

Big data and automation are transforming the local petrol station

Supply chains are changing dramatically in the fuel industry. No longer does the pump operator go out to physically check how much fuel is left in the tank or count how many packets of chips are still on the shelf. These things are being done by sophisticated software.

Digital devices can measure volume and the rate of draw from the tank, then send an automatic message, informed by algorithms, to the oil terminal and to the marketers contracted to supply the fuel. In ground sensors installed in underground fuel lines are constantly measuring and reporting temperature and pressures.

Globally, we are seeing the emergence of a new type of convenience store where sensors on shelves constantly measure inventory levels and process transactions. Instead of paying at the till, the customer is charged via an app linked to the sensor. This automation also has implications for warehouse operations. When a store's monitoring system tells the supplier more chocolate bars are needed, these are loaded straight from the factory to a truck, effectively now a mobile storage unit as well as the conveyor of goods.

All this is made possible by people with programming and big data skills and by experts in accounting and scheduling. To make sure the systems these people design and manage are fit for purpose, experts from the petroleum distribution and retail industry must be able to contribute their knowledge and advice about, for example, how seasonality affects their operations. Conversely, the petrol station owner must now manage not just a physical environment but one which is increasingly becoming part of a sophisticated digital ecosystem. This system can deliver significant productivity gains but only if it has the right workforce.

With 7000 retail fuel outlets operating in Australia, it is vital that existing store managers and employees can upskill, including by learning more about the contemporary supply chains that are transforming their businesses. Many of these workers have plenty of experience in the industry. What they need are top-up skills and micro-credentials. That's why the Australian Industry and Skills Committee commissioned the Cross Sector Supply Chain Skills Project, which has introduced 10 new Skill Sets into the training system.

Skill Sets are groups of nationally endorsed units of competency that together form a micro-credential offered in the national training system. For example, a supervisor at a petrol station who updates their skills by learning how to monitor digital supply chain services, participate in an e-business supply chain and apply digital solutions to work processes, could be awarded a Skill Set in digital supply chain supervision.



With proper contextualisation, training in these new skills can be delivered across the many industries that now interact in supply chains. This should deliver efficiencies to training organisations and to employers needing to upskill their existing workers. If those workers are not retrained, they are likely to find it more and more difficult to stay productive in their job role. This poses an unacceptable risk not only to the individual, but to the business and the whole economy.

Mark McKenzie, the CEO of the Australasian Convenience and Petroleum Marketers Association, took on another big role chairing the Cross Sector Supply Chain Skills Project Reference Group because he recognises that ignoring this critical demand for upskilling poses a risk to his members, who represent 95% of Australia's fuel distribution and storage businesses:

"In a highly competitive global market, it'll be impossible to compete without having systems in place that maximise return from physical assets. Those systems are being digitised at a very fast pace. Crucial training must go beyond compliance and embrace a suite of digital and supply chain skills. That calls for a shift in the way we think about training: from seeing it as a one-off thing at the beginning of someone's career to an activity that keeps going throughout life. Our cross-sector supply chain skills project has started a critical national conversation about how to succeed in the age of Industry 4.0"



Mark McKenzie

