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UNIVERSITY GOVERNANCE AND REGULATIONS FORUM

**DEVELOPING A SKILLED AND KNOWLEDGEABLE WORKFORCE FOR A
POST-INDUSTRIAL LANDSCAPE**

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VC'S SPEAKING NOTES

Ladies and gentlemen, allow me to begin by acknowledging the traditional owners of this land, the Cadigal of the Eora nation. I also pay my respects to their elders past and present.

In turning to the topic of my address today - 'Developing a Skilled and Knowledgeable Workforce for a Post-Industrial Landscape' - I am compelled to draw on the longstanding truism, 'preparation is everything'. But, as I will illustrate, preparation alone is not enough.

In a world where disruption pervades nearly every aspect of life, preparation must be complemented by agility, adaptability and most importantly, resilience.

The recent Olympics will be remembered for lots of reasons. The feats of Michael Phelps and Usain Bolt are very difficult to surpass as is the wonderful camaraderie displayed faltering athletes Nikki Hamblin and Abbey D'Agostino.

For me, however, the remarkable spectacle of English runner Mo Farah, who fell in the 10,000 metres only to go on to win the gruelling race, stands apart.

Afterwards, when quizzed as to what motivated him, Farah cited reasons I think are common to many of us when faced with adversity. He thought of his family. He didn't want to let people down. "It made me emotional", he remarked candidly.

So how did he fight his way back from what can only be described as 'disruption' writ-large?

Yes, preparation was important, but it was: his agility; his capacity to adapt to a drastic deviation in his plans; his resilience that literally got him over the line.

As Farah recalls, – and I quote – “I was thinking, it’s okay, we’ve still got a long way to go.” It’s all about rhythm, he added. “I managed to get back into the rhythm. Each lap, I got more into my rhythm.”

I don’t want to read too much into the semantics, but in reflecting on Farah’s comments it’s interesting that “the” rhythm he initially describes over time becomes “my” or *his* rhythm. He doesn’t ignore disruption’s arrhythmia, he works through it until he makes it his own.

I want to assert to you all here today that for universities, for industry, for government, and very importantly, for graduates, preparation remains the key to succeeding in a disrupted era. But I’m not talking about ‘preparation’ as it is traditionally understood, as a prefix to success, or as a static or ‘standing-start’ mechanism. When it comes to disruption I suggest we need to look at preparation in an entirely different way.

Preparation must be reanimated as a kinetic, moving and ‘live’ element of success. It cannot be confined to the past tense. We must be prepared to a level that we are able to adjust – on the run – to the constantly changing rhythm of disruption. We must, as Farah did so brilliantly, make it our rhythm.

Turning our focus towards universities: how do we prepare students for a world where the notion of a linear career trajectory – a vocation – is a relic?

In their 2015 report, *The New Work Order*, the Foundation for Young Australians predicted that people entering the workforce today can expect, on average, five career changes and 17 different jobs over the course of their working lives. According to the Foundation, project-based collaboration will be the dominant mode of employment, seeing workers engaged in “many jobs, with many employers, often at the same time.”

Preparing for these changes in rhythm, is a task universities are already engaged in. Teaching is evolving. For example, it is not a given these days that a lecture will be delivered in a lecture theatre, or even in traditional lecture format.

Device-enabled learning and technology-infused teaching is not only changing the way knowledge is conveyed it is shaping the way it is received. The very same “project-based collaboration” mode of work the Foundation refer to is happening among Australian university students. Often of their own volition, students are adopting a small-teams, collaborative approach when engaging with technology augmented curricula. The rhythms of future- work are already apparent.

These changes to the way students learn and engage confirm that the disruption wave is not a distant rumble, it is upon us and Australian universities are at the vanguard. This is what we do. It is what we’ve always done.

Foundational research in, for example, quantum computing at UNSW, gravitational wave detection at Gingin by a consortium of five Australian

universities, positions our higher education institutions at the core of many of the technologies triggering disruption. We are not passengers, we are driving the change, and we are doing so on a globally impacting scale.

These are incredible inroads that I have discussed at length in other forums, most notably at the National Press Club, so I won't go into further detail here. These examples confirm that the teaching and research platforms and experiences universities are providing are in a constant state of progressive evolution.

I can't let my discussion of this evolution pass, however without briefly addressing some counter points. I must say that in reading the musings of some critics of late you could be forgiven for thinking the Australian higher education system is a retrograde and irrelevant monolith on the brink of collapse.

According to the Herald's, Tony Featherstone, "Universities that resemble overpriced degree factories are exploiting their social licence." Similarly, in a recent piece for the Financial Review, Frank Carrigan senior lecturer in Law at Macquarie, alluded to a factory of "broken dreams", attacking the sector for "producing nearly 15,000 law graduates each year in a market of 66,000 solicitors". The Group of Eight's, Vicki Thompson later echoed the "broken dreams" remark.

Carrigan denounced the idea that studying law honed problem solving and critical thinking skills, observing that "artists and thinkers such as Flaubert, Galsworthy, Harper Lee, Marx and Maupassant ditched law before graduating – or hung on to the bitter end and never practiced."

The points Carrigan raises with regard to what may crudely be called "oversupply" are not without merit and they should certainly be looked at with regard to the composition, focus and objectives of degree programs in highly specialist fields; yet it is a mistake to discount the proven value of such programs beyond a vocational lens.

Indeed, the very fact that the "artists and thinkers" Carrigan describes went on to have catalytic impacts in their respective pursuits speaks to the universality of critical thinking that lies at the heart of intellectual paradigms like law.

As to dropping-out, that too is a feature of course reform that I must address, but not as an automatic marker of failure on the part of universities or students; in fact, quite the opposite.

Some of this country's newest and most successful entrepreneurs have had what may be respectfully described as fragmented or incomplete encounters with universities.

Announcing Australian software firm, Atlassian's raising of "\$60 million (US) after selling a minority stake to a large US venture capital firm", a few years ago, the Herald ran with the headline, "From Uni dropouts to software magnates".

Atlassian co-founders Scott Farquar and Mike Cannon-Brookes met at UNSW while studying science and IT. As the well-told story goes, they both dropped out of university to join the start-up world. Their success of course, is the stuff that probably

fuels the imagination of incoming science and IT students across the country. I can assure you, those dreams are far from “broken” by path the Atlassian founders took. Rather, they speak to the crucial foundational skills their encounter with university education afforded them.

Returning to the “degree factory” argument, I want to put to you that the “drop-out” feature of the Atlassian story – and similar narratives – should not be seen as a shortcoming on the part of universities. In fact, I would argue it’s a success. We just don’t see it that way; at least, not yet.

What if we looked at degrees in a different way, a way that mirrored the changing rhythms of disruption? What if you got from a particular degree program what you needed, then moved on to something else, something that immersed you in full-blown entrepreneurialism yet allowed you to draw

on the foundational expertise and resources of a university? Australian universities can and are accommodating and enabling this very scenario across the country, today. I’ll come back to this at the close of my talk to you today but first allow me to address the very important structural considerations our engagement with industry relies on.

Part of the task in preparing industry-ready, and importantly, disruption- attuned graduates comes down to fine-tuning. But this is not a new phenomenon. It’s a characteristic of quality control.

Curriculum reform in the interests of relevance and rigour is rightly a never- ending process, one that is grounded in foundational research but informed by the world outside. Flaws at the curriculum level are certainly not a reason to abandon ship – in the manner some critics have been suggesting – nor are these flaws necessarily portents to broken dreams. They are part of an ongoing and constantly evolving education ecosystem.

As important as it is, however, I would argue that disruption of the scale we’re in the midst of requires more than just curriculum reform.

As Monash, Vice-Chancellor, Margaret Gardner recently observed in the Australian, universities must – and I quote – “ensure that learning prepares students for the unseen and inexplicable, and nurtures a life and identity not too inextricably linked to [the] profession or degree that they first chose.” End quote.

Professor Garner’s comments align remarkably well with the challenge I mentioned earlier related to a future defined by multiple career changes and a collaborative project-based ventures.

Importantly, Professor Gardner also observes we are talking about a long game. Allow me to quote her again: “Concerns about short-term employment prospects for graduates”, she warns, “threaten to distract us from future needs.” As she rightly adds, “We cannot clearly see the shapes of the professions of the future”. That is why, she concludes, we “need to allow graduates to learn and to build their capabilities in a more flexible, differentiated and problem solving environment.” End quote.

Monash, along with the broad sweep of Australia's universities have already begun the process of reform and adaptation necessary to contend with an uncertain future Professor Gardner describes. For example, the increasing range of virtual pharmacology, medicine, nursing, midwifery and allied health programs enabled and delivered via technology platforms is encouraging inter-disciplinary learning and collaboration between STEM and health related paradigms.

These collaborations significantly enrich the skills-range, interactive, applied and social-learning capacity of graduates. All without jettisoning the longstanding academic principals of respective disciplines. This is happening right now in Australian universities.

Importantly, industry is playing its part, with encouragement from Government. For example, the Commonwealth's, National Innovation and Science Agenda has introduced a range of initiatives designed to heighten collaboration between universities and industry. Similarly, Labor has developed a remarkably detailed policy statement with regard to higher education and research that reflects its centrality to the nation's prosperity in the decades ahead.

Of course, we mustn't forget that these policy progressions – although significant – come on the back of a history of sustained, longterm partnerships between our public research institutions and industry. What's new here is the sense of urgency “events” – in the Harold Macmillon sense of the word – have brought upon us.

Many of the inroads occurring with regard to collaboration are ironically, difficult to map; precisely because they rely on a level of diffusion. By diffusion I mean that universities and industry are working very well in problem solving spaces where the modalities and motivations that separate them are forgone in the interests of simply addressing the problem. This is an entirely logical approach.

University-industry incubators are an excellent example of what's possible through diffusion. Within 15 to 20 minutes of this venue we have Sydney University's Incubate, UTS's Hatchery, Macquarie's Innovation District, and the FounderLab at UNSW.

I can testify, as Vice-Chancellor of Western Sydney University that innovation is alive and well in the suburbs too. Western's, LaunchPad startup incubator and SME accelerator – with sites at Parramatta, Liverpool and Penrith – is bringing researchers, industry and students together in a highly collaborative environment that foregrounds common challenges ahead of disparate agendas.

Through embedded learning, project-based immersion, Hacks, Meetups and remote interface with incubators, Australia's university students are engaged in industry-rich environs well before they reach the end-point of their respective degree programs. Crucially, these examples show that students can be career-ready before they graduate. Not only that, the broad range of entrepreneurial skills they derive from this in-depth and diverse level of industry-immersion means they can be job-generators and not just job-takers.

If, as in the Atlassian case, career preparedness doesn't require the completion of a full degree program then we shouldn't view that as a failure, rather an opportunity to change our rhythm. Incubators are just one example of our growing capacity to do so.

In closing, I'm drawn to a statement highly-regard business process and strategy consultant, Martin Stewart-Weeks made at a recent forum on the imperative for organisations to change and adapt. Reflecting on his time with CISCO, Martin talked about how circuitry design taught him and his colleagues a truism he has revisited time and time again throughout his career. "In circuitry", he observed, "if there is an obstacle, technology will route around it." Very true.

The challenge for universities, industry and government is not to be static, not to be inflexible, not to be the obstacle. To fail in that regard, is to lose not only our rhythm, but our opportunity to win.

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