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University Research Commercialisation

Consultation paper

1. Mission-driven research

Mission driven research is a great way to identify and solve big problems. They attract large, cross disciplinary teams, and with appropriate industry partners will lead to rapid to efficient commercialisation.

Australia is well suited to mission driven research. Our environmental challenges alone could provide a range of suitable missions. The geographic distribution and discipline spread of our universities makes us well suited to mission driven research. Existing industry partnerships with our universities would reduce the start-up time for some projects due to ongoing relationships. Academics are already very aware of the big challenges in their broader discipline and will readily contribute these when asked.

2. Stage-gated Scheme design

Stage gating has been shown internationally to provide a suitable model for the purpose of such teams. Getting the incentives right, and monitoring success is critical.

One key aspect which needs to be considered under stage gate design is de-risking research following the path of commercialisation. Funding is a key element, especially to avoid the 'valley of death'.

There is a need for more funds both from the government and industry, dedicated to the translation process. Funds supporting proof of concept or that supports patenting, will play an important role to help research move from early stage to the investible. Further, while certain universities in Australia have been relatively more successful in commercialisation and start-ups leading to more revenues and funding, lots of potentially good research ideas are lost by universities who have been less successful at commercialisation, with low or no commercialisation expertise or resourcing.

It is important to recognise that while exciting and good ideas/ projects (so called winners) are readily funded and easily commercialised, it is the "second right" ones that are more in need of funding for commercialisation.

3. Incentives for participation

Typically, Australian universities have predominantly focussed on the key pillars of teaching, research, internationalisation (global presence, international students) amongst others. A fourth pillar of entrepreneurship has been successful in some universities to elicit more interest from the wider community and encourage partnership. Defining an entrepreneurship pillar is a necessary element to incentivise academics to reorientate some of their focus and activities.

It is important to consider the response to incentives by the academic themselves, who are the key drivers of innovative ideas leading to commercialisation. Translating academic ideas into commercialised products or services is not an academic exercise in the traditional sense. Further, based on the traditional incentives (e.g., journal papers, citation scores), academics could lean more towards basic research, rather than industry oriented research. The literature has classified academics into different segments, i.e. people who focus purely on basic research, more entrepreneurial types (pursuing commercialisation) and finally hybrid ones (believes in business science collaboration).

It is important that the university system should acknowledge this heterogeneity and target suitable people to encourage more entrepreneurial participation. Finally, a key academic incentive to participate could be based on the promotion process and outcome itself.

4. Industry-university collaboration

The industry-university collaboration can be further enhanced by addressing some of the cultural chasm that currently exists. Traditionally, universities have focused on research and teaching. Most universities lack the commercialisation expertise and critical mass to adequately progress research commercialisation as a major focus.

While universities value "innovation", industry sees value in delivering these innovations in a timely fashion to enhance efficiency and productivity. This a step change required of universities if they are to pursue commercialisation, the university was not originally designed to function like a real world corporate.

A well-established effort to address this challenge is to create tech transfer offices that combine the innovation of university with the efficiency of corporate (e.g., UniQuest from University of Queensland). Such technology transfer offices can encourage more industry-university collaboration by facilitating commercialisation. Further, UniQuest engages a hub and spoke model, as a part of which, its commercialisation staff is embedded within different faculties. This enhances the nature and quality of engagement encouraging more collaboration with industry. Different ecosystems that nurture such industry-university collaboration (examples like Lot Fourteen in Adelaide) can bridge the gap between academic and private sectors. Global companies like Amazon have recently moved into Lot Fourteen, which can, in turn, create more joint collaborative opportunities between industry and university. Government (both federal and state) can increasingly consider funding such innovation and knowledge precincts to encourage more industry-university collaboration.

5. Governance arrangements

A governance arrangement similar the Medical Research Future fund may work well for this scheme. It needs to be inclusive, sufficiently broad to encompass the range of industries and projects, but also brining in specialists to support specific selection processes.

The Commonwealth Government already successful administers numerous grant schemes for universities and industry, including the Australian Research Council, the, National Health and Medical Research Council, the Department of Education, Skills and Employment and the Department of Industry, Science, Energy and Resources. Resources, processes and expertise from these established schemes should be referred to as best practice.

This report has been approved by Professor Keitha Dunstan, Provost, Bond University.

This response is in-part based on a report titled "Factors Influencing Research Commercialisation Across Australian Universities: Lessons from the USA", by Associate Professor Rajat Roy. The report is based on interviews conducted with senior managers (e.g., CEO, Deputy Director, Pro Vice Chancellor) responsible for commercialisation. These interviews were conducted across universities (group of eight and others) based in Queensland, New South Wales, Victoria, South Australia and Western Australia.