

Technology and the Future of Work – A Submission

Introduction

The three main reasons for NZ's low productivity are:

- Distance from markets
- Low investment levels
- Low level of easily transferable technology products in the economy

My recommendation addresses all three and is based on my time working in the oil economy of Aberdeen, Scotland.

What Does Aberdeen Teach Us?

Aberdeen's economy has been built on exploitation of the North Sea oil fields over many decades. Initially it was concerned with the construction and services necessary to extract oil from one of the toughest environments in the world.

As the fields matured and then declined in production, demand for many of the services waned and the Aberdeen economy has shrunk in recent years. But the huge wealth of knowledge and expertise has not gone to waste, as staff still employed in Aberdeen manage developments in other parts of the world and the ideas and technologies created for the North Sea have been used elsewhere.

The point is, Aberdeen's people, knowledge, experience and technologies are not limited to the North Sea and are just as capable of being employed elsewhere in the world, and they are – with employment and revenues flowing back to Aberdeen as a result.

And all this capability is so easily transferable. It might take a lot of effort and cost to transfer an offshore rig from the North Sea to somewhere else but the knowledge of how to operate it is much more easily transferred.

KCA Deutag, the world's largest drilling company, both onshore and offshore, is headquartered in Aberdeen but has contracts all around the world. These contracts, such as those for the Caspian Sea, usually require a high level of local employment, as a result of government policies. But the planning, management and technology employed will come direct from Aberdeen.

KCA Deutag operates approximately 110 drilling rigs in 20 countries employing people in Africa, Europe, Russia, the Middle East, the Caspian Sea, South East Asia and Canada. It has offices in all its key markets and countries of operation. and a very strong presence in the Middle East where it is one of the largest owners and operators of drilling rigs.

All of this – managed from Aberdeen.

How can we do the same thing in NZ?

Clearly, I am not talking about the NZ oil industry. For the lesson of Aberdeen to teach us anything here in NZ, change oil to farming.

Unlike North Sea oil, our farm production has not waned. In fact, if anything our production has grown and it will continue to grow. Perhaps this is the reason why our technical innovation has been more inward focussed than in Aberdeen.

Whatever the reason, it seems to me we have done very little to capitalise internationally on the enormous wealth of farming-based knowledge, expertise and technological innovation that exists within NZ.

AgResearch has come up with many world-first innovations and technologies and these have been applied to NZ agriculture, with its products then exported. And that's great. But the problem with this is that farming is part of our low productivity economy.

We are a long way from our markets, our products are heavy and bulky, they are low value compared to many other products, particularly technologies like software, and they require a significant amount of low-cost labour.

AgResearch saved NZ \$133m a year in control costs, with the world's first eradication of the invasive Great White Butterfly. I can't help but wonder if we could have added to that value by selling that capability to other countries also affected by the butterfly.

Now, I have no experience of this sector so some of my assumptions may be wrong. I am also conscious of the fact that many nations are in competition with NZ and giving them a hand up might produce short term rewards for longer term pain.

This aspect of what I am proposing would need to be analysed, understood and be a factor in whatever is developed and exported but that has still got to leave a lot of scope for selling our knowledge, expertise, experience and technology into the wider world.

Xero is a great example of what can be achieved internationally from NZ and I think it is a safe bet that the productivity of Xero employees is considerably greater than that of the average NZ worker. And there are areas like gaming and digital effects where NZ has enjoyed success but if we really want to increase our productivity through more technology exports, then we have to look to agriculture. It is to NZ, what oil is to Aberdeen.

One more comment about the issue of exporting our intellectual property – we should, as a country, consider the possibility of also doing this through the purchase (or lease, or through partnerships) of farms in countries closer to our core markets. This won't always be possible but where it is, why not?

For decades we have been selling large chunks of NZ, including farms, to overseas buyers. Why not reverse the trend to address one of the issues of low productivity – proximity to markets – and also as a way of implementing our advances in methodology and technology.

How?

In Aberdeen, the exporting of experience, skills, expertise, knowledge and technology has been by commercial entities. Like KCA Deutag.

But my proposal will not work if it is not government led. AgResearch and associated universities are all government funded. The government also provides some funds for investment in technological development in NZ.

It is a great starting point but needs considerable development. Again, I have no experience of this and it is just an idea. But this is what I suggest.

We need to replicate Silicon Valley, or silicon glen as the Scottish version is called, or the oil sector in Aberdeen and there will be countless other examples around the world. To create an agricultural technology hub.

More than a collection of buildings, it would be a collection of minds, experience, facilities, etc with companies and divisions feeding off each other, the sum being greater than the individual parts. Hamilton seems the obvious place and I certainly think it needs to not be isolated.

So, how to create this? I would like to see the starting point of the hub being 51% government funded, 49% commercially funded whether via the stockmarket (with restrictions on overseas investment) or through relevant commercial partners like Zespri, Fonterra, relevant universities, like Massey, etc.

My suggestion, and again this is not my area of expertise, would be to aggregate all the resources owned by the NZ government (and possibly universities), come up with a value and list the new organisation on the stock market (or seek commercial investment). The money raised for the 49% sold would then be used to reinvest into the hub whether that is buildings, equipment, staff, contracted services or held for future expenses, like commercialisation.

Part of this process would be the commercialisation of the IP owned by AgResearch and the government more widely. The more money raised, the better.

Going forward, all new IP would be owned by the new organisation and would be commercialised, whether that is sold in NZ or overseas. The aim would be to create high paying, productive positions in NZ and overseas earnings through licencing and easily transferred technology.

I am aware that individual companies, like Fonterra, have tried joint ventures overseas but to be done on the scale that would transform NZ's productivity levels and economy, it has to be an all-encompassing, government led initiative with lofty ambitions.

The scope of this initiative, I believe, would in time produce NZ's own version of Nokia – or perhaps a number of Nokia. Not only could we licence advances for use and production in other countries but we can manufacture here in NZ as well.

I know of a company, Trimax, that from a factory in Tauranga exports lawn mowers to the US and many other countries as well. They are high tech lawn mowers for use by councils and golf clubs and the like. But they are lawn mowers – big, bulky, heavy ...and very expensive. They are a splendid example of the can-do attitude and creativity of NZers and I believe this very small example could be hugely magnified through the kind of initiative I have outlined.

The range of products possible is mind boggling. From mechanical harvesters to biotechnology breakthroughs.

Ends