

DO GOOD WITH FOOD

Supermarkets throw out 3-6 per cent of the fresh food on their shelves, according to retail specialist Capgemini, with some categories reaching a whopping 12 per cent. The retail level represents a significant part of waste in the food chain, a stream increasingly in the spotlight due to heightened concerns about food security and climate change.

The UN Environment Program reckons 50 per cent of food globally is lost, wasted or discarded. The Australia Institute recently calculated we waste \$5.2 billion worth of food annually, with more than 20 per cent of that coming from fresh fruit and vegetables.

It also costs local retailers \$422-704 million annually, according to extrapolations of European data by point-of-sale (POS) solution provider Toshiba TEC Australia. Sniffing an opportunity in the numbers, it has begun talking up the concept of smart supermarkets.

The concept is deceptively simple – erect 15-inch electronic displays in the fresh produce section and install some simple software on a back-office server to track inventory levels and POS data, then automatically adjust price discounts and other specials to shift over-stocked produce that is likely to go off.

Toshiba TEC Australia MD Brendan Trewartha spotted the dynamic pricing and promotion system being piloted in The Netherlands. He loosely estimates the intelligent waste management solution could reduce retail food waste by at least 50 per cent, and possibly up to 80 per cent, by moving on stock levels early.

Business modelling suggests returns on investment of “very conservatively” 12 months, possibly half that, and the potential to increase operating profit by more than 10 per cent.

“Those wireless screens are very inexpensive [less than \$500] and when you think about it, it makes a lot of sense to replace manual price boards with one of these LCD screens,” said Trewartha. Secondary benefits of the screens are reduction of

Toshiba TEC Australia has produced a smart idea to help shift perishable foods from supermarket shelves well before they turn into waste, writes Richard Collins.



Dynamic pricing of fresh produce could slash waste in half or more.

labour and print costs.

“But the issue is the screens themselves are useless without the solution behind it, so it is about being able to drive that content in a dynamic way to those screens and to interface that with the store’s systems.”

The biggest part of the cost would be for software integration. Many stores already have their systems talking to each other over wireless networks and for them it would take the addition of a suite of algorithms to their software taking account of business rules the retailer wants to set.

Automated pilots work

Dutch supermarket chain Albert Heijn started with a pilot in one store by manually adjusting prices regularly throughout the day. They were astounded with the waste outcomes.

“They were able to achieve results of over 80 per cent reduction in waste in the items they focused on. My understanding from colleagues in Europe is that was a surprise to everybody,” said Trewartha.

“They then looked at how to do it without having to throw a whole bunch of people at it and that’s where the

technology came in. The next part of the pilot saw them put the wireless screens into their fresh produce department.”

The results mirrored the manual updating. The company is now looking at other technology opportunities before developing a comprehensive business case and starting the technology rollout.

One option includes adding electronic shelf labelling to the mix, though Trewartha said this should concentrate on short shelf-life items such as bread and pre-packaged dairy and meat products.

Another option is hand-held self-scan units attached to shopping trolleys. Retailers here have tended to go with the self-checkout concept, but Trewartha says the portable scanners are starting to bite in Europe. The Jumbo chain, again in The Netherlands, is seeing consumers scan 70 per cent of items themselves.

“That makes it very clear that this technology is something consumers see as useful, either because it saves them time or allows them to shop to a budget or it’s integrated with some kind of web presence,” he said.

The system can also be linked to existing loyalty programs, allowing specials to be

FACT FILE: RFID A HOT TOPIC

The radio-frequency identification (RFID) system of intelligent bar codes can help reduce waste in the supply chain.

“What you can do is when you receipt, say, meat or produce from the supplier, you can interrogate the RFID to see what temperatures it has been subjected to over the journey from where it was produced to the deliveries to the store,” said TEC Toshiba’s Brendan Trewartha. “The encoders along the supply chain – if all of the supply chain is supportive of the technology – can make sure that RFID knows the full history... It is valuable in that sense in that it can potentially reduce waste by qualifying stock or produce before it gets into the store.” But once the produce gets into the store, RFID has a limited use in waste reduction. It is too expensive to tag fast moving consumer products, with the minimum being at the pallet level.

“tailored and individualised to the shopper based on their past purchase behaviour of whatever profile they have established with the retailer... And that is what we see has the potential to impact on waste”.

Smart pricing, smart results

Retailers may want to go further and use the system as a pure sales tool, but that takes it beyond Trewartha’s current pitch. It does, however, open the question of whether this is just shifting the problem downstream, with consumers encouraged to buy more than they need and still throwing it away.

Trewartha acknowledges the problem, but sees intelligent pricing and promotion at the retail level as just one part of a much

broader approach required to minimise waste right through the food chain.

He’s keen to establish some trials in Australia to prove the technology locally and has been in discussions with independent retailers, with whom Toshiba TEC has strong links through its hardware provision. He’s confident the proposition stacks up.

“I really believe that even though it is early days in the pilots and some of the figures are a little bit rubbery, you can put some big error bars on the figures we are seeing and still see a very strong cost justification and environmental justification for it.”







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