VTA State Conference 2011
Transcript: Mary O'Kane

Thank you for inviting me. I particularly like your twin themes of innovation and equity because I think that ultimately that is the key to a successful future for Australia. Before talking, I thought I should add to my bio in light of what Michael was saying. I heard the end of his talk. I should declare that I was a student politician - hopefully not a shrill one - and that I worked at UTS in computing, twice in fact. We thought we had the best computer course in the country, but clearly not all people were suited to it!

I should also mention that as a child, when Michael was earning six pounds a week, I was the eldest daughter of a TAFE principal. My father used to think that the idea of a holiday was to take his children around the country, but he would drive through country towns visiting TAFE principals. If these people were at home they would have to open their TAFE for this visitor! So I saw a lot of your TAFEs.

For the review, we went around the table - we have been going for two months and had had lots of presentations, so it was clear that the topic was a large one and that for a report would be a challenge - so we got everyone to write on paper what the biggest issue was to ensuring a good innovation culture in this country. When we opened the paper, everyone had written education or human capital or some variation on that. It was interesting to see that everyone had said that and the more that we thought about it, the more it became one of the big themes of the review. So I want to talk a bit to that topic today.

Firstly, when we talk about innovation, what is it? There is the famous and quirky definition of Schumpeter, the famous innovation economist, who talks about the structure. You can think of it when you can't sleep at night - but a more pragmatic description is that innovation is a successful expectation of new ideas. That is a good working definition.

Why bother with innovation? This is very important in Australia at this time. Innovation is considered vital to productivity growth and productivity growth causes what drives the long-term effect of the economy. As I said, we held a review in 2008 - why was it held in 2008? For a couple of reasons. The new government had just come into power, the Rudd government. Like several other leading OECD countries, we noticed a phenomenon, which was particularly bad in our case. From about 2002, Australia went from growing substantially faster in terms of productivity growth to growing substantially slower than the OECD average. Why that was particularly happening, and particularly bad, was for a number of reasons. Firstly, growth was so spectacular in the 1990s - well, actually in the 1980s and 1990s. In the 1980s it was because of major economic reforms because of the Hawke government. We opened the economy, we had the accord, we dealt with a lot of protectionism, we floated the dollar. Australia was particularly good at taking advantage of new productivity growth and we slipped.

We have done well in trade things like, as we all know, education. We are a wealthy country, with the seventh highest average income per person. Some of the factors that are known to

be necessary to innovation, and innovation is necessary to productivity growth, seems to be in a worrying rate. It has been, in real terms, it has been declining. Across most levels of education it has been declining. We all know about the declining rates of educational attainment. It is hard to measure but there is one way to measure it, the OECTD results that are done every second year. Numeracy, and science are going backwards. Funding in research has declined since 1995. It was addressed during the GFC stimulus package which was the government's response to the GFC. While very well come this does not address some of the factors.

It takes 22,000 Australians to generate one patent, as opposed to 3000 people from the USA. We are doing better than some of our neighbours. We are known to be good at being a knowledgeable society but we do not turn them into patents. Our expenditure on research and innovation has expanded over the last 20 years. Are we coming up on the entrepreneurialship? Not sure? It is something where TAFE is vital. It is offered to do with the development of firms, and people go to TAFE more than they are thinking about a firm based kind of activity.

What I would like to do is talk about the factors we need business. Marketing and branding. That is what constitutes the bulk of innovation for successful innovation.

The underpinning of factors for successful innovation. Human capital was seen as the number one issue. There are also other innovation reviews around the world at this time. There is a very good one in the UK. Innovation Nation. It sounds like something Paul Keating dreamt up!

You need to think of the innovation system as a system. We need to think of business, education institutions, of events and all their subcomponents as components of our innovation system and how they link. It is fine to have healthy TAFEs and schools and governments and firms, but unless there is - unless the stock of knowledge is flying between productively, we don't get anywhere. We need to think of it as a connected system with things flowing - knowledge and ideas flowing.

At a subnational level, we really need to think about state innovation systems. In New South Wales we have a new government as well as you, and I just had an email from one of your colleagues in the education part of the staff, saying that some of this has been the gap in the press today.

Onto a very important message, one I think depends on what we're talking about, the bulk of education is non-technical. It is estimated the technical part, the patents and so on, is about 10%. The rest of it is non-technical. The way we change doing business, the way we change doing systems that support our systems.

The working innovation is a trickier issue. All parts are important. In teaching students it is very important to get the message home that non-technical innovation is very important, just as technical innovation is as well. Customer driven innovation. It is great to have

innovation and develop new things, but if there is no customer base or if you cannot develop one what is the purpose in productivity terms?

I think this is a problem for Australia, we are not particularly good at understanding our markets. We have a small economy, and we don't always have the easy ways of assessing the global market for a new product or service. I think that is a challenge. How do we teach our students to assess local markets in directories in areas of activity? This is an important problem for an economy - our export economy is about to mining and specialist areas, the internal economy is a services-based economy. We are really good at selling services to each other, in Australia, but we're not very good at exporting our services. That is one of the biggest productivity jobs we have. If we could export our services.

The next thing that is important to talk about is the focus on the firm. It is ultimately the firm's that make money. While we want innovation across the innovation system, the firm's are aware of the money is made. We get socialised money through the tax system which supports the rest of the system. As we have healthy firms or the whole thing crumbles. We need those firms to be affirmative and productive. They need to be able to absorb new technologies and keep moving on. They need to scan all the innovations in the world and figure out if we can use them. Students can be very important to their firms, they are sending the message is that they are learning. I think a useful thing that the federal government does a good job with helping us selling things overseas.

We need to develop systems that are about sharing. One of the great paradoxes about sharing, often we do better by competing and collaborating with our competitors. But as the old idea of competition, and very important in an innovation system.

Related to open innovations systems is the important problem of access to information. This can be a challenge to the public sector. Sometimes this information must be kept private, especially personal information. Much of the information can be made public, however. The federal government has been putting a lot of attention about how to make this kind of information public. One big question is, should we make all our mapping data for free, or not?

Google Maps thinks it should be free. It is an interesting discussion. Collaboration is tremendously important. The ability to collaborate. I will talk about that a little bit later. Ways to learn about collaboration is important and to understand that it is vital for the public sector. We need innovation in private sectors and public sectors. Smart regulation is important. Getting the red tape down, getting innovation that is fit for purpose on various things. We need good metrics and data to try and find whether we can measure what we are doing to see if there are improvements in some of the seemingly soft areas of this thing. I will come back to metrics.

Sometimes challenge systems have work really well in other innovation systems. The great example is the USA. In response to the Cold War they set up, under the Department of Defence, an organisation which was called The Defence Projects Research Agency. It would

put out challenges. It had been sanitised for allowing people from non-defence applications to work on. One of the challenges that was repeated any time since machine translation was getting computers to translate text from one language to another. They would get groups, often from universities or firms, who would respond and be allowed to start on the challenge, after about three years they would be measured every week. Only the top three would be allowed to get on with the challenge, hopefully eventually one would meet the challenge. That system is the system that gave us the microwave, and the internet etc. The Vice Chancellor of the University of New South Wales always says that he thinks the biggest part of innovation productivity is getting real competition going. I won't ask you who watched the Royal wedding on Friday night? You might have seen a bit about it, but what a great example of an entrepreneurial opportunity.

Emphasising a couple of points from before. These cartoons are from Crikey. The Hills Hoist is a good example of innovation. The Hills Company has now moved on but it was very clever. The point is, it is not just about invention. I'm not going to go through the whole talk that Jonathon West went through, but he gave some great talks in the area about what innovation is not. He tries to deal with some myths that are common in Australia. One is that we are good at invention and bad at commercialisation. A lot of his debunking of the myths is based on a wonderful innovation survey done in Tasmania. It suggests that Tasmania is more innovative than many people had thought.

Australians are actually good at invention. But it is not a linear process. We can do a lot more of non-technical activities. Often by improving existing products and services. Often innovation is change in low-tech arrangements and can be relatively small changes but going into a niche. It is a great myth, and common in the universities that innovation is just about technology. It is not. And it's not about being creative it is about being clever and smart and knowing where opportunity is and persisting with it. He talks in universities because the greatest things that they do, as well as TAFE, is to educate people to high levels and to get them interested in the problems associated with innovation and productivity.

If we look at our economy, the things that we need to focus on are helping firms go global, helping them assess their markets, link them to knowledge sources, make them customer centric, and take advantage of the big challenges we face the cause they are offered the opportunity is to innovation. Energy reform and climate change are some of the big opportunities here for our students.

Now I want to talk about some of the generic skills for innovation. This is one of the most important thing is for our activities. If we want our students to be good at innovation there are some generic skills we need to give them which are not easy things to teach directly. They need to be taught somewhat indirectly. Competition - they need to be good and the people of opposition. They need to be not people of change. They need to learn resilience and know that you need to take risks and have a tolerance of failure and learn to fail fast and come out of it. Australia is a bit weak on tolerance for failure. In that sense, persistence is important. Don't come at things from different ways and keep at a good idea. Learning to refrain from issues and look at them from different angles, look at them through the eyes of

the customer. Be good at the medications and selling and marketing. Needing to be able to spot opportunities and melding the old and new. Often old ideas from the past can be brought back. You need to be willing to dredge back to the old. Symbolic reasoning can be important to the ability to encapsulate things in a high take on issues. Also, collaboration.

You can expand on any of these areas but I will expand on one. Collaboration. Good collaboration - such as the area of joint ventures in mining, is interesting to look at. Part of good collaboration is a shared vision and a sense of purpose. You need to align interests which need good communication to work out what the interests are, because people don't often put them on the tables straight away. Good will is not enough. You need to understand your partner even if you don't like them. It is about communication. You need to bring joint ventures to a close and wind things up. We are extraordinarily good at hollow communication but you need to avoid that. Often collaborations happen to get a pot of money and then you have seven years to deliver on something and nobody has done the rest of it.

What should we do as educators? We should lead by example. We need to make our TAFEs and universities innovative places. We need to look at our curriculum and see if we can get those generic skills in, and not just in particular subjects but right through all the learning opportunities. Innovation case studies are good - talk about Carol Middleton. People can show pictures of the Royal wedding! Invite entrepreneurs to give talks. Look at how they offer joint things like Babson College in the US. Think about prizes for innovation, challenges, and celebrating entrepreneurial alumni. What sort of metrics can we use to see if we are doing our education tasks well? How do we test it? Are our students being good entrepreneurs? I don't have a simple answer. I am very happy to answer questions and follow-up if you want to write to me.

Do we have time for questions?

QUESTION FROM FLOOR:
How competitive is the need to make the labour market? In some Asian countries you see quite a bit of poverty. That can be a powerful incentive for innovation. What extreme steps do you have to go to?

MARY O'KANE:
You see a fair bit of this in India. But I don't think we should go there. We need to think that as a country we have a lot of SMEs. There are a lot of smaller companies. I think the answer is encouraging people to think of building SMEs or building up existing ones and telling people that they have the opportunity to set up their own firm or section of a firm. We need to be innovative and tolerant of innovation around us. I think more start-ups is what we should be encouraging and I think we don't want to go to the extremes. Your question is hard to answer.

It is almost as though we lose the incentive. The US stays above us. Maybe it is more cultural and understanding the notion of being the Wild West country. We have to somehow do it

culturally and I think that will come down to what we do as educators. We should think about your question for a long time.

QUESTION FROM THE FLOOR:
One of the most interesting things about your review was the links between schools and research. It is interesting working in that kind of institution that there is a commercialisation aspect that I find strange. We don't necessarily have the entrepreneurial or commercial skills with the students. We have to look at the flow of information, but I'm concerned that that is trying to make us all the same and not looking at our specific points of difference and our specific specialisms and it is just about communication channels.

MARY O'KANE:
I know what you are saying. We phrase things badly because we were not trying to not emphasise the differences. I would like to think we contribute. Back to the commercialisation point, while we would like to encourage a Ph.D. student to be entrepreneurial, often the best way to teach them that is to go to other parts of the system not as Ph.D. student but...

When I was in Adelaide, there were many students who went through and did arts degrees and then the cool thing to do was go to Regency TAFE and hospitality. Cordon Bleu had a course gastronomy in four shows around the world and the history department of Adelaide used to teach it. We had a tremendous trade of people running between all of these organisations. The students moved around. I used to find those pathways fascinating. It is back to the student politician question. Students are often very clever even if they are a bit shrill, they often know what they are doing.