Knowledge Commercialisation Australasia

Knowledge Commercialisation Australasia (KCA) is the peak body representing organisations and individuals participating in or supporting the commercialisation of Australian public funded research. It promotes best practice in industry engagement, commercialisation and entrepreneurship. It does this through its three core activities of; expert delivery of stakeholder connections, professional development and advocacy.

KCA is a not for profit organisation and members facilitate the commercialisation of innovative research discoveries to the Australian and International community. Those discoveries strengthen the competitiveness of existing companies, generate new companies and generate significant revenues to member institutions for research.

KCA conducts its three core activities by:

- Annual conference and seminars;
- Professional development programs; and,
- Engaging with government and government departments to foster the support of commercialisation activities.

KCA has many strategic alliances with counterparts internationally via the Alliance of Technology Transfer Professionals (ATTP). KCA is a founding member of ATTP, an alliance of national technology commercialisation associations from around the globe promoting and maintaining global standards in knowledge and technology transfer. Through its membership of ATTP, KCA members can apply for Registered Technology Transfer Professional (RTTP) status. RTTP is the international professional standard for knowledge transfer and commercialisation practitioners. The RTTP framework recognises demonstrated competence and experience across the breadth of technology transfer, from intellectual property (IP) commercialisation through to university business collaboration and start-up company creation.

The following submission has been prepared on behalf of KCA by Dr Tim Boyle, PhD GAICD RTTP and Dr Erin Rayment, PhD GAICD RTTP.

Innovation Metrics Review

Overall KCA supports the approach being taken by the Innovation Metrics Review and we would welcome the following points and recommendations to be considered with respect to knowledge exchange indicators.

KCA members regularly use both the DIIS National Survey of Research Commercialisation (NSRC) and Higher Education Research Data Collection (HERDC) sources for metrics within their offices. These can either be linked to University-wide performance metrics, individual Technology Transfer Office (TTO) metrics, or TTO benchmarks to drive performance. Some of our members also collect data around the volume and number of investments into startup companies that have been created based on university IP, as well as sales of products that have resulted from commercialisation of university IP.

KCA members regularly express frustration around the current format of the NSRC, particularly around the questions posed and the variability of data from year-to-year. KCA believes that this could be

improved through better targeting of the questions, with increased clarify around what is and is not to be included. **KCA would welcome working with DIIS to improve the survey questions**.

KCA members also use licensing survey data, most commonly found in surveys such as the AUTM Licensing Activity Survey[1] to identify benchmarks in royalty rates and common terms for licensing agreements. This data is useful to KCA members when negotiating licensing agreements, particularly with international partners. This type of data is currently not captured within a broader survey such as the NSRC, but it likely to be something that KCA might investigate the feasibility of running in a small pilot survey in the next few years.

Recommendation: That the National Survey of Research Commercialisation (NSRC) be reviewed in consultation with KCA and be expanded to collecting knowledge transfer outputs such as licensing, startup and industry collaboration data.

For many TTOs, the value of their activities is linked to the broader economic benefit of upskilling local companies, creating employment within their regions and overseas, as well as the actual value of the commercialisation revenue, which might be quite a small piece of the overall story. This process is not necessarily a linear one, and includes a large number of networks and connections to ensure impact is eventually realised. Therefore, metrics that relate the innovation and commercialisation activity to the broader economic development activity, particular in the area of innovation precincts, would be welcomed. A good example of the knowledge flows and potential impact of commercialisation activity is shown below in the Impact section of *Figure 1*.

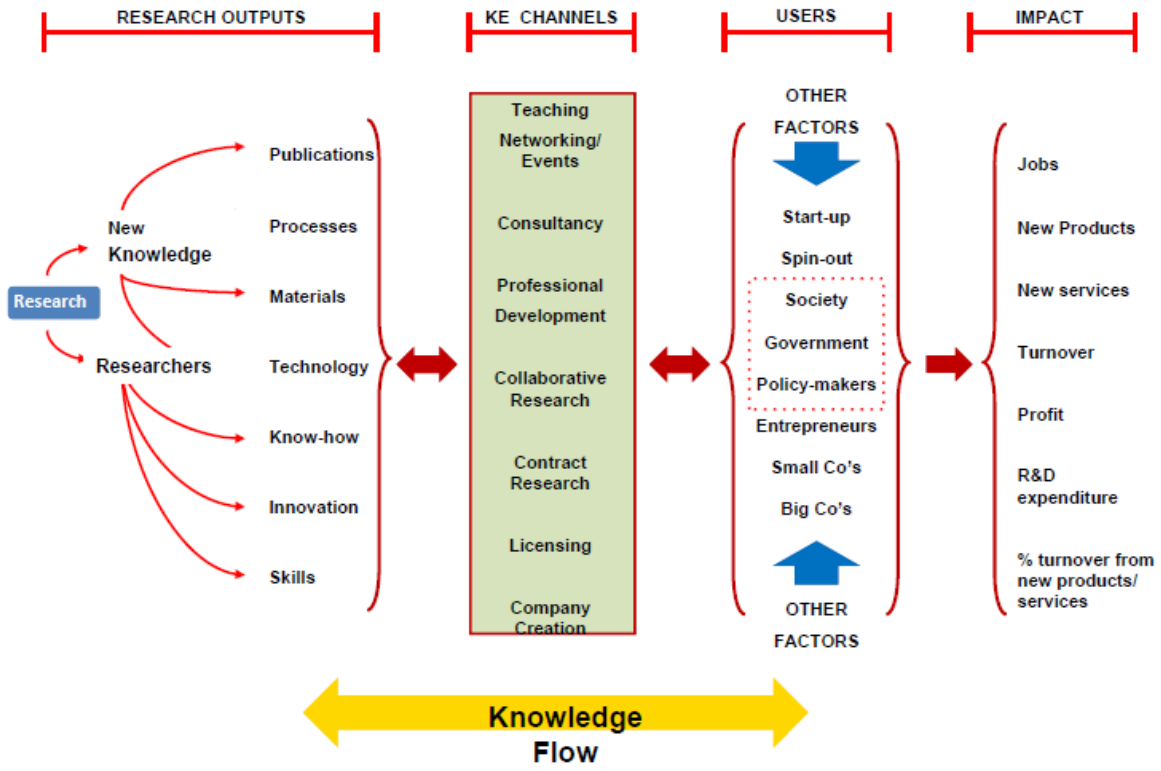

Figure 1. Knowledge flow within the knowledge exchange ecosystem. Courtesy of Dr Kevin Cullen RTTP, former KCA Vice Chair (Metrics).

[1] See https://autm.net/surveys-and-tools/surveys/licensing-survey/

Currently captured commercialisation metrics exist in knowledge flowing from research outcomes to users through knowledge exchange channels such as licensing of patents. While this flow of knowledge may return a small commercial return to the knowledge creating institution, the actual commercialisation and innovation is the development and sale of new products and services by the users of the created knowledge. The impacts recorded are all economic development indicators, which already exist. The difficulty is in how these are indicators are captured and reported by the knowledge generating institutions as the innovation is occurring at arm's length from the initial research. Currently impact exercises such as the ARC ERA uses case studies to capture this economic development activity, but these are a poor proxy for academic research impact. The challenge being that these proxy measures may be developed to make the existing flow of knowledge look good, than actually measuring the economic development and impact arising from research, which may require change. Emerging best practice from other ATTP members in capturing this data are the Knowledge Exchange Framework (KEF) being implemented in the UK, and the licensee following approach by Knowledge Transfer Ireland (KTI). This unique approach follows announcements and social media postings of licensees/recipients of Irish university developed technology and tracks economic development/impact. From initial reports presented recently at the AUTM Annual Conference, this is a highly effective approach.

Recommendation: The review examines international emerging practice on measuring economic development and impact indicators. KCA is also concerned about the development of proxy indicators that may be developed to maintain the status quo.

As mentioned above, some of our members collect data around the volume and number of investments into startup creation based on university IP, as well as sales of products that have resulted from commercialisation of university IP. Another portion of KCA members are starting to track both student-led enterprises (including the creation of, along with continual operation at 12 and 24-months post university interaction, i.e. student accelerator program), as well as metrics around innovation precinct activities. This is still an early conversation, but we expect this will develop further in the next few years. In terms of knowledge exchange metrics, KCA is currently in dialogue with partner/allied organisations, including. PraxisAuril[2] and AUTM[3], to develop a set of international knowledge exchange metrics. This metrics debate is occurring in parallel to a discussion on the professionalization of the knowledge transfer profession.

In September 2018, leading international technology transfer/knowledge exchange professionals attended an AUTM convened summit to consider professionalisation and knowledge transfer metrics. Summit attendees considered a broad range of metrics – from what is currently counted to more aspirational measures. They were asked to generate a set of measurements that they felt were meaningful, however difficult to obtain. This resulted in a broad basket of measures, which is perhaps the starting point for further consideration and refinement. In Figure 2 below is a summary of the outcomes of the summit. Indictors shown in bold are those metrics, both activities and impacts, that attendees agreed would generate the most understanding of the field and have the most resonance:

[2] See https://www.praxisauril.org.uk/
[3] See https://autm.net/

Activities
Number of licenses
Spider chart (weighted by amount of control: licenses vs. disclosures)
New venture creations
Invention disclosures
Engagement touches
Royalty income
Transactions (MTAs/CDAs, etc.)
Paper/citations worked on

Impacts
Happiness/satisfaction of int./ext. customers
Professionalism degree of peers (#CLP/RTTP)
Lives affected/improved
Reputation of Universities (academic/research organization, etc.)
Repeat/referral business
Local jobs created
Affecting Lives: Emotional/business impact stories
Culture change measurement
Measuring impact of individual inventions
Number of people impacted (intensity of impact)
GDP created
Growth in equity value of portfolio

Figure 2: Knowledge Exchange Metrics developed at the 2018 AUTM International Leadership Summit. Full report can be found linked here.

Recommendation: That through KCA as Australasia's peak professional body, The Australian innovation Metrics Taskforce work collaboratively with international peak professional bodies to develop a global standard of innovation impact metrics relating to knowledge exchange and technology transfer.

Australian universities regularly compare themselves with colleagues in the US, UK and European systems, as well as upcoming economies such as those in Asia. As the business environment in Australia has a very different composition to that found in the US and the UK, e.g. lower investment in business R&D, higher mix of SMEs to larger corporations, and lack of multinational research headquarters; it is often difficult to compare like for like. Instead, KCA believes that it is important to identify parts of high performing systems that would translate well to an Australian market. One example of this third stream funding in the UK is outlined below. Other successful schemes to prime the knowledge exchange pathways include the SATT funding model implemented in France.

Third Stream Funding for Capability and Capacity Building

A critical area of need in regards to realising the benefits of Australian Government funding for research exists around improving capability, and increasing the capacity of commercialisation offices of universities and medical research institutes. There are skills gaps across the innovation ecosystem that could be addressed with sufficient training, but that training requires funding, both to be developed and delivered, and then attended. The size of commercial teams also requires attention, with many of our Australian commercial offices being significantly under resourced, some only having a team of two people to service an entire institution around commercialisation, industry engagement and student entrepreneurship. Without training and access to funding independent of institutional funding, we will continue to see the same outputs, and without a critical mass of experienced commercialisation teams, we will not see the step change in success from our technology transfer and commercialisation offices that we all desire.

The UK addressed this same issue with the introduction of bipartisan supported third stream funding in their Higher Education Innovation Fund.[4] This fund has been in place for more than a decade, and has facilitated the development of a vibrant knowledge exchange sector in UK Higher Education Institutions, and has enabled each Institution to develop a strategy that is unique to its context and goals. There is also a vibrant practitioner led training and professional development system in the UK through PraxisAuril[5], which runs a range of professional development courses to upskill commercialisation and knowledge exchange staff in all areas from commercialisation through business development and industry engagement. This enables practitioners to progress through to recognition as a Registered Technology Transfer Professional (RTTP). RTTP was developed by the Alliance of Technology Transfer Professionals (ATTP)[6] as a globally recognised professional designation. KCA is a founding member of ATTP, and is supportive of practitioners working towards earning RTTP recognition. KCA also developed a world first skills framework for commercialisation practitioners with funding from the Professional Services Council[7] that has attracted significant interest globally. However, in order to fully utilise this framework, new courses need to be developed and delivered, and currently there are insufficient resources to do this. Further to this, many research organisations do not have the funds to support the professional development of their commercialisation practitioners.

An Australian third stream funding program for our university and federally funded research agencies would help to address these capacity and capability issues by developing a critical mass of well-trained commercialisation professionals with the skills necessary to translate the high quality basic research in the Australian research system. The Office of Innovation and Science Australia (OISA) 2030 strategy, recommended the establishment of a third funding stream to facilitate knowledge exchange – this recommendation as noted by the government.

Recommendation: That the OISA recommendation for third stream funding be advocated for again with respect to innovation metrics.

KCA members would look to the taskforce to identify how current research and innovation policies are driving economic development. In particular, it would be important to understand how any policy changes could further encourage universities and academic researchers to work together with industry and end users to create long-term impact from their research. This is particularly relevant to the third stream funding example outlined above. We would strongly support innovation policy that aligns and drives research activity with existing economic development metrics.

[4] See http://www.hefce.ac.uk/ke/heif/
[5] See https://www.praxisauril.org.uk/
[6] See http://attp.info/
[7] See https://kcaincorporated.wordpress.com/2016/09/09/world-first-career-framework-for-technology-transfer-professionals-published/