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Innovation: bridging the cultural gap

Business leaders are often criticised for being either risk averse and unwilling to pursue new ways of doing things or for taking too much risk and getting into untested business models. Depending on the economic cycle one or the other form of criticism takes centre stage. This is not to say that there aren't executives doing both – breaking new ground and being disciplined – at the same time. However, it can be argued that a globalised economy being reshaped by the economic resurgence of China and India is in need of more people capable of innovating beyond current business models, but who do so prudently. This piece explores the role of research training in development of such human capital.

Individuals undertaking a PhD program – or other forms of research training – need to work at the very limits of their discipline in order to contribute to its knowledge base. At the same time, their findings are subject to the methods and norms of, not only their own, but often several fields of research, as modern research work is increasingly interdisciplinary.

A researcher, over time, acquires the mindset of staring into the unknown and breaking new ground while considering each step on the basis of solid reasoning. There are not too many formal educational experiences that train for the development of such capability, a qualification currently underutilised in Australian companies which tend to employ PhD graduates in roles confined to R&D.

The case can be made that by increasingly employing research trained graduates in positions extending beyond R&D, Australian companies could strengthen the national innovation system against the competitive pressures of the global economy. This is also as PhD qualified managers are likely to show a preference for other highly educated employees thereby raising the calibre of the whole company. Indeed, in knowledge-intensive economies like Germany and Switzerland, PhD graduates are far more common in senior corporate roles. Yet for such a scenario to become commonplace in Australia, progress will be required on a number of fronts.

To prepare PhD graduates for a transition to the business world, universities have to broaden their research training to include skills that are relevant to the wider innovation system. There are examples, like the Group of Eight adopting its Future Leaders program and the Australian Technology Network with its e-Grad School initiative, that aim to include generic capabilities in research training. The scope for such broadening will be significantly enhanced if the length of the PhD program is extended as has been recommended by the National Innovation Review.

Companies that, faced with global competition, need to innovate in order to stay in the game are likely to be receptive to employing professionals trained to explore prudently new ground. This could be greatly facilitated if there were incentives in place to bridge the cultural gap currently separating the research sector and business. A step in this direction is the Researchers in Business initiative under the Federal Government's Enterprise Connect Program, which will subsidise the employment of a researcher in a business by 50% for a period of up to 12 months. A number of other internship schemes between universities and end users are under development and increased research collaboration between universities and end users will further assist in bridging the culture gap in the long-term.

However, even if both universities and the corporate sector were to come to the party, universities by broadening PhD programs and the corporate sector by employing more PhD graduates, it will be an uphill battle. The Group of Eight submission to the National Innovation Review cites OECD figures stating that Australia produces only 2.3 new PhD graduates per 100 university graduates, compared with 3.9 for Canada, 10.1 for Switzerland and 11.2 for Germany. Australia may simply not be producing enough PhD graduates for placement in the wider economy and for replenishing an ageing academic and research workforce – the latter not only an Australian problem.

In recent years universities in the West have relied on talented students from countries such as China and India – especially in science and technology disciplines – populating their PhD programs. A large number of these students used to stay after their PhD but these countries are now in the process of building their own research capacity and it is likely that their salaries could match, if not exceed, Western salaries within a decade.

Consequently, the global war for talent is bound to intensify. In this context, if Australia is to increase the level of PhD graduates in the economy, it will need to support all possible mechanisms to boost PhD student enrolments in its universities. For domestic students, this will mean more attractive stipends and mechanisms for making up lost wages while pursuing a PhD. For the latter a waiver of undergraduate HECS liabilities could be considered. Extending the scope of the R&D tax concession to encompass employment of PhD graduates would be another mechanism worthy of exploration. For international students, this will mean world class research environments, competitive stipends and availability of ready assistance with transition to the Australian workforce upon graduation.

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Also important will be streamlining of immigration processes to make Australia an attractive place for migrants who already have a PhD.

The above discussion has focussed on relevance of research training to the business world. However, the same argument holds for government and community sectors.

In the 21st century the ability to stare into the unknown and to prudently find a path where none existed before may be too valuable a skill to be left only for academics.