Inquiry into Future development of the NSW tertiary education sector

Organisation: 2pi software

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On behalf of 2pi Software a software engineering company operating in regional Australia (our office is on the Main St of Bega town (on the Far South Coast), we submit the following comments to the Inquiry :

(a) Tertiary education's economic development role, especially university campuses and Country University Centres (CUCs) in regional NSW;

As a regionally-located tech company, 2pi Software has direct first hand experience of the impact of skill gaps within our local community, particularly in regard to the tech/digital sector, arising from the historically sub-optimal availability of suitable educational programmes within the near region.

The traditional options available in RRR (regional/remote/rural) to individuals interested in developing their passion and interest for science, technology, engineering and maths (STEM) into a full-time career, while remaining in the local region, are quite restricted. To our knowledge, very few third-level institutes, regional or otherwise, have historically offered tech courses/qualifications to people living in lightly-populated rural and/or

remote parts of NSW. In some cases, TAFE has offered a limited range of VET-accredited courses, but it is widely recognised that the curriculum material in such programmes can lack currency and may not always reflect latest practices in what is a very fast-moving industry. Additionally, course delivery at TAFE generally can require an extended time commitment which can impinge on the high degree of flexibility needed by those juggling family and an existing full or part-time career while retaining educational aspirationality.

To address these deficits, it is our firm view that the CUC model offers one of the best approaches available to regional communities to avail of a significantly extended range of educational offerings, and in time, greater future inclusion of tech/digital based programmes - an issue about which our company has had much encouraging discussion in recent times with CUC senior personnel.

Additionally, the flexible supported learning model that CUC has developed means that large numbers of people who traditionally could not avail themselves of third-level education can achieve great learning outcomes.

CUC also distinguishes itself in the formalised mentoring of regional learners that is a core part of the model and a real value-add. The attrition-rate for those regional learners pursuing online or open university-style programmes without the aid of 'close at hand' professional mentoring and assistance is, we understand, high. CUC, in contrast, aided greatly by this facilitated mentoring approach, has in large part reversed this lamentable set of circumstances and course completion rates at their centres are comparable with those of on-campus in person programmes at the more traditional universities.

Globally, it is clear from the stellar performance of players in the tech/digital sector in the last 20 years that STEM abilities are a key driver for economic development. And it may not be commonly known, but as much as 30% of careers in tech companies, do not require qualifications in a tech discipline (e.g. HR, Finance, Legal). Overall communities benefiting from the presence of locally-based tech companies can enjoy the high-skill careers and generous remuneration that are commonly a feature of this dynamic industry sector. Unfortunately, in regional Australia, incidences of such locally-based tech companies are few and far between. It is only by greater adoption of tailored regional education models such as that offered by CUC, that this disparity can start to be addressed.

Having spoken to and worked with the senior team at CUC over many years, it became clear to 2pi Software that the CUC vision and drive to change outcomes for regional people across the state, and Australia more broadly, is unique and transformative. As a result, in 2018, 2pi Software signed a formal Memorandum of Understanding (MOU) agreement with CUC for the creation and delivery of a series of Tech Micro-credentials

(short non-accredited training courses) designed to boost professional development opportunities in high-skill areas for regional businesses and organisations.

(e) Levels of integration of the tertiary education sector with industry;

Having launched a software business in the Bega Valley in 2012 and spent enormous effort seeking to link the business, as it grew, with educational activities at near region third-level institutes, it is probably fair to say that there is much more that could be done in terms of establishing mutually beneficial engagement between industry and these learning providers, particularly in regard to technology-based businesses in country Australia.

In respect of the established third-level institutes with a presence in regional Australia, it may be fair and reasonable to say that their course offerings are 'demand led'. For this reason, the trades and vocational courses can dominate the landscape when it comes to availability of higher education in regional towns. The courses available therefore generally reflect immediate local community and industry needs. The dilemma, however, for businesses like ours is that new offerings in response to changes in demographics, industry transition effects (e.g. changes in local employment trends), or updates that reflect the needs of digital remote workers which have in recent decades become more commonplace in regional areas, can be slow to appear in the course catalogues.

It is our strongly-held view that all educational institutions operating in regional Australia should look to and enthusiastically embrace non-accredited short course offerings, commonly known as 'micro-credentials', as a means of altering their programmes to be more reflective of changing local industry patterns. Micro-credentials can represent high value skills learning pathways, and in the case of digital or tech learning, there are, we feel, advantages when these courses are non-accredited (i.e. they do not map, or seek to map, to the Australian Quality Framework) - in removing AQF curriculum compliance overhead the cost and complexity of course delivery is significantly eased leaving educational providers free to dedicate more resources to the most critical aspects of skills learning. The reduced costs involved in running non-accredited courses can also free providers to increase the range of skills learning opportunities provided.

Categorically, our comments in regard to the value of 'freedom from AQF' are ostensibly based on our lived experience of trying to upskill local community members in tech/digital disciplines. We DO NOT make such claims in regard to any other industry sector and tech/digital is the only field for which we confidently pass comment.

Flexibility and willingness to consider industry developed micro-credentials has been a core facet of the relationship between 2pi Software and CUC, and has led to the signing of an MOU between our respective organisations seeking to promote and encourage professional development. A full programme of coding and cloud computing linked tech courses is a planned next phase in the continuation of our collaboration.

In speaking on behalf of regional industry, another matter warranting consideration is that third-level institutes might seek to connect more closely, and socially, to their near communities, and adopt a broader view of learning. Specifically, it could be reasonably posited that their campuses are underused as social assets - it can be difficult for locally-based community organisations or special interest groups with a skills/learning focus, to run events on premise at these locations - there are often many paperwork overheads as well as discouragements attributed to Work Health and Safety, and this can in certain circumstances portray these much-valued centres of learning as being somewhat detached from the people they seek to serve. It possibly also represents a missed promotional and participatory opportunity - more 'foot traffic' throughout the facility buildings and grounds is an obvious and low cost means of increasing awareness of course offerings amongst target demographic groups. It may be that insurance and duty of care matters are a key factor in engendering this set of circumstances and that ultimately regulation or legislation change is required to ameliorate the issue.

(i) The recent experience with online learning and lessons for the further development of alternative models of tertiary education service delivery;

2pi Software completed a comprehensive Online Tech Micro-credentials programme through the first 6 months of 2020. These modules address a series of much-needed digital/tech skills for industries with a strong foothold in regional Australia (e.g. Agriculture, Energy, Local Government, Tourism, Mining) - the skills taught are considered to be 'cross-sector' and easily transferable between industries. The courses delivered, through entirely online means included :-

- Cloud Computing
- Coding
- Web Design
- Agricultural Technology (AgTech)
- Artificial Intelligence (Machine Learning).

Our conclusions are that ultimately, for modern digital skills training in regional Australia, an online micro-credentials-based approach represents the optimal core mechanism by which tech sector enterprises can nurture local tech talent and start to generate the exponential growth in new high-skill jobs that would have an outsize positive impact on the economic well-being of regional districts.

In terms of differences between online and face to face delivery there are a number of tips and tricks that our team delivering the online Tech Micro-Credentials learned to apply early in the process which assisted greatly. This included automated handling of many of the promotional aspects of engaging and communicating with the target audience (via newsletters, social media, bulk SMS), and providing as much guidance ahead of time (whether as written material, or short video 'how tos') in the days and weeks prior to participating in the course.

Issues with Broadband connectivity continue to remain a challenge for online educational delivery in more remote locations, but thanks to the great advocacy work of outstanding community volunteer groups like BIRRR (Better Internet for Regional Rural Remote - birrraus.com) and Federal Government ((Dept of Infrastructure, Transport, Regional Development & Communication) initiatives such as the soon to commence Digital Tech Hub, this situation is being gradually addressed and some of the great educational promise of NBN connectivity can be even more fully realised.

Overall, 2pi Software, as a private enterprise focussed on technology (a sector that could be deemed 'non-traditional' in the context of regional Australia) and needing to recruit skilled local people to grow the business, the existing mechanisms offered by the long-established third-level providers, probably do not meet our needs. For this reason, we will continue to deliver, on a very low-cost basis, regular online tech micro-credentials, ostensibly targeting people in our local rural/remote community with the specific aim of recruiting potential employees for our business. Online learning is therefore the primary method by which our organization will upskill suitable candidates to help take the business forward.

Additionally, pairing Tech Micro-credential training with educator mentoring at places such as the CUC campus network, and with their links to industry expert advisors, the gaps in access to skilled training between metro and regional areas can be materially closed.

Based on our relationship with CUC in recent years, this online micro-credentials learning approach overlaps with many of the ideas that that organisation has successfully executed to transform, in a quite dramatic way, the educational possibilities for regional people. We look forward to building on the initial collaborative work done with CUC to date and further underlining the importance of this fresh approach which will positively impact so many lives.