**Homecooking, by robots, with love**

**Many local food cultures in developing countries are feeling the pressures of modernity, but is automation the solution?**

**By Jacklin Kwan**

The humble nucleus of Singapore’s food culture are hawker centers. Imagine open-air food courts with small stalls, each selling only a handful of dishes. Most of them sell local fare: pratas with fish head curry, minced pork noodles, rice with roasted meats… The list could go on but Singaporean food culture is difficult to contain in a description since it is the result of several Asian ethnic cuisines evolving and fusing throughout the young country’s history. However, the hawker center is seen as the universal symbol for it all.

Hawker centers form the everyday ambience of Singaporean life – they’re for hungry students after they finish school, office workers wanting kopi before their shift, and lone individuals waiting in line for a cheap meal while scrolling on their phones. Most Singaporeans live in government housing developments that have been carefully planned such that a hawker center would always be in the vicinity. The idea was that people needed hot, affordable food but also a communal nexus point. Hawker culture is so synonymous and integral to local heritage that it [gained UNESCO status in 2020](https://www.timeout.com/singapore/news/singapores-hawker-culture-is-now-part-of-unesco-list-of-intangible-cultural-heritage-121720).

But like so many fragile food cultures, the hawker culture is in crisis – and automation may be in its future.

The problem is not about demand – Singaporeans deeply treasure and consume their local cuisine. But as Singapore has rapidly developed, more and more people are getting educated and ascending the socio-economic ladder. The work of being a hawker – the person cooking the food in a cramped and hot stall – is stigmatised as underpaid, blue-collar work. Many young people just aren’t willing to sacrifice comfortable middle-class lives for the hard slog of being a hawker.

Profit margins are also increasingly slim. Government subsidies have alleviated some of the economic pressures, but real estate is expensive and Singaporeans, despite growing wages, are resistant to paying more for local dishes, even in the context of a heritage conservation crisis. “People are accustomed to paying, let’s say, S$4 for a bowl of noodles but they would pay S$12 to S$15 for a bowl of ramen at the shopping center,” says Dr Leslie Tay, a family doctor with a passion for food. Acting as a culinary advocate, he’s worked with the Singaporean government to sustain the hawker trade.

People’s internalised notions about the value of food is reflected in hawker centers themselves. Rare food stalls that sell exotic Japanese, Korean and Western dishes will be priced significantly higher (from 50% to 100% higher) than local counterparts.

Numerous private and public attempts have been made to save the slowly atrophying hawker culture. Enter [Hawkee](https://www.timeout.com/singapore/restaurants/hawkee) in 2019. Hawkee was “Singapore’s first robotic restaurant” which had an almost fully automated cooking process. Human l abour was still needed to slot in ingredients, but then they’d be cooked in spinning heated metal drums coated with oil. The founder of the company behind the robots – Epic Food and Beverage – wanted to “use robotic cooking and artificial intelligence to preserve the art of hawker culture and uphold the recipe”.

But what is the meaning of preserving a food culture without that knowledge being embodied in human hands? Dr Tay was at the opening of the Hawkee restaurant before it closed soon after in the same year, partially because it failed to attract a sustained customer base after its initial novelty wore off.

“Food isn’t easily automated – robots don’t understand what they do; they don’t taste,” Dr Tay says.

“Automation will be able to solve some of the manpower issues, and certain things like slicing things or chopping things are easily solved by automation – that’s why the government is already providing incentives for people buy machines,” he says, “But there's only a certain level of things that machines can do.”

But in other countries, automation seems to have been far more successful. Dibyananda Brahma is the Vice President of [Mukunda Foods](https://www.mukundafoods.com/), a company that started out as a single eatery in Chennai selling South Indian street food: idlis, dosas, parathas and the like. They franchised their eatery, opening up five outlets – one of the only business models that can ensure profitable margins that support a comfortable living.

“When we were trying to expand, that’s when we started seeing issues because it was becoming very difficult for us to deliver the same kind and quality of food across other outlets,” he said. Unlike Singapore, India does not have a labour availability problem but there are issues in retaining workers after they have been uniquely trained in a business’ recipes and techniques. Quality consistency was then a problem across multiple outlets, combined with the pressures of low profit margins and high rent, the founders turned to automation.

Being engineers, the founders created the ‘Dosamatic’. It’s a small tabletop robot with compartments for pouring in batter, oil and water. The robot spreads the batter in thin layers on a heated cooktop, making crispy dosas each time. Many aspects of the machine can be customised – the recipe of the batter, the thickness of the dosa, its size and cook time. Dibyananda tells me that the customisation ensures the personality in street food is retained.

“How do I ensure that tradition, that culture continues?” he says. “If there aren’t enough people getting trained, the best way to preserve those things are in a machine.” After all, automation is far from alien to the food industry: pizza sauce dispensers and automatic fryers have long been used in fast food industries. But what does it mean that the same social and economic stress factors that necessitate automation in fast food also endanger large parts of non-Western food culture?

“Technology doesn’t replace people – that’s not what it does,” Dibyananda says. “It empowers people to do better than what they’re currently doing.”

In Singapore, losing hawker stalls would mean much more than losing access to affordable local food. Food is a social nucleus around which important relationships and feelings of belonging are formed.

I used to have math tuition every Thursday in a shopping center as a child. Afterwards, I would wait to be picked up in a nearby food stall that sold Hainanese chicken rice. The stall owners, an older couple, would look after me until my caretaker came and we’d buy a takeaway packet of that poached chicken and seasoned rice before we left. While I waited, I spent the time filling out empty lottery tickets and eating cucumber slices. I was a lonely child but I felt like part of their family.

I stopped getting tutored in math so there wasn’t a reason to return. When I finally did go back years later while attending university, I saw that the stall was still there. The couple looked much older, with the wife still wrapping the food while the husband cleaved the chicken into pieces. The husband saw me loitering nearby – hesitating. “妹妹长大了,” he said. The little girl has grown up.