The Digital Economy and Education

This digital revolution that the Government wants to tap into cannot happen without addressing our woefully inadequate education. In Australia we have a very polarised education system after HSC, you either go to university or you take up an apprenticeship there is no 'in-between'. If you are not university material and you do not want to be an apprentice then you are left in limbo with very few options. Youth unemployment is twice the national average and in some areas of the country is as high as 28%. We have a new lost generation it is the young people leaving school not only with no jobs available but even worse no prospects.

What is the answer? Before I get into the specifics I would like to point to Singapore in particular as a specific example. They are a country Island that has no natural resources and approximately 4 million people. Even their water has to be imported from Malaysia and Indonesia. How do you make a success of a country with no natural resources and 4 million people? First you have a leader who is not only a visionary but has a plan. Lee Kwan Yew had 3 decades of rule in which he brought Singapore from a third world country to a first world. His primary philosophy was based on education. Anyone can chop down a tree and make furniture to sell at a modest profit but you need a PhD to take a grain of sand and turn it into a silicon chip and make a massive profit. Every Singaporean is brought up to believe their future is in going as far as they can with their education. To this end they have created an in-between system for those not able to go to university and do not want to be an apprentice. They are called Polytechnics and there are five in Singapore. They provide a more industry-oriented education, the average age is between 18 and 21 (in-betweeners) many of which are 'industry ready' on graduation and go one to become productive employees in industries such as electrical and electronic engineering, business studies, accountancy, tourism, hospitality management, mass communications, digital media and biotechnology.

We have singularly failed these 'in betweeners'. TAFE was our attempt at this but TAFE has become a place where you go to get the academic qualification for your apprenticeship, offering little if nothing for other disciplines. Also successive governments have reduced its funding of TAFE to the point where TAFE is in danger of sinking into the abyss of apathy and political twilight.

These Polytechnics or Technical colleges are an integral part of the education systems in Germany, UK and Holland just to mention a few. They have been part of the education system of these countries for a very long time and are deliberately aim at the 'in-betweeners'.

We are ignoring the 'in-betweeners' who are a massive talented workforce, which these other countries have recognised and spent time and resources nurturing them into becoming a productive and talented workforce.

Why do we ignore the 'in-betweeners'? This country has been very successful 'living' off the land such things as resources, mining, and agriculture. The education system was geared to this industry and has not changed substantially since. The 'in-betweeners' are a casualty of this system. This 'old system' has totally lost touch

with the STEM industries such as Bioengineering, Mechatronics, Robotics, Computer Science, AI, Aeronautical Engineering, just to mention a few.

In my view what we need to do to become a technologically sophisticated country

The thrust has to be two fold:

1 Address the shortage of skilled Engineers by providing for the 'in-betweeners' in the form of Polytechnics and this education must be made available after HSC at a much reduced rate then is presently available in the form of offered by Universities and TAFE. This education must be attractive for the young people, so attachments to industry leaders during the period of education, which should be three years fulltime, and with and industry qualification at the end.

This brings me to the second thrust:

2 Use tax incentives to attract the 'right' types of industry, this is how Singapore became one of the worlds leading Technology nations. Offer them land in the regional areas where unemployment is the worst. Strategise these offers with centers of education and the right type of work force ie educated in the correct disciplines.

Yes both strategies above require the spending of large amounts of money but if we want a share of the $250 Billion pie we need to invest in people and infrastructure. We should have our own 'Silicon Valley'

The question we have to ask ourselves is "what sort of a country do we want to be or even can be in the future"? Will we remain merely a mining, agricultural based country, which has been very successful in the past or will we need to evolve into a more industrial/technology-oriented country?

My view is that we cannot hang onto the past and we must look for a future that is sustainable and self-sufficient. We need to create a workforce that can adapt to a variable and a technological future. We need to create an education system for the in-betweeners' and concentrate on STEM subjects. There is a myriad of ways to do this, one of the simpler ways is to upgrade TAFE course to include all these extra subjects and qualifications, or just start a whole new set of Polytechnics.

There is also a valuable resource, which the Governments (States and Federal) have completely missed. Those people in their fifties and sixties who have spent their entire lives in industry and could be used as STEM teachers in schools, Tafe and Polytechnics. They usually have STEM degrees albeit 30, 40 years out of date and usually do not posses a teaching qualification. Because of this lack of teaching qualification they are considered 'not qualified', when they are probably the most qualifies people to teach STEM subject. They should be given vocational 'brownie points' for their work in industries, which are relevant for STEM subject. Do not underestimate a IT sales person who has to 'educate' his customer in order for him to make a sale or a Technical sales manager who spent have his time and half his budget to make sure that all his staff are 'trained and up todate with the latest

technologies. Just because this job does not have a 'teacher' label on it most professionals spend considerable amounts of time teaching and training others.

It only takes money and the political vision and will to do it.

Paper By Bill Morgan