

Chasing utopia – the future of food



If we designed the food distribution system from scratch, what would this system look like? And what would be the ramifications for food branding and packaging?
Sergei Plishka of Outerspace Design ponders the question.

AUSTRALIANS are among the most prolific waste producers in the world at 1.9 tonnes per person per year. While consumers are increasingly concerned about the environmental consequences of packaging choices, incremental improvements made by the food industry struggle to keep up. Packaging covenants are widely adopted by big brands, but are voluntary and self-regulated. Meanwhile, profit margins of Australian suppliers fall well short of international peers making eco-friendly food packaging hard to justify if not accompanied by a significant cost saving.

Perhaps incremental improvements are not what we need, but a complete rethinking of the food distribution system which got me thinking... If we were to completely redesign the food processing and distribution system today to optimise access to nutrition and choice, while minimising energy, materials, labour, waste and therefore cost, what would this system look like?

And what are the ramifications for food branding and packaging?

Agricultural scientists and food processing engineers are good at maximising the efficiency by scaling up mass production and elimi-

nating all forms of waste, including time, energy, labour, footprint and materials at the farm and factory level, but there are gains to be made beyond the factory. A solution scenario might include the combined systems outlined below.

COORDINATED DELIVERY

Australians make a surprising number of individual trips from home to grocery stores. An optimised system would have a minimal number of unmanned electric powered vehicles delivering groceries to a large number of homes on a daily-optimised route. Delivery would likely occur at night to avoid traffic.

REFRIGERATED LOCK BOXES

A natural extension of coordinated delivery is the refrigerated lock box, as drop off must be possible while home occupants are away, without fear of theft or spoilage. Initial rollout would be in apartment buildings where installation and running costs are spread across a large group of users in close quarters. These can be imagined as chilled mailboxes. In the next phase, detached houses would be designed to have a single built-in fridge and freezer unit with secure access from the building exterior.

ONLINE RETAILING – NEXT GEN

This is a proven time saver and integrates well with computerised delivery. The software would get a lot smarter, predictive and integrated with your in-home food management system (see below) to anticipate your needs, maximise price specials and minimise waste based on your kitchen contents. Online ordering would virtually eliminate the bricks and mortar grocery store.

INTELLIGENT HOME SYSTEM

The Smart Home of the future will include your fridge and pantry. The smart kitchen would know what food is in your home, how much, and for how long it's been there. Learning your behaviour and preferences, as well as accessing your schedule, fitness apps and online grocers, it would generate meal plans, provide recipes, make purchase recommendations.

AUTOMATED, CENTRALISED DCs

All food producers would send their goods to a handful of lights-out regional or local distribution centres (DCs) where they would be tracked and redistributed by the coordinated delivery system. Think FedEx, but for food. To democratise the food industry, ownership of these facilities would be decoupled from the big brands or online retailers – anyone producing food to industry standard can supply to the DCs but demand and competition would be battled online.

Up to this point, the vision is not radically different from what is available now, albeit a bit more high tech. The big difference is a matter of scale. When one home in a neighbourhood utilises this system, it's a consumer convenience, but when the entire neighbourhood or entire country uses it, the resource cost per unit of food delivered drops dramatically. But what about the future of packaging? This is where it gets controversial, as it requires a restriction of our freedoms – our freedom to buy, sell and dispose of harmful packaging. Consider this: while 93 per cent of Australians have access to kerbside recycling services, we've only managed to achieve a 51 per cent recycling rate. Future food packaging will improve the odds.

packaging in Australia

TAGGED PACKAGING

On their way out of the centralised distribution centres, smart packs could be updated with details of their destination on a next generation tamper-resistant RFID tag built into the pack. A plastic container that ended up in the gutter could be automatically detected by sweepers and traced back to the owner.

MANDATORY RETURN REFUND

It's remarkable how effective a 'return for refund' incentive can be to keep our streets clean and packaging out of landfill. All robust packaging would have a return value.

ROBUST, REUSABLE CONTAINERS

Plastic packaging isn't inherently evil, it's just so durable that it's wildly inappropriate for single-use applications. So while your honey, yoghurt and juice may still come in a plastic container, it would be a thick-walled, re-usable, resealable and sterilisable container. The shape would probably be generally rectangular and available in various modular sizes for efficient packing in delivery boxes. The empty containers would be picked up during the next delivery to complete the loop. Packs would only need to be recycled when they were too damaged to be reused.

REMOVABLE PAPER LABELS

The combination of online retailing and reusable containers logically leads to removable and recyclable or compostable paper labels or sleeves for branding and other product information. Printed with non-toxic vegetable inks, of course. In this new paradigm, shelf presence takes a back seat to online promotion.

RESURGENCE OF GLASS

The trend in Australia is towards lightweighting of plastics, but glass surface finish is more resilient and with automated delivery and return, packaging weight is less of an issue. Besides, being made of 70 per cent sand, glass is relatively benign if it ends up in the ocean. That's not to imply that glass should be discarded – it still represents a significant investment in embodied energy to manufacture. We might see the return of the milkman after all, but this time he might be robotic.

COMPOSTING SERVICE

47 per cent of Australia's household waste is made up of organic waste including food scraps. Piggybacking off the delivery of food and collection of empty containers, customers could send their food scraps back for large scale composting, and receive high quality potting soil in return.



THE PROBLEM OF PRODUCE

We love to choose our fresh fruit and vegetables based on sight, touch and smell. Would we ever be contented with the idea of buying produce online? Would we be able to select the level of ripeness of our bananas and avocados and the colour and firmness of our apples from the comfort of our computer screens? Perhaps our green grocer will be the last bastion of bricks and mortar shopping in the new online food distribution system. Or maybe community gardens will give us back what we lose when all else goes online.

Whether this vision seems like a utopia where new technologies, consumer behaviour and packaging systems lead to sustainability or an efficiency-driven future lacking the human touch may be a matter of your personal perspective. At any rate, it's food for thought. ■

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