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COMMENTARY

Dream big, start small: Investing in the future of food

By Lim Bee Gim and Bernice Tay

HERE in Singapore, we love our food. It is therefore fitting that Singapore is home to a vibrant local food manufacturing industry, with over 1,000 companies producing beverages, confectionery, dairy, snacks and more. Tee Yih Jia's Spring Home frozen food products and Cocoba's Irvins chips, for instance, can be found in many parts of the world, from the Philippines to the United States.

In recent years, Singapore's drive to promote innovation, including novel foods such as alternative proteins, has also led to the Republic emerging as the "Silicon Valley of food" in Asia. For example, Singapore became the first country to approve the sale of lab-grown chicken in 2020.

Innovate, or stagnate

In Asia, spending on food is expected to more than double from US$4 trillion (S$5.56 trillion) to over US$8 trillion by 2030. This brings new and exciting opportunities for food manufacturers.

However, this is a highly competitive industry, with companies facing the constant need to adapt to changing consumer demands.

The pandemic has placed a greater focus on food that is convenient and at the same time healthier, tastier and more sustainable.

The ageing population in Asia and around the world also means an increased demand for nutritious food that suits the diets of the elderly.

Innovation will be essential for companies to meet evolving consumer demands and capture growth. Innovation allows companies to develop a niche and capture market share both locally and overseas.

This can come in the form of new products that appeal to different consumer segments, or product differentiation as a means of standing out from the competition.

It is understandable that many small and medium-sized enterprise (SMEs) may find innovation daunting and even complex as there are costs involved and expertise required to embark on this journey.

Some SMEs have held back from making the investments in developing new products due to the need to conserve financial resources amid lower revenues, while others may see it as the prerogative of bigger companies.

However, with greater competition and tighter margins due to recent increases in energy costs and raw materials, it is even more important for companies to find that niche sooner rather than later.

Shared facilities and services

To address concerns over lack of facilities and costly equipment, the government has put in place resources to help our food companies. For instance, Enterprise Singapore (EnterpriseSG) launched multi-agency initiative FoodInnovate in 2018, to make it easier for food companies to innovate and commercialise their offerings.

The freeze dryer in the non-thermal processing room of FoodPlant. The shared facility allows food companies to engage in small-batch production without having to make their own investments. PHOTO: SIT

FoodInnovate offers shared facilities, equips companies with innovation capabilities and provides supporting access to a network of partners. To date, it has supported companies with the commercialisation of close to 400 new products.

Swee Heng Bakery's low glycaemic index pandan chiffon cake is an example of a product that was developed through FoodInnovate, via a collaboration with Alchemy Foodtech.

More recently, EnterpriseSG, JTC and the Singapore Institute of Technology (SIT) launched FoodPlant, a shared facility for small-batch food manufacturing in the JTC Food Hub@Senoko. Instead of making their own investments, food companies can rent production rooms and a wide range of high-tech processing equipment housed at the FoodPlant, thus saving operating costs.

For example, the facility's twin-screw extruder, using high moisture extrusion technology, allows companies to produce plant-based meat products to capture a new customer segment.

Those looking to export or produce shelf-stable products can also make use of new technologies such as retort machines to extend or improve their product's shelf life. Fish Soup Paradise, a local restaurant that sells broths in takeaway retort pouches, intends to use retort technology to extend the product's shelf life from 3 months stored frozen, to 6 months at ambient storage.

Companies who need expert advice can speak to a consultant for assistance and recommendations in emerging areas such as future foods, elderly nutrition and advanced food processing.

Shortening the innovation cycle

Another common challenge that SMEs face is the difficulty in demonstrating 'proof of concept', as well as the long gestation period when it comes to R&D and innovation. Many SMEs are not able to find suitable original equipment manufacturers (OEMs) who can work with them on pilot testing needs.

FoodPlant provides the option of testing the viability of new products through small-batch production. This allows SMEs to conduct R&D and develop new products in small batches without having to meet a minimum order quantity, which is often required by OEMs.

With FoodPlant being a food-licensed facility – that is, food products manufactured there can be sold for commercial purposes – SMEs can now validate new products after R&D and conduct rapid market testing before going for full-scale production. This encourages product experimentation at minimal costs.

Partnerships to boost innovation

Collaborations can be a critical enabler in innovation. Working with the right overseas partners allows SMEs to grow their expertise, knowledge and networks to achieve better outcomes.

For example, EnterpriseSG has been collaborating with Monash Food Innovation Centre since 2019 to support food manufacturers in developing new products or localising their products to meet the needs of Australian consumers.

SMEs like Chocoworks, which makes healthier chocolates with little to no sugar, have tapped this collaboration to gather feedback from Australian consumers on their products. Chocoworks intends to apply this knowledge to its future product development for the Australian market.

SIT and FoodPlant are also working with Foodbowl New Zealand, a government-supported, pilot-scale food processing facility located in New Zealand, to develop capabilities in food innovation and manufacturing across shared facilities. Both FoodPlant and Foodbowl New Zealand will explore collaborations to develop new technologies that improve food manufacturing processes and meet sustainability goals.

Grooming talent to support innovation

Innovation cannot be done without the right talent. We encourage companies to take a long-term view and invest in human capital.

There are courses already available. SIT offers training on the use of the high-tech equipment available in FoodPlant. For example, a new first-of-its-kind continuing education training course in high moisture extrusion technology (HMET) will teach food technology professionals about the HMET process that texturises plant-based protein into viable meat alternatives, and train them to use the high moisture extruder.

To further develop a strong pipeline of talent in this area, EnterpriseSG is working closely with SkillsFuture Singapore and Workforce Singapore to identify other emerging skills that will be required to support our food companies with their innovation. We will develop training courses or talent exchange programmes to address these new areas.

Embracing innovation

With all these resources and support on hand, we encourage more SMEs to adopt an open mindset and take the first step on their innovation journey. We look forward to the launch of more new, innovative products both locally and overseas. This will further Singapore's efforts to be a leading food and nutrition hub in Asia.

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