Rowan Gilmore points out that an invention is not enough – it needs a little help.

WITH COMPLEMENTS

There is no shortage of people willing to give it a try.

Often, the technology is good. Perhaps there is even a proof of concept or demonstrator model to prove that the concept is technically feasible. The idea might even be protected or branded, perhaps by a patent or trademark. Less often, there is even a customer ready for pilot use, and on rare occasions, there is even money around to fund development or production.

But the business still staggers to succeed. Why?

Because the product or service requires other activities alongside it before it can be used.

Remember the internet in the 1980s? Yes, it was already there, back then. But it was only of use to a few defence organisations and research centres, and could not be used by industry or the community – and not because there was no broadband network (there was, it was called ISDN). It stalled because there was no browser to use it. It was not until Mosaic, and later Netscape, emerged in the mid 1980's that the internet and data communications technology became useful, let alone popularised. The original internet lacked complementary assets to be of much use: in this case, browser technology was missing.

The same phenomenon still prevents progress in commercialisation today. Clean energy production is hampered either by lack of transmission wires to the right places in the country (the sunniest or the windiest), or its inability to generate base-load power (larger energy storage devices are needed).

Understanding the complementary assets that are required for commercialisation, and how to align them, are critical to success. Such an alignment is known as the value chain, which describes how value is added to a product or service as it proceeds from idea to the consumer.

The real innovation challenge for many small firms seeking to meet new customer needs is that others with complementary capabilities in the value chain may not be accessible, or in the case of a new industry, perhaps may not be visible or even exist at all. Often, they are identified through networks. But if commercialisation so often depends on serendipitous connections, why not engineer more of them?

Governments interested in innovation, such as Queensland and the Commonwealth, have engaged the Australian Institute for Commercialisation to do that, through a structured, facilitated process that we call TechClinics. Part of the AIC's Industry Innovation Framework (IIF), a TechClinic helps the right stakeholders to identify partners for collaboration and achieve alignment focussed on meeting a market need.

A critical part of the process is to involve the stakeholders such as R&D organisations, governments, industry associations, businesses, and end-user suppliers or customers themselves. Each contributes a vital piece of the puzzle: R&D organisations, a broad knowledge of the technology environment and specialist skills; governments, the vital support mechanisms and ability to overcome regulatory roadblocks; industry associations, their knowledge of the business networks; businesses, the ability to provide products or solutions that the value chain will eventually integrate; and customers, the 'market-pull' and capital to motivate the stakeholders.

For example, a TechClinic held to accelerate the emergence of a viable algae-based bio-fuels industry in Australia first identified that a large scale lipid (oil) extraction capability needed to be established. While Australia already has the research, development, processing, refining and end-user capability for this industry sector, it still lacks adequate scale in algae production and oil extraction. However, algae production and extraction lie between the development and processing activities of the value chain (illustrated in Figure 1) and therefore are integral to the building of a viable industry. Through the TechClinic process, the relevant businesses have come together in a new collaboration to complete the value chain, with Boeing one end user and a number of small businesses such as MBD now filling the remaining production and extraction gaps in the value network.

Governments are using the IIF to foster industry collaboration in sectors and achieve project outcomes towards commercialisation. The TechClinic facilitates the adoption of innovation and technology, helps to solve problems for firms, and builds new industry value chains and networks. They have been applied to geothermal energy, biofuels, energy storage, food processing, coal seam gas, and even social sciences. By developing an agreed list of action items as its outcome, they define a path showing how firms can provide solutions to market gaps or address opportunities, and where they fit in the value chain.

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