unsuccessful because they are not attuned to the specific institutional context of the industry. Many sub-sectors of the creative industries include micro-businesses working in flexible contracting networks with a variety of similar firms. While some firms grow larger and take on more conventional structures, they are often embedded in a dense network of suppliers who are micro-businesses or independent contractors. Points of leverage for industry growth are key services that are currently difficult to source at reasonable cost:

- bandwidth;
- equity or loan capital;
- facilities of office space, production space, production facilities; and,
- collaborative networks built on maintaining competitive and collaborative relationships.

Lack of critical mass is a major threat to successful industry development. Current capabilities need to grow rapidly to meet national and international demands and to escape the limited size of the local market.

We would suggest there is a need to focus industry research and analysis on the specific requirements of the local and national industry by connecting research and development activity to the realities of contemporary practice in the industry and by building networks based on innovation and new business models and practice.

Although the current R&D strategy occasionally intimates that there should be some hybridising of the insights of social sciences, the humanities and science research, we believe it should really be the *primary* principle upon which the R&D strategy is based. Isolated silos of scientific research will not achieve commercialisation outcomes. Porter (1998) suggests the dominant structure for

competitiveness in the new economy is that of clusters. These are critical masses of interlinked, industry-relevant activities in one location, including suppliers, universities, government agencies, corporations and smaller companies. These affect competition in three broad ways. First, by allowing special access to close relationships, better information and so on, they increase productivity of companies in the area. Second, they accelerate the direction and pace of innovation. Third, they stimulate the formation of new businesses within the clusters.

Specifically, some of the problems and questions facing a creative industries cluster would include:

- how people will interact with emerging content and technologies;
- the lack of production tools and processes to create new content;
- inability of community networks and technology infrastructure to support content distribution; and,
- unknown business and revenue models for commercialisation and the valuation of creative capital.

Interaction Design

By way of example of a creative industries cluster, consider the area of Interaction Design. The field of Interaction Design is a broad area of activity concerned with understanding the relationship between people, their environments, devices, content and community networks. It has risen in importance as researchers and industry recognise that emerging technology concepts will fail without a complete understanding of how people are affected by their initiatives. There is ample research focused on areas such as human-computer interaction, user interface design, network capacity, new content production and the like. However, little research is being pursued considering the combination of all these elements as being 'interaction'. This 'whole product value proposition' is the unclaimed territory that must be addressed through inter-dependent research themes and industry-focused programs. Companies struggle to understand how to develop new business that is focused on the complexities of human desire and preferred interaction scenarios with new media content and emerging technologies. This is ideal territory for R&D investment and support, to enable greater transfer of technology and Intellectual Property to a larger segment of the Australian business community, from micro businesses to large multi-nationals.

The creative industries are a new sector that is recognised as being important to national economic objectives. It is facing growth challenges due to the interdependent collaborative process required for the industry's success. Effective government policy would facilitate the successful creation of the infrastructure that will allow this. The role of government in the development of a successful knowledge economy is that of coordinator (mediator, organiser, transformer), providing leadership and resources for communities. Above all, in leading knowledge-based economies, government must be social, even gregarious, rather than dryly rationalist, because the fundamentals of knowledge-based economies are social and cultural.

Broadcast industry

If we consider, as another example, the position of the local television broadcast industry in Queensland, we can identify that the future is one in which 'the rapid pace of technological change, particularly digitalisation and the Internet, will fundamentally alter how television, film software and entertainment is distributed, stored and viewed' (Leadbeater and Oakley 1999: 11). Looking to that future then, while significant current obstacles remain for the realisation of the full potential of digital television services and for the wide penetration of broadband Internet services, we must assume these will be addressed, and perhaps overcome, in a medium and longer, up-to-ten years, time frame.

Lowered barriers to entry, industry growth, and regulatory reform could provide the bases for digital content industries providing information, entertainment and community networking. New commercial television licences, with local focus and not necessarily nationally networked, could arise and community stations could find a viable niche. We would suggest there is a short as well as longer-term role for the Queensland State Government to enter this field and provide for a future where lower barriers to entry, technological change and price reductions, make production for commercial broadcasting and broadband, viable in regional Queensland. This could be achieved by, among other things:

- partnerships between commercial, public and community sectors;
- support for customised training to grasp new business opportunities;
- community capacity building for regional enterprise development at the interface of ICTs and media; and,
- stimulating regional cluster and networked enterprise development in the creative industries.

Although the Queensland R&D strategy identifies the need to attract and retain key researchers and entrepreneurs into Queensland, and to create opportunities for them to be involved with experimental and start-up ventures, it fails to open such initiatives to include the creative industries. Incentives and strategies are needed to attract animators, games and multimedia researchers, and technical staff to Queensland. In addition, there is a need to cultivate or import individuals with significant entrepreneurial experience in the creative industries, who can play a role in the education of future researchers in Queensland's creative industries. Visiting fellowships in entrepreneurship in the creative industries, and/or high-level, state-supported strategies to access the Commonwealth's 'Federation Fellowships' for Queensland, would be an important initiative in this regard.

Conclusion

Landry (2000: 140) summarises the conditions for a creative milieu that encourages innovation, suggesting it:

- is a place with a level of original and deep knowledge coupled with a ready supply of skills, competence and people who have the need and capacity to communicate with each other;

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- has a sound financial basis allowing room for experimentation;
- has the capacity to deal with complexity and uncertainty about future changes in cultural, scientific and technological fields;
- has good possibilities for informal and spontaneous communication internally and externally; and,
- is a multidisciplinary and dynamically synergistic environment which links developments in the arts and science.

These features are important because a knowledge economy is a connected economy. Knowledge silos which do not interact are counterproductive. The Queensland R&D strategy invests in creating some of the appropriate knowledge silos for the 21st century and acknowledges the role of commercialisation. However, it has overlooked both the commercial potential of important knowledge domains, in both applied social and creative disciplines, and under-specifies the particular strategies required for interconnecting all these ingredients.

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