Submission to the Australian Productivity Commission On Science and Innovation

Professor Brian Fitzgerald

Diversifying Intellectual Property (IP) Management: The Challenge of Open Innovation

This submission covers issues which are relevant to all of the Commission's terms of reference, especially paragraph numbered two in relation to intellectual property management.

My submission is that we need to improve legal and policy frameworks for accessing and reutilising knowledge in order to sponsor more dynamic innovation. In knowledge based world this is intimately connected with the way intellectual property is managed.

Background

As much of the intellectual capital needed to motivate a flourishing innovation system is covered by intellectual property rights we need to work out a system for providing the most effective negotiability or usability of that intellectual capital. IP law is largely premised on the notion that others cannot use the intellectual property "without the permission" of the intellectual property owner. While this is a valuable principle in some instances in other cases it acts to stifle the flow and spontaneity of an innovation system.

We need to pay close attention as to how we “transact” intellectual property rights in a rapidly changing knowledge landscape.

Open Innovation

There can be little doubt that the growth of digital communication technologies from the Internet to the iPod have opened up enormous opportunity for a country like Australia. The very great challenge is to work out how to harness this potential in the realm of science and innovation.

As we transit through the phase of the Semantic Web (making the Web a more cohesive storying telling entity through better management and processing of metadata) and Web 2.0 (the growth of rich user led applications) the possibilities for science could not be greater. We need to seize the opportunity to effectively utilize this giant networking, processing and visualising device fuelled by super computers.

However, much of the potential of this exciting new knowledge facility will be shaped and determined by our ability to create a framework for negotiating intellectual property rights in ways that we have not thought of before.

Whether it is on the Internet, in Silicon Valley or the technology precincts across Australia our ability to cross fertilise ideas – out of design or serendipity - through a diversity of knowledge sources will be crucial. Sharing ideas in a process of accessing and implementing knowledge is a key element. This requires us to be able to foster an environment that will allow open and serendipitous innovation.

Open Innovation for All: Open Access

One form of open innovation is to share knowledge (usually covered by intellectual property rights) with the entire world. This process is nowadays most commonly seen through people sharing ideas across the Internet in a process known as “open access”. This is generated by personal, disciplinary, community or institutional repositories where people can access content. Some would regard Google as the gateway to the greatest repository of them all – the Web.

While access in this model is important an even more important issue is to clarify the negotiability or usability of the available material. This leads us into a question of intellectual property licencing and having to deal with the need to have the permission of the IP owner to do anything further with the material. New licencing models – of which the Science Commons <sciencecommons.org> is a prime example – have arisen. These new mechanisms provide a facility or licence for giving permission in advance for certain purposes. They work by tagging content with a licence allowing any other person in the world to reuse it on certain conditions - for example non commercial use (while still reserving a right to commercialise to the IP owner).

As an enormous amount of research is publicly funded – owned by the people – we have seen a strong push throughout the world to have the outputs or knowledge derived from this research shared on the Internet with the whole world. The OECD as well as research funders in the UK (Wellcome) and the USA (NIH) have supported the move to open access. Wellcome and NIH have started mandating or recommending that research derived from their grants be made available via open access. I am the Project Leader of a DEST funded project called Open

Access to Knowledge (OAK) Law www.oaklaw.qut.edu.au which is examining these types of copyright management issues across the Australian research sector.

Added to the democratic ideal of giving the people back what they have paid for, the notion of open access provides a perfect fit with the enormous potential of semantic web metadata processing tools. It provides a spontaneous negotiability or usability of intellectual property protected knowledge that in turn provides the platform for real time collaborative and serendipitous innovation.

By improving the negotiability or usability of the knowledge we can provide greater access to and diversity of knowledge.

Two points need to be highlighted:

1) Open access does not mean that an IP owner has to forgo commercialisation opportunities. Knowledge can be shared on the condition that is used in a non commercial manner, while the right to make money out of that knowledge is retained by the IP owner. The proper balance here, especially in the area of publicly funded research, is a strategic or policy question. The retention of an intellectual property right provides an avenue for structuring downstream use in a way that is beneficial to interests of the IP owner (in many instances that is ultimately the people of Australia as represented by their government). If we simply give the IP away we lose the ability to structure negotiability and access in the future.

2) The Open Access movement has been primarily concerned with copyright material and the new licensing models are primarily focussed on copyright licensing of data sets, articles and other outputs. However the idea

that more effective knowledge sharing might bring greater innovation is now being practised in the area of patents. Richard Jefferson who runs an organisation called CAMBIA based in Canberra, with the help of the Rockefeller Foundation, has set out to prove that we can develop open patent licensing regimes. The need to understand this development is very important.

Open Innovation within Secure Knowledge Communities

The rise of academic networks, technology parks and more recently E Research show how some sharing of knowledge will operate within the confines of a designated group of trusted parties. This type of knowledge sharing is normally bounded by technological requirements and contractual arrangements.

It shares one thing in common with the “open to all” model. That is the desire to share knowledge in order to innovate and to promote this by creating a zone of negotiability of intellectual capital.

The greatest challenge for the future is to work out a model whereby legal arrangements can become as spontaneous as the technological requirements. While it may be possible for a like minded group of researchers to exchange highly confidential and/or commercially sensitive knowledge in an instant through current communication or transportation means the ability to build a contractual framework around that ecosystem may take many months. How can the legal framework promote a dynamic research culture that may require the “transacting or sharing” of knowledge overnight rather than six months down the track?

Fair Dealing/Use in Copyright and Patent

Another critical factor in negotiating knowledge is a clear and robust fair dealing doctrine in copyright and research use doctrine in patent law. This is because in instances where fair dealing or research use can be shown the permission of the IP owner is not required – a situation of high negotiability of knowledge.

The OECD is currently looking at the question of research use of patents www.oecd.org/sti/ipr and ACIP has recently released a report on this issue. Australia does not have an express research use exemption and it must either be implied as a process of statutory interpretation or regarded as being founded in common law. (The situation in the US is similar – see *Madey v Duke* (2002) 307 F.3d 1351 (Fed. Cir. 2002)). The issue facing Australia is whether we need to legislate on this issue and if so in what manner? (see ACIP, *Patents and Experimental Use* (2005) <www.acip.gov.au/reviews.htm#expuse>)

I was nominated by DEST as an Australian expert to the OECD Science, Technology and Innovation Committee's Expert Working Group which met in May 2006 in Madrid. In relation to patented research tools which are a critical issue, I argued that we should think more creatively about how to allow the broadest possible use of research tools while preserving the power of patent holders to commercially exploit them. My suggested approach is to allow any use of the research tools in research but to allow the patent holder to levy a royalty where it can be shown that a new product has a resulted from the work done with the research tool. While difficult to implement, this model would remove doubt and fear over the use of research tools for experimental purposes while still providing the patent holder with a royalty stream where

commercialisation does eventuate. See further Janice Mueller “No ‘Dilettante Affair’: Rethinking the Experimental use Exception to Patent Infringement for Biomedical Research Tools” (2001) 76 *Washington Law Review* 6; F Bor, “Exemptions to Patent Infringement Applied to Biotechnology Research Tools” [2006] 28 *EIPR* 5.

Australian Patent Database

Furthermore online access to the Australian Patent Database could be much more user friendly in line with the US and Canada. It could also be developed in a way which allows the community to provide knowledge or comments on key patent issues such as prior art which will potentially decrease inefficiencies in the patent system such as invalid and overbroad patents. Once again the work of Richard Jefferson and Cambia and in particular their “Patent Lens Project” is leading the way on this front.

This simple step of revamping how the community intersects with the store of patent information could generate a significant amount of added productivity and is very much in line with the rationale underpinning the patent system – disclosing or sharing knowledge in the name of innovation. By way of contrast the Australian Trade Mark Databases (powered by ATMOSS) is very easy to use.

Future Action

In order for the Australian innovation system to flourish it needs to foster IP management structures that can optimise open and collaborative innovation through the sharing of knowledge in commercial and non commercial frameworks.

In particular there needs to be an immediate review of the policy frameworks of key research funding organisations and government (more generally) in relation to the way knowledge is disseminated and made available to participants in the innovation system. Worldwide we are seeing a trend towards releasing publicly funded research output to the public in an open access model. Take for example the recent decision by the Australian Bureau of Statistics to make much of their data freely available via that web rather than continuing to sell it. The message coming through is that “access is a driver for innovation”.

This trend needs to be closely examined in the Australian context. The DEST funded OAK Law Project that I am leading has done a significant amount of work in this area and should be consulted on these issues.

Furthermore the government needs to assess whether amendments to the *Copyright Act* and *Patents Act* are needed to help promote sharing of knowledge.

In relation to E research and collaborative research communities in general, immediate work needs to be done on constructing a legal framework that can be as spontaneous as the technology in place. DEST have recently funded another SII Project for which I will be Project Leader – Legal Frameworks for e-Research - which will commence this process but a much broader appreciation and analysis of these issues by research organisations needs to be undertaken.

In summary, we need to promote IP management practices that can provide optimal access to and reuse of knowledge as a platform for the innovation system. In doing so the power of open access and open dialogue within secure research communities needs to be

understood and then implemented in policy frameworks for Science and Innovation.

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Brian is a well-known intellectual property and information technology lawyer. He has published articles on Law and the Internet in Australia, the United States, Europe, Nepal, India, Canada and Japan and his latest (co-authored) books are *Cyberlaw: Cases and Materials on the Internet, Digital Intellectual Property and E Commerce* (2002); *Jurisdiction and the Internet* (2004); *Intellectual Property in Principle* (2004). Over the past five years Brian has delivered seminars on information technology and intellectual property law in Australia, Canada, New Zealand, USA, Nepal, India, Japan, Malaysia, Singapore, Norway and the Netherlands. In October 1999 Brian delivered the Seventh Annual Tenzer Lecture - Software as Discourse: The Power of Intellectual Property in Digital Architecture - at Cardozo Law School in New York. Through the first half of 2001 Brian was a Visiting Professor at Santa Clara University Law School in Silicon Valley in the USA. In January 2003 Brian delivered lectures in India and Nepal and in February 2003 was invited as part of a distinguished panel of three to debate the Theoretical Underpinning of Intellectual Property Law at University of Western Ontario in London, Canada. During 2005 Brian presented talks in Germany, India and China and was a Visiting Professor in the Oxford University Internet Institute's Summer Doctoral Program in Beijing in July 2005. He is also a Chief Investigator and Program Leader for Law in the newly

awarded ARC Centre of Excellence on Creative Industries and Innovation. Brian is also Project Leader for the DEST funded Open Access to Knowledge Law Project – OAK Law Project, looking at legal protocols for open access to the Australian research sector. His current projects include work on intellectual property issues across the areas of Copyright and the Creative Industries in China, Open Content Licensing and the Creative Commons, Free and Open Source Software, Research Use of Patents, Science Commons, e-Research, Licensing of Digital Entertainment and Anti-Circumvention Law. Brian is a Project Leader for Creative Commons in Australia. From 1998-2002 Brian was Head of the School of Law and Justice at Southern Cross University in New South Wales, Australia and in January 2002 was appointed as Head of the School of Law at QUT in Brisbane, Australia.