Understanding interconnected supply chains is a key skill in horticulture and related industries

Knowing where the needle in that strawberry came from or how a plant became contaminated by a chemical spray can be a make-or-break proposition for a business. Unfortunately, though, such end-to-end traceability is not front of mind for most horticultural and landscaping businesses...until disaster strikes. The grower might have no idea about a disgruntled employee on another farm. While they would know which trucking company they used, they may not be aware of what other products had been in the truck carrying their consignment.

The good news is that technology can help. Distributed ledger technologies or blockchains and the Internet of Things are solving blind spots in the supply chain. Talking to Esther Ngang, Chair of the Amenity Horticulture, Landscaping, Conservation and Land Management Industry Reference Committee, about traceability brings some of this digital jargon down to earth. She uses barcodes as an example:

"Barcodes enable producers, retailers and transport providers to automatically identify and track products throughout the supply chain. When there is a problem the cause is traceable, even if it occurred months or years before. But more than this, the data collected in that little square of stripy lines can be harnessed to control stock, project trends and refine marketing strategies."

While most wholesale and retail businesses now use barcodes, getting the most out of these and other automated systems takes an investment, not only in the right software but also in the skills to apply the technology in a lucrative way. It also demands acknowledgement across sectors about how critical it is to know the provenance of goods and to be able to trace issues back to their source.

That was one of the lessons learnt from the strawberry contamination, with Food Standards Australia New Zealand (FSANZ) identifying many vulnerable points for potential contamination in the supply chain, including the use of seasonal workers and products from multiple farms being mixed together. FSANZ recommended that traceability measures within the horticulture sector be strengthened[1]. Managing risks in the supply chains is also a priority for big retailers like Bunnings, who strictly monitor the provenance of the products they buy and insist on compliance to very high standards of quality assurance.

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[1] https://www.foodprocessing.com.au/content/packaging-labelling-coding/article/avoiding-another-needles-in-strawberries-crisis-525603009

The Australian Government's Cross Sector Supply Chain Skills Project, where Esther has been an industry expert, is helping here. It has designed a range of supply chain competencies and micro-credentials that business owners and managers in various industries can use to upskill themselves and their workers.

The Units of Competency have been developed to allow for contextualisation to an industry during the training. The project has also recognised that the speed with which technology is changing supply chain management and operations means it is essential trainers have access to up-to-date trends. To address this, Australian Industry Standards, the organisation managing the project, will be regularly updating the compendium of resources that accompanies the new training standards.

It's not always going to be possible, especially for small business, to keep pace with developments in supply chain operations. That's why one of the units of competency covers the skills required to manage outsourced supply chain operations. For some businesses or clusters of organisations, Land care groups for example, it might make better sense to work with a broker who knows what solutions are available to meet their needs. Even in this scenario, however, the optimal solutions will only be achieved with input from business itself.

Getting the most out of digital supply chains may also mean investing in new expertise, especially in analysing all the data being generated by barcodes, sensors, remote temperature controls and automated accounting systems. Barcode information is already widely used to improve stock control but its potential to inform new marketing strategies has yet to be realised.

It's now possible to use data generated by sales to better understand an individual's preferences not only for specific goods but also for how they receive information about new products. A landscaper, for instance, can discover from a browsing history what a customer's favourite plants are, the age and location of their home, their expectations about costs and timings.

Esther Ngang observes that data science is a growing field, whose potential needs a collaboration between IT experts and business owners or managers.

"Many companies are either not analysing their data, or not capturing important data to analyse, or are making important decisions with insufficient or inaccurate data. This is where the IT geeks are paid a lot of money, but these geeks are like engineers in the construction sphere. Engineers need the architects and designers to define the concept parameters before the engineers specify the finer details. Similarly, website builders might depend on a graphic designer to specify the look and a savvy business person to scope the aims of the website

before building the platform, deciding whether the website is just a digital PR front or if it should include e-commerce or be able to capture data for analytics. Everything that is cycled through the digital system can be analysed: what is purchased/sold, delivery time, completion time, defects percentage, returns, spoilage, staff costs, time billed, staff movements, business expenditure, profitability, website traffic."

Such advances in commercial intelligence gathering can result in savings, in the advertising budget for example, and in greater profitability. But first, they require understanding of what's possible and the ability to tailor the software to deliver results to growers, landscapers and land managers, as well as their partners across the supply chain. In responding to this new way of doing business, the supply chain project has been careful to produce a suite of training products that will help people in various sectors quickly gain the skills necessary to meet the demands of rapidly evolving supply chain models and technologies.

Esther Ngang