

Professor Steve Chapman
Vice-Chancellor



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Mr Ian Blayney, MLA
Chairman
Parliament House
PERTH WA 6000

By email at: laeisc@parliament.wa.gov.au

Dear Mr Blayney

Inquiry into technological and service innovation in Western Australia

I refer to your letter dated 26 June 2016 in which you invite Edith Cowan University (ECU) to make a submission to the Inquiry into technological and service innovation in Western Australia.

I am pleased to attach ECU's submission.

If the Economics and Industry Standing Committee require further assistance please don't hesitate to contact my Executive Officer.

Yours sincerely

A handwritten signature in black ink, appearing to be 'SAC', followed by a long horizontal line extending to the right.

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Vice-Chancellor

Att.

Edith Cowan University's submission to the Economics and Industry Standing Committee: Inquiry into technological and service innovation in Western Australia

Submission prepared by:

Dr Darren Gibson, Collaboration and Innovation Manager
Office of Research and Innovation
Edith Cowan University (ECU)

Introduction

Technological and service innovations are essential to drive forward the Western Australian economy. There are several critical and essential aspects that when interlinked can inspire technology and service innovations; these include a vibrant culture of entrepreneurship, highly skilled people, relationships and collaboration between sectors.

In the USA a significant proportion of jobs and economic growth in the last 15 years has been driven by the rise of high-tech companies (e.g. Apple, Google etc.). This highlights that investment in a sector that embraces technology and service innovation can lead to the development of world recognised brands and companies. This in turn drives growth in the economy and creates jobs.

Western Australia has an opportunity to drive technology and service innovations by embracing change and providing opportunities for entrepreneurship and collaboration. It is therefore recommended that a supportive environment that allows innovation to nurture within local systems and / or with collaborating partners be provided to promote the growth in new products and services as well as to create jobs.

Key Drivers of Innovation

People, collaborative teams and productive discussions are essential to drive innovation. A workforce with the right skills that are multi-dimensional and include personnel with one or more of the following; entrepreneurial spirit, strong management skills, boundary-spanners and early adopters of technologies can drive innovation forward within a society.

Entrepreneurial spirit within the start-up community as well as established businesses must be embraced to allow the development of innovation. There has been an explosion within the global start-up space over the last 15 years that have disrupted many well-established businesses (e.g. Instagram disrupting Kodak's domination of the photography market (Kodak now deceased), Amazon disrupting Borders domination of the book & music market (Borders now deceased), Uber presently disrupting Taxis / transport etc.). Western

Australia has the potential to create new world leading innovative companies that enhance or disrupt current practices if an innovative environment and culture are developed.

There are several factors that account for the global explosion in start-ups and would be essential for the development of a local innovative environment, including the ease to start a new business, small investment opportunities, and consumers adopting the new technology faster. For established business to compete and create the same level of innovation management need to allow staff time and resources to be creative and structures need to be flexible to embrace novel practices.

Boundary-spanners can spark innovation across a range of sectors by understanding and transferring knowledge and ideas to different areas. This can be as simple as breaking down some of the communication challenges between industry and academia.

Collaboration between government, universities and business

One aspect that can practically stimulate innovation is a range of flexible funding options. Recently there has been a plethora of small innovation funding schemes, which have been a great drive for new innovations and entrepreneurship. However, there needs to be some support and education that accompanies these grants to ensure the innovative idea is fully developed.

Universities have a critical role to play in driving innovation forward by providing platforms for education, research and engagement. Several of the State universities run educational series and engagement events to provide businesses with an opportunity to learn and network (e.g. ECU Enterprise Tuesday program and the ECU Innovation Engagement Adviser service). New relationships and collaborations can form from these educational sessions and develop into research and development projects or student / staff exchanges. Within the global context, all leading innovative centres have a mix of business and universities with the support of government (e.g. Berlin-Aldershof <http://www.adlershof.de/en/homepage/>).

Research within government, universities and business can be a great catalyst for the development of new products or services. The university sector is full of blue-sky and applied research that can be developed into the next innovative product or service. However, universities are not robust to commercialise all outputs produced and it could be argued that they are not the correct commercial vehicle to do so. Consequently, universities can benefit from working closer with business to streamline the commercialisation of a range of products and services. ECU is currently developing its Easy Access Intellectual Property (IP) Policy, where we will allow business to use our IP free of charge to further develop their business or product line. This will increase engagement between business and ECU; consequently, building a level of trust between the parties. The University of New South Wales indicated that after undertaking the easy access IP route, the number of

successful ARC Linkage grants awarded to the university dramatically increased. This has great benefit to the university, Industry and Society.

Research and development underpinned by market analysis can be a critical aspect to any growing business as this allows customer needs or desires to be incorporated into any new products and services. Consequently, this increase of research and developing new products can achieve new jobs and growth. Correspondingly driving a business to new levels becoming more competitive both nationally and internationally.

Challenges

Collaboration between government, universities and business can be extremely successful (e.g. ECU has successfully partnerships with a range of entities including the City of Joondalup, WA Department of Health, Genesis Healthcare etc.) However, there are several challenges that must be overcome including:

- Proximity: The closer the entities are the more likely a stronger collaborative relationship will form. However, once the area has a reputation for strong engagement between business and universities proximity is less of a challenge.
- Communication: Good communication is essential to allow collaboration to flourish.
- Language: Simple language, with no acronyms is essential to allow all parties to understand.
- Culture: The culture within academia is to publish and to seek the true/perfect result. However, in business publishing is rarely needed and in some cases only a minimal (5%) or incremental improvement in process is all that is required for success.
- Legal: Time consuming negotiations, contracts and restrictions around intellectual property can impede collaborative working.

Universities face a range of challenges associated with financing and commercialising new technologies, products and services as this is not the main focus of a university. There are a range of challenges for universities including cost of intellectual property protection, time delays during the protection process that inhibit academic publications, and raising capital for business types of processes. If universities work in partnership with business many of these challenges faced by the university can be overcome.

Possible Models

To increase collaborative working between government, universities and business there needs to be an incentive for all parties. One of the first steps would be to map all the Western Australian innovation networks and to understand how they link into the global context. This would ensure that any new models developed enhance and add value to the local innovation ecosystem and have a global impact.

In 2014, RSM Bird Cameron compiled a list of entities adding to the current ecosystem and the Perth 2013 Start-up Ecosystem report outlined some of the connections. These two reports highlighted the networks in the start-up community but a similar activity could be undertaken for all innovation within the State.

There are many different models that could be deployed including:

1. An increase in research linkage funding would encourage collaboration.
2. Development of innovation sector clusters or ecosystems with representation from government, universities and business. Within the UK the Catapult centres are a great example of a network aimed to transform innovation and link industry with academia in specific topic areas. <https://www.catapult.org.uk/> The Centres offer working space, technologies and expertise that enable collaborative problem solving and the development of new products and services. The development of Catapult like centres in Western Australia could be productive and increase the economic factors of other sectors including agriculture and food or advanced manufacturing.
3. The Knowledge Transfer Partnerships in Europe have been successful in developing and improving businesses productivity and competitiveness via a strong knowledge base (knowledge, technology and skills). At any one time in the UK there are over 700 partnerships running. There are benefits for all parties involved. On average, the KTP Associate will produce 3.6 research projects and 2 research papers for the knowledge base partner and for every 1 Million pounds government spend the company benefits amounted to 4.25 Million pounds in net profit.
 - a. <http://ktp.innovateuk.org/>; <https://connect.innovateuk.org/web/ktp>; <http://www.bbsrc.ac.uk/innovation/access-research/knowledge-transfer-partnerships/>; <http://www.esrc.ac.uk/collaboration/knowledge-exchange/KT-partnerships.aspx>
4. In the UK clinical networks that coordinate the delivery of many academia and industry clinical studies. These networks are financially supported by the government but have a remit on driving collaboration, engagement and research. <http://www.cso.scot.nhs.uk/nrs/supporting-clinical-research/scottish-clinical-research-networks/>

The most appropriate model that could be deployed into the State is the Catapult model with the inclusion of a Knowledge Transfer Partnership program. The Catapult model would

allow university researchers and business experts to be colocated and work on real-world problems. Everyone within the space would be working in the same area (e.g. Agriculture and Food) this would allow boundary spanners to work cross-disciplinary and generate new innovative opportunities. The Government could be the catalyst for this development by providing the co-working space that includes scientific labs, key infrastructure etc.

Conclusions

In my opinion, a healthy technology and service innovation sector is essential for the growth of the State's economy. There is an opportunity for the West Australian Government to support mechanisms to encourage and enhance collaborations between university and industry to create benefits to flow into multiple channels in the community. In this way, the State can become a major player in the global innovation ecosystem.

It is therefore recommended that Catapult model proposed in this document is developed with a significant level of investment over a sustained period of time, to reduce some of risks associated with innovation, to create a skilled workforce and to develop a knowledge base. The investment could come from all parties (Government, Industry and University), but there must be a coordination office to drive the model forward. The coordination office would be essential in bringing together the different entities to maintain focus, drive and growth of the centre.

References

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