

Plastic Hackathon - Challenges

Focus: Reuse/ Refill

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v2.0

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Challenge 1: Ordering Takeaways

Brief

Design a product, service or system that promotes reuse of plastic and ultimately reduces the amount of plastic used in the “Takeaway Food” industry. You are encouraged to come up with a solution that requires no material or hardware innovations but uses existing materials; has low or no capital expenditure; leverage on Collaborative & Sharing economy and can start generating revenue asap.

Background

As more restaurants join home delivery services like Deliveroo and Just Eat, there is increased pressure on the demands of packaging used to house and transport food and also on the provided cutlery items. The sweet spot is full service and speed delivery.

We are interested in exploring two areas of challenge and opportunity

- 1) Inside the food container
 - a) At home experience is key
 - b) The diverse food vendors need diverse packaging types & cutlery. *The right packaging & cutlery need to be available to ensure consumers get their food in the best quality (steaming hot or cold)*
 - c) *These apps have vendors with different service levels; right from “takeaways shops” to “gourmet restaurants”. In the absence of a curated restaurant experience, gourmet restaurants need to be extra careful to maintain their brand image during the experience and often prefer premium packaging*
 - d) *Premium look is of no use unless the packaging can withstand the delivery journey and preserve the quality of the food*
- 2) Delivery of food containers
 - a) *Delivery drivers carry more than one order at the same time from multiple vendors*
 - b) *Storing and transporting cold and hot items in close proximity can compromise food temperature and may require consumers to reheat orders that have cooled during delivery*
 - c) *This additional effort maynot be appreciated by the consumers especially if such items are packaged in materials that cannot safely be used in a microwave, as re-heating these food orders will require additional tableware and effort from consumers*

How should you approach this brief?

- *Explore one or both of the challenges outlined above. You are encouraged to come up with a business models/ solutions that require no material or hardware innovations but use existing materials; has low or no capital expenditure; leverage on shared economy and can start generating revenue asap.*

- *Select a specific place such as London, explore the supply chain; talk to consumers; vendors or order a takeaway to understand the market. How can we rethink and redesign the system/ process/ business model? to improve its impact on the planet, people while making profit.*
- *Be bold and explore new perspectives, mindsets. Do not be scared to question the current marketplace. Take inspiration from ideas around the world including China, Japan, US, Africa etc. and life before plastic became mainstream.*
- *Think about the needs of the various stakeholders along the whole chain.*
- *Your design solution should also include Branding & PR and Innovation element to trigger any consumer behaviour change if required*
- *It is important to highlight that these solutions should be profit driven with minimal time to market using existing materials. We are not looking for new material innovations.*

Some ideas: Substitutions, Optimisation, Incentivisation, Gamification etc.

Suggested points to consider for the demo

- **Planet and People** - *How does your solution benefit the planet without compromising on people & societal benefits?*
- **Innovation** - *How innovative and disruptive is the business model/ solution? Teams need to be careful that these Reuse model do not trigger the Cobra Effect : https://en.wikipedia.org/wiki/Cobra_effect*
- **Profit, Feasibility & Scale** - *How feasible is your solution? How short is the time to market and how scalable is the business model? What is the exit strategy?*
- **Execution** - *What is the execution strategy? Who will fund the solution or is this self sustainable?*
- **Customer Acquisition Strategy** - *How would you acquire customers? Is there a PR and Brand playbook?*
- **Design thinking** – *How did your research and insights inform your solution? How did you develop, test, iterate and refine your concept?*

More info

Recent customer demands to reduce the amount plastic waste means, these apps and restaurants need to find a way to satisfy their customers. Some apps & restaurants have pre-emptively begun to upgrade their offerings to differentiate products in an increasingly competitive market. [Just Eat](#) & Deliveroo are offering new 'opt in for cutlery' feature in their app, trialing out new materials like [seaweed sachets](#) to reduce their plastic footprint. Deliveroo offers "eco packaging" in their packaging marketplace - <https://deliveroo-packaging.com/>

[Packaging Gateway](#)

[Deliveroo Plastic Commitments](#)

Packaging: Tri-Star Packaging

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Challenge 2: Personal Care

Brief

Design a product, service or system that promotes reuse of plastic and ultimately reduce the amount of plastic in the products we use to take care of ourselves. You are encouraged to come up with a solution that require no material or hardware innovations but use existing materials; has low or no capital expenditure; leverage on shared economy and can start generating revenue asap.

Background

Customers are looking for products that boost their confidence, helps them differentiate from the crowd and express their individual personalities and values; even demanding personalised products to suit their needs and they are increasingly aware and concerned amount of plastic and toxic chemicals in the products. The packaging can act as a manifesto for personal expression and societal change, with supermodel Anja Rubik describing her solidarity and the brand mission, by saying: 'I like the idea that buying a lipstick can become activism, the symbol of a conscience!'

The term "natural" usually means nothing and the sweet spot is convenience, personal preference and cost.

We are interested in exploring two areas of challenge and opportunity

1. Product & Product Packaging:
 - a. *Classic products in this category include Soap, Shampoo, Conditioner, Various Oils & Paste for body care, Toothpaste, Shaving, Hygiene Products, Toothbrush, Perfume, Clothing etc. We have collected a lot of hygiene products in the litter pickups across the UK and let us not forget "fast fashion".*
 - b. *Manufacturers sell these products using various retail channels e.g. consumer products to mass retailers; cosmetic supplies to salons and professionals; luxury brands to boutiques and specialist products to dermatologist etc*
 - c. *Different retail channels require different packaging e.g. a drugstore may require packaging to stand out and sometimes retailers prefer to package products closer to the point of sale to for various specialised products, to meet various industry standards, marketing and cost reasons. For e.g. In the store, purchasing decisions are influenced by position in store, shelf and consumers compare with competition relying on the packaging and materials. On an online store, product discovery is search based, comparison with competition is usually not available and checkout/ abandon cart decision is short. Hence the product packaging and design have to be customised.*
 - d. *Beautiful packaging flirts at people from these shelves and lures them with its stylist presentation. The more Instagrammable it looks, the more likely people are to get joy and make the purchase. It is about the secrecy while unboxing the box*

and the suspense of the product hidden amongst multiple layers of luxury packaging. This can be an opportunity to build brand awareness & reduce costs.

- e. Overpacking remains a current focus and major challenge for retailers as they balance the need to ensure their product arrives undamaged while managing customer demands for more sustainable packaging*
 - f. Consumers are looking for personal products to address their perceived imperfections and had preference and a comfort level about their body which can be triggered by pure personal preferences or influenced by age, family & culture. For e.g preference for healthier tan; aging population looking for products to maintain their youthful look.*
 - g. Manufacturers & Retailers exploring alternative materials face challenges like increase in weight & cost and behaviour change. e.g. glass/metal packaging is heavier, costly and customers do not buy tin packaging with dents.*
 - h. There is no transparency and brands are monetising public demand for environmentally free products & packaging. Just because a brand is small, uses cool indie packaging and claims to be “eco”; doesn't mean they are not green washing. The market is unregulated with no clear standards and brands are constantly playing with vague words like “biodegradable”, “recyclable” etc.*
 - i. Technology can help manufacturers*
2. Product Manufacturing & Distribution
- a. Forecasting demand is one of the key challenges and determined everything from purchasing ingredients to placement at retail locations.*
 - b. The ingredients often are perishable with expiration dates; past which the manufacturers have to abandon the usage of these ingredients thus hitting their targets. This often leads to extra protective packaging and special handling to prevent contamination during their supply to the manufacturer.*
 - c. Retailers return products to manufacturers too which can be contractually agreed*
 - d. Returned products might also be shipped back to manufacturers or destroyed.*

More Info:

[Beauty Packaging](#)

[Stylist Article](#)

[Manchester University](#)

<https://www.hps-pigging.com/sustainability-challenges-facing-the-cosmetics-and-personal-care-industry/>

Challenge 3: Getting your Groceries

Brief

Design a product, service or system that promotes reuse of plastic and ultimately reduces the amount of plastic we use during our grocery shopping. You are encouraged to come up with a solution that requires no material or hardware innovations but uses existing materials; has low or no capital expenditure; leverage on Collaborative & Sharing economy and can start generating revenue asap.

Background

People have recently started tupperware/ bags to supermarkets leaving plastic packing at supermarket tills and even posting them to the manufacturer using Royal Mail. Even though the the current plastic free products are more expensive and profitable for retailers; going plastic free has many health benefits like drinking more free tap water, drinking less drinks with sweet, eating fewer salty processed food etc. Many supermarkets are experimenting with “plastic free” aisles using alternative packaging materials and Bulk Buy/ Zero Waste shops are becoming increasingly popular. The challenge is also changing consumer behaviour and the sweet spot is safety, quality and convenience.

We are interested in exploring two areas of challenge and opportunity

1. Packaging
 - a. *Most of the packaging designed today are not designed with end of life in mind. Even though the designers are conscious about end of life, circulatory etc; the design brief does not reflect this requirement*
 - b. *Most of the things in the supermarket come wrapped in convenient plastic packaging to aid speed of purchase and reduce cost. It costs money to cut the cheese, weight the meat, tomatoes etc. Plastic has also enabled consumers to enjoy food that would otherwise be not available.*
 - c. *There is an argument that Plastic Packaging Reduced Food Waste but there are reports & data that Plastic Packaging actually has Increased Food Waste*
 - d. *Consumers want to do good but they are misled by meaningless words like “biodegradable”, “compostable”, “recyclable” etc. and are confused with a market flooded with various hard to read plastic types and often multiple plastic types used in the same packaging*
 - e. *The current recycling system is not transparent; can not or unable to deal with the amount of generated plastic waste and usually ends up exporting the contaminated waste*
 - f. *Any new packaging or business model needs to take into consideration health and safety, foot waste with careful considerations.*
 - g. *Simplification of packaging will make it more efficient to sort, recycle, reuse*
 - h. *Customers often forget their reusable bags/ containers*

- i. *More reliable collection strategies, and improved sorting and cleaning techniques for handling mixed packaging waste.*
- 3) Delivery
- a) *Delivery drivers carry more than one order at the same time from multiple vendors*
 - b) *Storing and transporting cold and hot items in close proximity can compromise food temperature and may require consumers to reheat orders that have cooled during delivery*
 - c) *This additional effort maynot be appreciated by the consumers especially if such items are packaged in materials that cannot safely be used in a microwave, as re-heating these food orders will require additional tableware and effort from consumers*
 - d) *Contamination & Preservation*

More Info:

Sainsbur's Recycling Of palstic bags

E.g.: Oddbox

Challenge 4: Grab & Go Food

In today's fast paced world consumers are increasingly preferring mini meals, light bites, and quick snacks and are eating mostly on the go; sometimes showcasing individual personalities. Food companies are now offering multiple healthy options to cater to this growing demand leading to increase in the amount of packaging. The sweet spot is convenience, freshness and cost. We are interested in exploring the challenges and opportunities around “product & packaging” (e.g. feel good, on shelf presentation, quality, safety, actual need, ease to strap it to a bike rack, handbag or backpacks) and “delivery” (e.g. preserving quality, safety, efficiency, hot & cold, liquid vs solid)

helping them do portion control, health routines etc.

are all becoming increasingly popular among consumers; in today's fast-paced world, sticking to three meals a day, every day, often proves impractical.

With the growing interest in bite-sized portions and single-serve convenience, food companies are now offering a variety of health-conscious options. To ensure optimal preservation — and effective marketing — of portion-controlled foods, snack packaging must offer more than just stylish design.

consider how colours, logos and images work on screen across varied platforms, resolving how to ensure a single design achieves stand out on both a physical shelf and its virtual counterpart. We must continue to prioritise the role of the tactile in developing compelling packaging design; not only because in-store purchases still account for such a large proportion of total food product sales but also because the consumer's post-purchase experience of packaging influences their decisions on whether to buy again

Challenge 5: Internet Shopping

Brief

Design a product, service or system that promotes reuse of plastic and ultimately reduces the amount of plastic used during our internet shopping experience. You are encouraged to come up with a solution that requires no material or hardware innovations but uses existing materials; has low or no capital expenditure; leverage on Collaborative & Sharing economy and can start generating revenue asap.

Background

Amazon prime is now offering “2-hour delivery” and even our grandma is ordering “party hats” on her phone. This huge demand has led to the large increase in the amount of packaging materials that must be disposed by the customer. Customers are more aware about “over packaging” and they are open to trying out new business models that takes care of the planet, offer the same functionality and convenience without compromising on price.

We are interested in exploring two areas of challenge and opportunity

1. *The product & packaging*
 - a. *With convenience & increased price wars on online marketplaces like Amazon/ eBay there comes the addiction and hence purchase of cheap products with shorter lifespans and no clear end of life*
 - b. *Sometimes consumers tend to make regular yet individual purchased of different products from the same retailer leading to multiple packaging and logistics runs.*
 - c. *Some products can be created/refilled on demand (e.g. Splosh just ships the chemical concentrates since consumers have water and packaging at home)*
 - d. *Product packaging need to be ready for both “In Store” & “On Screen” experience and this is very important since the post-purchase experience of packaging influences consumer decisions on whether to buy again*
 - e. *Overpacking is a major challenge for retailers as they balance the need to ensure their product arrives undamaged while managing customer demands for zero or minimal effect on the planet.*
2. *The Logistics*
 - a. *Orders are commonly packed in larger-than-necessary cartons and stuffed with bubble wrap or loose-fill packing; which is not efficient and results in extra costs the logistics systems.*
 - b. *Protective transit packaging is key for safe and efficient transport of the goods from the manufacturer to the warehouse and the ecommerce customer and collection of returned goods. Most of these never get disposed off correctly.*
 - c. *Mismatched packaging stock and product demand can lead to not only more waste but also ties up money in packaging sitting in the warehouse*

- d. *Any damage of the product during shipping directly results in direct blame to the retailer*
- e. *Returning back overstock or customer returns of some goods can be challenging especially with products that can degrade over time (e.g. liquefied)*

More Info:

Amazon has introduced "[Certified Frustration-Free Packaging](#)" to deal with unnecessary overpackaging. Refer to this article in [Inbound Logistics](#).

Challenge 6: Story of my banana

Challenge 7: My Medications

Challenge 8: A day at work

Challenge 9: Short day trips

Challenge 10: Short day trips

Challenge 11: Events at home, at work

We reuse/ refill our mobile phone batteries every day? Why not with consumer products?

Are you a business person, business people,