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The future of manufacturing: niche doesn't need to be small

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Abstract

An unfortunate consequence of Holden and Ford's decision to cease manufacturing cars in Australia is the negative impression that all local manufacturing is similarly doomed. Yet there are plenty of local manufacturers that are doing well. We just don't hear much about them.

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Does the Holden pull-out have to mean the death of Australian manufacturing? Daniel Munoz/AAP

An unfortunate consequence of Holden and Ford's decision to cease manufacturing cars in Australia is the negative impression that all local manufacturing is similarly doomed. Yet there are plenty of local manufacturers that are doing well. We just don't hear much about them.

Can we learn their secrets for success? Can these ideas be promulgated throughout the industry and help arrest the overall decline in manufacturing's contribution to employment and the economy? Can we build new industries to fill the void left by the exit of Ford and GMH and can we do it quickly?

Our manufacturers can compete globally

One clear feature of many successful local manufacturers is that they tend to operate in niche markets. But being niche doesn't mean they are necessarily small. Cochlear Limited, for example, makes the bionic ear: a highly specialised, niche product that provides hearing to the profoundly deaf. In 30 years of operation the company has grown to employ 2700 people worldwide with 800 manufacturing employees, many of whom are based in Sydney.

On a smaller scale, but with a similar upward growth trajectory is Røde Microphones - a private company that makes high quality microphones for the world market. The company

employs around 200 people and recently doubled its Sydney based manufacturing facility. Strong export growth over the last decade has also been seen in scientific and medical instruments and pharmaceuticals. These examples demonstrate that Australian firms can compete globally.

Exploiting advantages

A close connection with customers who seek customised products is one of several competitive advantages that can be exploited by Australian-based manufacturers.

Mining equipment manufacturers, for example, work closely with mine operators to design, manufacture and maintain bespoke mining equipment. Here it is essential for the makers to go on site, understand the problem and collaboratively develop solutions through regular communication with the customer.

Defence contractor Thales Australia manufactures a range of systems in regional centres including the Bushmaster troop carrier designed to meet the specific requirements of the Australian Defence Force. The company recently announced export sales to Jamaica.

Similarly, our custom-made surfboard industry survives in the face of stiff competition from imported, mass-produced boards by understanding the needs of surfers.

Australia's natural resources provide opportunities for the development of mineral products, processed foods and forestry products. We are geographically positioned on the doorstep of the growth economies of Asia. There are many reasons to be positive about the future of manufacturing in Australia.

Continuous innovation

One key requirement for a sustainable manufacturing is the capacity of firms to innovate. Many of the successful local manufacturers heavily invest in R&D.

Cochlear Limited engages with over 100 universities worldwide and has located its headquarters at Macquarie University. Thales Australia is a founding member of the Defence Materials Technology Centre and supported work at the University of Wollongong on automated welding systems that was part of the recently awarded 2013 Eureka prize for Outstanding Science in Safeguarding Australia. Røde Microphones has developed innovative marketing strategies to introduce its products to the music industry and was awarded the 2013 NSW Premier's Export Award.

Innovation comes in many forms and can include technology, management and marketing strategies and the greater use of design principles to enhance product value. These activities are not always mutually exclusive - the introduction of new manufacturing processes like robots or 3D printers can require modifications to the business model, for example. The research sector is beginning to appreciate these interconnections and form interdisciplinary teams such as the University of Wollongong's Global Challenge Program in Manufacturing Innovation.

If innovation is so important, how can it be made more efficient? Steven Johnson's book "Where good ideas come from" (2010, Penguin, New York) has identified the conditions that favour innovation.

Essentially, it's all about getting people together from diverse backgrounds with ready exchange of ideas and information; to provide time to absorb and process the information and "connect the dots"; and look for innovations in what Johnson calls the "adjacent possible" – that is, the introduction of new ideas that are a small, logical step from existing practises. These innovations are the most easily recognised and easily implemented with immediate

effect. In this respect, it's clear that clusters of like-minded businesses benefit from being physically located in close proximity to one another.

MIT recently released the findings of its study (Making in America, 2013) into the state of manufacturing in the US and highlighted the need to accelerate ideas to products. Again, focused activities and collaborative networks are identified as a successful innovation strategy.

Forward-looking governments

Are we doing enough to foster innovation and growth in Australian manufacturing?

The Manufacturing Excellence Taskforce Australia (formerly known as the Manufacturing Innovation Precinct) established by the former federal government aims to establish networks between manufacturers and research providers, but it's too early to assess the impact.

What we need are forward-looking governments that are willing to invest in developing new niche, manufacturing industries and provide support for existing SMEs to grow.

While there are examples of these processes occurring organically, central governments have a role to accelerate the process and overcome the barriers to innovation like access to capital, skills, facilities, R&D costs and uncertain outcomes.

In both Germany and China, the state has had a significant role to play in supporting advanced manufacturing growth. Our universities and other research agencies like CSIRO are generating great manufacturing-related research outcomes but, ultimately, governments are needed for the necessary investments to get these good ideas translated into industries.