

DBS Foundation x NEA Hungry for Change Challenge 2023

Summary of 12 & 13 Sep 2023 Information Sessions

1. Introduction to Hungry for Change Challenge 2023

(Presented by Ms Choy Yee Mun, Vice President, DBS Foundation)

a. About DBS Foundation

The DBS Foundation is committed to uplifting lives and livelihoods by igniting change in businesses and communities.

Since 2014, the DBS Foundation has been championing social enterprises in Asia, businesses that are for profit, and impact. The Business for Impact chapter now catalyses the growth of innovative, purpose-driven businesses, including SMEs, designed to address pressing issues facing our planet and society.

In 2022, the DBS Foundation raised the bar with the formation of a new Community Impact chapter, to equip the underserved with digital and financial literacy skills to face the future with confidence, and enable communities to be more food secure and resilient.

Our vision is to spark collective action, together with our partners and DBS People of Purpose, to help build a better world for generations today and tomorrow.

b. About Hungry for Change Challenge 2023

i. Collective action

- Empower the next generation to develop and pilot innovative solutions for sustainability.
- Partner Koufu, McDonald's and The Social Kitchen, three corporates with different F&B operations (food court, quick service and restaurant) to co-develop the problem statements and pilot the winning solutions with the teams.

ii. Expansion of challenge theme

- Expanded challenge theme from food waste in 2022 to include food packaging waste in 2023.
- National plans and statistics set the context for our expanded challenge theme.

a) National plans

- SG Green Plan 2030 is a national sustainability movement with concrete sectoral plans and targets over the next ten years that will position Singapore to achieve net zero emissions as soon as viable.
- Together with the Zero Waste Masterplan, the aim for the Sustainable Living pillar of the SG Green Plan is to have “reduce, reuse and recycle” as a norm for citizens and businesses to address e-waste, packaging waste and food waste.
- Targets are to extend Semakau Landfill's lifespan beyond 2035, reduce amount of waste sent to landfill per capita and to increase the overall recycling rate.

b) National statistics & strategy

- Based on a 2022 report on waste streams in Singapore by National Environment Agency (NEA), food waste is the 5th largest waste stream, followed by plastic at 4th place and paper/cardboard at 3rd. Common food packaging includes plastic, paper/cardboard.
- Importantly, these top waste streams have low recycling rates.

Food waste:

- Statistics: Accounts for about 12 per cent of the total waste generated in Singapore but only 18% of the 813,000 tonnes of food waste is recycled.
- National food waste management strategy:
 - Strategy 1: Prevent and reduce food wastage at source
 - Strategy 2: Redistribute unsold/excess food
 - Strategy 3: Recycle/treat food waste - Segregate and valorise or convert food waste into other useful products, e.g., food for human consumption, animal feed, non-food product
 - Strategy 4: Disposed at waste-to-energy plants for energy recovery

Packaging waste:

- Statistics: About 1/3 of domestic waste disposed of is packaging waste. Of which, about 60% is plastic. However, only 6% of overall plastic waste generated was recycled in 2022.
- National packaging waste management strategy:
 - As part of the Extended Producer Responsibility scheme, mandatory reporting of packaging data and plans to reduce, reuse or recycle packaging, started in 2021 with producers of packaged products and retailers with annual turnover of more than \$10 million.
 - By 1 Apr 2025, the beverage container return scheme will be implemented.

iii. Problem statements

- Together with our corporate partners, the Challenge raises 5 problem statements this year to address these top waste streams with low recycling rates.
- The first 2 problem statements on food waste link back to Strategy 3 of the food waste management strategy:
 - “How can we reduce food waste by converting it into other useful forms?”
 - “How can we properly segregate food waste so that it remains suitable for recycling and upcycling?”
- The third problem statement on food waste relates to Strategy 1:
 - “What are some innovative ways to reduce food waste at every step along the supply chain from farm to table?”
- The last 2 problem statements are on food packaging waste:
 - “How can we design packaging to be multi-functional and up-cyclable to ensure circularity?”
 - “How can we reduce the use of food packaging?”

2. Sharing by corporate partners

a. Koufu (Presented by Ms Chua Sher Lin, Chief Financial Officer)

i. About Koufu

- Established in 2002, Koufu is one of the most established and largest operators and managers of food courts and coffee shops in Singapore, with a presence in Macau.
- Koufu's philosophy has been to integrate modern management discipline into its business while retaining the traditional coffee shop culture, with particular emphasis on providing patrons with value for money dining options in a comfortable environment – congruent with its core values in its vision towards “Better Food”, “Better People” and “Better Life”, for everyone, including employees, customers and the society.
- Koufu also has a multi-brand strategy, with different brands catering to different market segments, at different price points and serving different consumers' needs. It is now an integrated F&B operator that has diversified beyond its origin of food courts and coffee shops to other dining concepts.
- Operations in Singapore include:
 - About 70 food courts and coffee shops, mostly located within the heartlands and also in hospitals, universities, polytechnics, shopping malls, including Marina Bay Sands. Operates its own drinks, fruits and desserts counters and rents the rest of the food stalls to tenants.
 - 5 Elemen restaurants that serve meatless cuisine.
 - Quick service restaurants and over 50 food kiosks, e.g., R&B Tea, Dough Culture and Nine Fresh desserts.
 - 5 backend production kitchens, producing products such as dim sums, desserts, bakery products and hot kitchen products, e.g., mee siam paste, meatless cuisine.
 - Rent out 20 central kitchen units & 26 cloud kitchen units to food operators.

ii. Food and food packaging waste concerns & ideas sought

Food waste:

- Retail front: Food waste is from overproduced food that is not sold and over ordered food by consumers.
- Backend: Food waste created at the backend production kitchen is generally food products that are not up to quality, in terms of taste, incorrect size, etc.
- Ideas sought:
 - Reduce food waste at source.
 - Enable segregation of food waste from other waste among consumers and at backend production kitchens and central kitchens for it to be treated by a biodigester.
 - Regenerate food waste into reusable by-products, whether food or non-food.

Food packaging waste:

- Current efforts: Still new in this journey
 - Implemented strawless lids for cold cups in recent years that reduced 10 million straws annually.
 - Participating in Go Green campaign to encourage customers to do away with takeaway packaging and cutleries and bring their own.
- Ideas sought:

- Upcycle packaging.
- Adopt reusable and /or up-cyclable packaging at all food stalls.
- Redesign takeaway packaging to reduce packaging use, e.g., separate containers for items in a set meal resulted in more packaging waste.
- Reduce the use of takeaway packaging by encouraging customers to bring their own containers and cutlery.

b. McDonald's (Presented by Mr Faz Hussen, Head of Legal, Government Relations & Sustainability)

i. About McDonald's

- In Singapore, McDonald's has been serving the community for over four decades, serving over 6 million customers every month.
- McDonald's believes that growing a sustainable business goes hand in hand with minimising its impact on the environment. Whether as a standalone family flagship restaurant in the park location or a modern restaurant nestled in the HDB heartlands or malls, it strives to uphold its commitment to sustainability, starting with a standard suite of green features for all restaurants and exploring new green features, restaurant formats where locations allow.
- McDonald's has received recognition for its green efforts, winning 17 "Green Mark for Restaurants" certifications by the Building & Construction Authority of Singapore. McDonald's was also the first in the industry to achieve the Platinum Green Mark award for its restaurants at Jurong Central Park and Yishun SAFRA. Its newest Green family flagship restaurant, McDonald's at Choa Chu Kang park, is the first McDonald's restaurant with a solar panel rooftop and use of sustainable building materials.
- Operations in Singapore include:
 - Over 150 restaurants island-wide, 19 Drive-Thrus, 40 Dessert Kiosks & 44 McCafé outlets.
- Sustainability initiatives related to food waste reduction and food packaging improvements:
 - Low food waste in kitchens as food is prepared upon order.
 - Switched to strawless lids for cold cups, saving more than 19 million straws annually.
 - Switched from plastic to paper McFlurry packaging and reduced McFlurry plastic stirrer by 1/3 in length.
 - Switched from plastic to wooden stirrers for hot beverages.
 - Brown paper take-out bags are mainly used instead of plastic bags.

ii. Food and food packaging waste concerns & ideas sought

Food waste:

- Current challenges:
 - Awareness and habit to segregate food waste is low.
 - Leftover burgers, fries and nuggets are commonly wasted at McDonald's branches, along with liquid food waste like sauces and beverages.
- Ideas sought:
 - Mindset change and drive action through communication to encourage segregation of food waste among consumers to increase its value for further use.

Food packaging waste:

- Goal:

- Reduce 1,000 tonnes of plastic annually. This can be in the form of utensil packaging like for cutlery, plastic bags and lids, while maintaining food safety, hygiene and quality, whether in restaurants or deliveries for customers and for our suppliers.
- Ideas sought:
 - Reduce plastic packaging use.
 - Upcycle packaging to ensure circularity.

c. The Social Kitchen (Presented by Mr Ang Kian Peng, Founder)

i. About The Social Kitchen

- The Social Kitchen (TSK) is a social enterprise with a mission to benefit the vulnerable community by creating sustainable jobs, through sustainable food.
- Set up during the height of the COVID pandemic, TSK plays the role of a placemaker, it acquires unutilised spaces and partner established F&B players to run the space to provide quality food, as well as to create employment opportunities for disadvantaged groups.
- TSK built a runway for F&B partners to expand their footprint without the hefty capital investment, provide sustainable employment for vulnerable groups and food to public and underprivileged groups such as meals for 5,000 children everyday during circuit breaker.
- TSK sees a multiplier effect in its work, where it put better use to available spaces, create profitable opportunities to businesses, give disadvantaged persons independence and meaning and allow consumers to do good simply through an everyday act of dining.
- Operations in Singapore include:
 - 15 outlets and other cloud kitchens (shared kitchens) partnering established F&B players on various dining concepts, from Prata to Japanese to private dining concept, serving a range of customers and also takeaways and deliveries.

ii. Food and food packaging waste concerns & ideas sought

Food waste:

- Current challenges:
 - Vegetables, rice, as well as excess food ordered by consumers are commonly wasted at The Social Kitchen's restaurants.
- Ideas sought:
 - Reduce food waste at source, including changing consumer behaviour to avoid over ordering and working with farmers or suppliers to do just-in-time sourcing to reduce food waste and waste of storage space.
 - Convert food waste into other useful forms, e.g., compost, nutrients for farmers, etc.
 - Enable food waste segregation among consumers.

Food packaging waste:

- Current challenges:
 - Uses approximately 500,000 plastic bento boxes each year.
- Ideas sought:
 - Reduce plastic packaging use.
 - Adopt up-cyclable packaging.
 - Recycle and upcycle packaging, e.g., other corporates buying back recycled packaging as part of their sustainability programme or business.
 - Encourage consumers to bring their own containers for takeaway.

3. Q&A

a. QUESTION: Why did your company choose to join us in the Hungry for Change challenge to address your food and food packaging waste concerns?

- **Koufu:** Being one of the leading food court operators and serving about 3 million customers monthly, Koufu can be influential in creating impact if it takes on a positive change, e.g., switching to strawless lids. While it takes a lot of effort to implement and sustain a change, even a small change can create a large impact and leads towards a more sustainable living, which is aligned to its vision to create a better life for everyone. Koufu is heartened that DBS Foundation is partnering aspiring entrepreneurs to develop innovative solutions for businesses like Koufu and while it is still in its early stage for sustainability efforts, it desires to work alongside the national SG Green Plan to build a better future for generations to come.
- **TSK:** Believes in coming together as an ecosystem to create a greater impact. By working through DBS Foundation, TSK is able to tap on DBS' larger outreach to reach more youth. TSK believes in tapping on the younger generation for more ideas and them being supported by DBS' mentorship and not just funding, this will be more impactful.

b. QUESTION: What are the types and volume of waste that your establishment struggles with?

- **TSK:**
 - Leftover food from consumers, e.g., vegetables and meat, at large volume of about 100kg daily.
 - Poses a challenge in terms of wastage of food which can instead feed others and manpower challenges as staff, some of them who are seniors, will have to carry or push the heavy rubbish bin.
 - Food waste is not managed well. Currently, all types of waste are mixed in the bin, e.g., food waste, tissue papers, straws.
- **Koufu:**
 - Backend:
 - While there is food wastage due to quality standards, this is being managed, e.g., repurposing parts that doesn't meet specific quality standards, such as size, for other dishes in which size of the ingredient does not matter. Ingredients can also be frozen if in excess. These are all tracked and managed as it relates to gross profit margins. However, it is harder to manage at the retail front.
 - Retail front:
 - Over-ordering of food supplies by outlets: While wastage is being tracked and profit margin monitored, it is harder to manage as these food supplies are kept in the fridge, not frozen, so they cannot be kept for long.
 - Unsold cooked food: Produced more than is required by each stall and due to Koufu's size and the numbers of stalls within each outlet, the food wastage could be 5 to 8 times more than a single restaurant. This unsold cooked food cannot be kept in fridge for the next day as it will not be fresh, as such, it tends to be thrown or redistributed out. The challenge is to redistribute this unsold cooked food which is still edible.
 - Over-ordering by consumers: Tempted by food stalls' displays to order more than needed.
 - Food waste segregation: Leftover food and other waste are mixed together and these cannot work in the biodigester.

- **McDonald's:**
 - While McDonald's has a manageable food waste profile as the food is made only when orders come in, there will be fluctuation in demands for various products and sometimes there are overruns.
 - As such, waste segregation is important both at the front and back end to ensure better use of the individual waste streams.
 - A big concern is to change the mindset of consumers to segregate the waste properly, to avoid contamination, e.g., of food waste from packaging waste. To increase awareness and proactiveness of consumers for good waste segregation.
- c. QUESTION: Besides food waste generated by consumers, is there food waste generated at your backend, including during transport, food preparation, cooking, surplus ingredient, etc.
- **McDonald's:** For backend, it will tend to be surplus from our warehouse because certain food products are not selling as well, overrun of certain things due to mismatch, etc. McDonald's donates these surpluses out. If there are solutions for upcycling of food on a large scale, that can be looked at but it's not a big consideration for McDonald's compared food waste segregation and reduction of packaging waste.
 - **Koufu:** It will be those not up to quality parts produced at the backend. However, there are current attempts to repurpose these parts for other food products to minimise wastage and it is currently manageable. These are controllable, whereas consumer front is beyond our control and a greater concern for all 3 corporate partners.
 - **TSK:** Not much of food waste issue at the backend as for retail space, space is expensive, you cannot afford big storage area and hence you will not order more than necessary and control backend wastage. If there is backend wastage, it will be picked up quickly and the kitchen crew will have to explain and course correct soonest. This is because there is cost implication.
- d. QUESTION: Which kind of packaging waste is wasted most in your company?
- **McDonald's:**
 - McDonald's is currently doing an audit of their waste to understand their packaging waste better but anecdotally, the biggest packaging waste could be paper as McDonald's is moving from plastic to paper in a big way across its packaging, e.g., McFlurry cups.
 - **Koufu:**
 - Takeaway containers. Different stalls use different containers, from Japanese style bento boxes to Korea style containers to Styrofoam boxes for mixed vegetable rice. Koufu plans to develop recyclable takeaway containers that can cater to different kind of cuisines and lead the stalls to use these containers. These could be made of paper instead of plastic.
 - **TSK:**
 - Takeaway packaging. Aesthetic of takeaway packaging matters as if you pack your food in a normal Styrofoam box, you may not command a good price but if you dress your food up in a beautiful box, you could sell at \$10 instead of \$5. However, you will need to balance how sustainable these beautiful packaging will be.

e. QUESTION: Where will our solutions be implemented? Is it in the malls, the cafeterias, or more commonly in households?

- **DBS Foundation:** For this year's edition, the solutions are to solve the food and food packaging waste challenges faced by our 3 corporate partners, Koufu, McDonald's and The Social Kitchen.
- **Koufu:** It will depend on where the solution is designed for, backend production or retail front. If it's for retail front, any of the 70 outlets is possible and the location could be chosen based on demographic of customer base that the solution is targeting.
- **TSK:** It will depend on the solution proposed, whether it will be implemented at 1 premise or across the entire chain. For e.g., solutions targeting mindset change/awareness, this could be implemented across every outlet to cast the net wider.
- **McDonald's:** While it can do certain exceptions, solutions to be piloted need to be scalable across all 150 outlets islandwide as much as possible, to ensure seamless operations for staff across board.

f. QUESTION: How keen are the industry partners on price-based solution such as the discount or free meals for bringing reusable containers?

- **TSK:**
 - Open as it is a good way to give back in a sustainable way, so it depends on the implementation.
 - When you bring your own container to do takeaway, you are actually giving yourself a discount as you do not need to pay for the containers.
 - The move towards online platform to order food delivery further reduces the use of reusable containers.
- **Koufu:**
 - It is more of a mindset shift. Koufu has also implemented additional cost for takeaway boxes. Most customers can afford these costs. Paying 10 cent for each container is not a lot but it creates a lot of waste.
 - Koufu has tried at one of its outlets to give 10% discount if customers bring their own containers. It worked for a day but awareness is not there.
 - Providing such discount does not cost Koufu a lot but it could make a difference to the environment.
- **McDonald's:**
 - Challenging to be using your own containers at a quick service restaurant as everything needs to be packed efficiently. Mindset shift in terms of customers' expectation is needed.
 - Regulatory change is also needed due to food safety issue when you bring your own containers.
 - For delivery, there needs to be a balance between expectation of delivery to be fast, the food to be hot (quality) and safe (food safety) and the sustainability impact. A mindset shift needs to take place for this balance.

g. QUESTION: Which do you feel it's more critical - changing consumer behavior regarding food and packaging waste or changing business operations?

- **Koufu:** Consumer behaviour because business operation is within control and businesses are always trying to improve their operations to improve their bottom lines. Whereas consumer behaviour is harder to control as you cannot be certain of consumers' reaction to your change, e.g., charging for containers, asking consumers to bring their containers, etc. But it is possible, with success seen in the tray return campaign and supermarkets' charges for plastic bags.
- **TSK:** Consumer behaviour as it is not sustainable for business operations to keep changing to suit and catch up with consumers' preferences. In the example

for takeaway container, it is also more sustainable for consumers to bring their own containers than companies charging as consumers may complain.

- **McDonald's:** Consumer behaviour as business operation can be controlled. Food waste can be reduced at the backend and there are also means to be circular to manage food waste, e.g., donation, etc. But at the retail end, if consumers do not segregate their food waste appropriately, it will contaminate the entire bin. Mindset shift among consumers that everyone has a responsibility to the environment is important. It needs a tipping point for mindset shift, for e.g., it took years for government to encourage people to return their tray, from campaigns to implementing fine. But once the shift happens, it will be easier for companies which already want to do the right thing.

h. QUESTION: What is your measure of success for any solution to tackle your company's food and packaging waste challenge?

- **TSK:**
 - Lesser food waste at the retail end.
 - Mindset shift towards reduction in food waste both among consumers to not over order and among employees to guide consumers against over ordering.
- **McDonald's:**
 - Circularity: How much of what we consume reenters the system to be reused, recycled or upcycled in one way or another.
 - Mindset shift towards proper food waste segregation to enable such circularity is still lacking in Singapore compared to countries like Japan, Korea and Taiwan.
- **Koufu:**
 - Easy implementation and high adoption rate, for e.g., upon implementation of charges for plastic bags, more individuals are bringing their own eco bags, upon implementation of penalty when one does not return his/her tray, this is encouraging most to return their trays, upon implementation of strawless lids by McDonald's, Koufu and other operators, this has contributed to a large reduction in plastic use.

i. QUESTION: What would be an ideal outcome or scenario results post the challenge for your companies two or three years down the road?

- **TSK:**
 - Reduction in food waste in measurable and quantifiable terms.
 - Reduction in overall food packaging cost to company, which relates to lower usage of food packaging at the outlets.
- **Koufu:**
 - About 50% of customers bringing their own takeaway containers.
 - The rest of the food packaging used to be converted to up-cyclable packaging.
 - Mindset shift among consumers not to over order, reducing food waste.
 - Able to segregate food waste for biodigesting.
- **McDonald's:**
 - Mindset shift for consumers to properly segregate food waste, knowing that they can reuse the food in other ways.
 - Mindset shift that there is a cost to packaging and also to the environment, no matter if you get the packaging from a hawker centre or quick service restaurant and as such, consumers will play a part for the environment to reduce packaging use.

j. QUESTION: Were there solutions which failed? Why did they fail?

- **TSK:**
 - TSK has yet to implement any solution but raised that having a right design for a sustainable container and designing it within a comparable cost are potential challenges. Asian food tends to have soup and a lot of sauces, so the design and material of the sustainable container need to consider this. The current cost of sustainable packaging is expensive, double or more than general plastic container too.
- **McDonald's:**
 - Before the strawless lids, McDonald's first solution, which was adopted from another market, was cups without lids and straws. It reduced packaging and use of plastic but it was not practical as it caused a lot of spillages due to the high volume in Singapore. If there is a solution for a cup to be made of non-plastic, a more sustainable material and of comparable cost, McDonald's will pick that up.
 - McDonald's is also trying to do less of the clamshell boxes with a wrapper inside for the burgers so for most, it has taken away the boxes and the burgers are served with just the wrapper but for some with bigger build, such as the Big Mac, it is hard to go with just the wrapper. If there is a kraft paper solution that is sustainable and can hold the build of the burger, it will be great.
 - For delivery, McDonald's would like to replace all plastic bags with paper bags but for drinks, water will seep through, and the paper will disintegrate. McDonald's is looking for sustainable solution for this.
 - In all, McDonald's is always looking for improvements to enable sustainability. Beyond this, McDonald's is most interested in solutions to shift consumers' mindset towards sustainability.
- **Koufu:**
 - Years back, Koufu started using biodegradable bags across all its F&B stalls and encouraged all tenants to use the same. But because it was more expensive, over time, the tenants stopped using it. The awareness about sustainability was not there then but Koufu felt that it is now. Koufu is not just looking for solutions that are positive to the environment, it is also looking for solutions that can convince its stallholders and consumers that it is a win-win for everyone to adopt these solutions.

k. QUESTION: What are you looking for in the solutions to tackle your company's food and packaging waste challenges?

- **Koufu & TSK:** Scalability and easy adoption.
- **McDonald's:** Communication impact and how it drives awareness and action among consumers.

l. QUESTION: Why would a youth group want to work with you on this challenge?

- **McDonald's:** If the solution can scale, it will be implemented across all 150 outlets. The solution can be seen all across Singapore because of McDonald's scale.
- **Koufu:** While Koufu has 70 outlets compared to McDonald's, there are over 800 store tenants at these outlets. It is also the industry leader for coffee shops and food courts in Singapore, which makes Koufu influential in its action. Hence, the scalability of the solutions is not kept within Koufu but can be spread across the rest of the coffee shops and food courts in Singapore.
- **TSK:** TSK is young, energetic and expanding, much like an innovative start-up. It doesn't just run kitchens or F&B, it also has co-working space. It runs multiple concepts and can spread the solution across these areas. TSK is also well

connected with F&B leaders who are their partners and can promote the solutions to them as well.

m. QUESTION: Are we creating a solution for a specific company or is the solution for all three companies together?

- **DBS Foundation:** For a specific company, hence the importance in understanding the challenges faced by each company. Problem statement(s) to be addressed and the corporate partner to work with for your solution should be stated in your submission. If your solution can address the challenges faced by more than 1 company, this can also be stated but to also state the most preferred company to work with.

n. QUESTION: What can the funding be use for?

- **DBS Foundation:** The funding is to support the development of the solution and to pilot it with the 3 corporate partners.

o. QUESTION: Who are the judges for the submissions?

- **DBS Foundation:** Primarily, the 3 corporate partners, Koufu, McDonald's and The Social Kitchen, DBS/ DBS Foundation, NEA and Enterprise Singapore, a new partner brought in for this edition, to bring in the business perspectives to challenges faced by food services companies in food waste and food packaging waste.