

## Observation study and research for concept on *Sustainable Packaging Design*



*Sustainable packaging design wallpaper (Internet)*

This report focuses on *sustainable packaging design*, one of the many issues in urban sustainability. Packaging wastes account for a significant percentage of solid wastes in our daily experiences, making up almost a third of Singapore's household wastes.<sup>1</sup>

In 2007, in order to improve the situation, the Singapore Packaging Agreement (SPA) was launched and companies that signed the agreement were able to reduce the amount of their packaging produced by up to 10,000 tonnes.<sup>2</sup> The SPA provides a sustainable platform for diverse industries to collaborate with the government to reduce packaging wastes. In addition, those companies that have made notable efforts and achievements in reducing packaging wastes are given the 3R Packaging Awards annually.

The following points are waste-related behaviours towards packaging that requires our awareness, arranged from the most desirable outcome to the least desirable outcome - Avoid, Reduce, Reuse, Recycle and Dispose. These behaviours are highly relatable to sustainable packaging and to explore how packaging engages with design problems, an observation study was done on packagings in our daily experience to think about the people involved, activities and contexts of its uses.

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<sup>1</sup> Lee Yuen Hee, Sustainable Solid Waste Management - Strategy 3: Waste Minimisation (2008)

<sup>2</sup> National Environment Agency, Singapore Packaging Agreement (2015)

## Avoidable Packaging

This occurs when product that don't necessarily requires a packaging still getting packaged, for instance fruits, stationeries and tools. These are items that are presentable and durable on its own. For example, conventional pens can and should be displayed without any unnecessary packaging, because all the necessary information is already printed and displayed on the them itself.



Popular bookstore pen sections (Photo)

*Original Unverpackt*, a packaging-free supermarket in Germany allows consumers to take as much food and drink as the container they bring can fit. These practice not only eliminates packaging but also reduces food waste.<sup>3</sup>



Original Unverpackt supermarket (Internet)

## Quantity Packaging

It is beneficial for consumers to have the option of getting different sizes and quantity of a product as every consumer requires different amount of the same product such as milk. When the larger size and its price are correspondingly cheaper to the smaller size ones, it encourages consumers to make a more sustainable choice by choosing the larger one as it saves cost and the amount of packaging material of the larger size is significantly lesser than a few of smaller sizes combined in similar quantities.



NTUC supermarket milk packagings (Photo)

In this case, the supermarket *Original Unverpackt* mentioned above fulfils the benefits of quantity packaging by giving consumers the choice of buying their desired amount of food. From ground coffee, beans and nuts, consumers can mix and match their dried food from the dispensers according to the amount they want, which not only reduce packaging cost, but also minimising the possibility of food wastage.



Original Unverpackt beans dispenser (Internet)

## Complicated Packaging

Packaging design can be a form of art to attract consumers and also encourage sales especially during the festive seasons like moon cake boxes. However, these packagings are not sustainable as they require extra effort and power such as the laser cutting and engraving of intricate designs and patterns, leaving behind excessive packaging material from the manufacturing process that will only end up being disposed of.



Festive moon cake packaging (Photo)

<sup>3</sup> Alex Finnis, 'Original Unverpackt' (2014)

## Ergonomics Packaging

Packaging design with an additional thought towards human ergonomics, such as a simple handle cut-out, would not only improve its mobility but also save the amount of carrier bags used. This design is particularly useful for heavy and bulky sized products such as can drinks, as they require great effort for transportation.



Coca Cola Light a dozen packaging (Photo)

Ergonomics plays a big part in industrial, product and packaging design. Pringles is a very popular chips brand, but there are flaws in its packaging. The chips shatter easily due to the excessive space inside the can and when it is half empty, attempting to get any chips out becomes a chore. Thus, there is now a new proposed clamshell packaging that features a tight fit containment and provides easy access to every chip.<sup>4</sup>



Pringles proposed new packaging (Internet)

## Excessive Packaging

Many products require packaging, but how much is enough? Excessive packaging occurs when the packaging starts taking up more space than the product and also excessive printing on the packaging that does not serve any rational and sustainable purposes. This is commonly found in the packaging of memory cards and thumb drives, despite being such a small product, there is probably enough space in the packaging to fit more than one of it. Likewise in blister packagings, where excessive plastic is used unnecessarily, commonly in tools as shown.



Excessive memory card packaging (Photo)



Excessive wrench tool packaging (Photo)

## Natural Packaging

Natural packaging provides a wonderful alternative to the various non-biodegradable materials in the market such as plastic. Banana leaf is a great example of natural packagings that has existed for a very long time, an example is the Chinese rice dumping. Being naturally from the earth, they are extremely biodegradable and able to break down a lot quicker compared to other biodegradable materials.



Rice dumping leaf packaging (Photo)

These eggs packaging design are not just aesthetically appealing, it is also a fun homage to where it originated from, as though replicating the nest that they would still be happily resting in. The Happy Eggs carton is made out of natural hay which is cheap and its production is simply by using heated press out of widely available natural material.<sup>5</sup>



Happy eggs carton (Internet)

<sup>4</sup> Sunrise Packaging, Dear Pringles, It's Time to Change Your Packaging (2011)

<sup>5</sup> Meghan Young, Happy Eggs by Maja Szczepiek is a Nest-Like Packaging Design (2013)



## Reusable Packaging

Boxes or casings used as packaging are ideal as they are built for containment and as such, is easily reusable. Especially, plastic casings which are non-biodegradable that are able to last. For example the plastic containers used by Ferrero Rocher, when the chocolates are completely consumed, the plastic containers work perfectly for the storage of stationeries as they have the perfect dimensions and transparency.



Ferrero Rocher packaging (Photo)

Conversely, reusable packaging can also refer to used items like newspapers itself, which sometimes acts as a packaging for sharp or easily scratched products or even as vintage gift wrappers as opposed to the conventional decorative wrapping papers.

Apart from reusing the packaging for its primary function as a container or a form of wrapper, Hangerpak's shirt packaging has doubled its function. With the smart foldable design of the packaging, it is able to transform into a hanger for its packaged product which is ideal for t-shirts.<sup>6</sup>



Hangerpak packaging (Internet)

## Refillable Packaging

Being in the market for quite a while, refillable packaging has been expanding into various sectors such as skin care, hair care, air freshener and instant coffee. This would not only significantly reduces solid wastes but also the manufacturing cost and marketing price of the product itself. It is expected that acceptance of refillable packaging will grow, especially with liquid dispensable products.



Shokubutsu body foam and refill (Photo)

In the ASDA supermarkets of the United Kingdom, consumers are being offered ASDA private-label fabric softener in a refillable plastic pouch that can be used up to 10 times in store. ASDA hopes that reusing the pouch will save up to 90% packaging and could be reused around 10 times.<sup>7</sup>

However, unlike the previously mentioned packaging-free supermarket *Original Unverpackt* which deals with food and simple food dispenser systems, ASDA not only brings inconvenience to the consumer by constantly reminding them to bring their pouch with them during their visits, but also additional barrier of investment costs for retailers in the dispensing systems for the fabric softener.

Thus, the original refillable packaging mentioned above is much more sustainable than the initiated idea of ASDA.



ASDA fabric softener refill machine (Internet)

<sup>6</sup> Retail Design Blog by Artica, HangerPak: Shirt Packaging Doubling as a Hanger (2011)

<sup>7</sup> Euromonitor International, Refillable packaging: What's in it for the consumer? (2011)

## Resealable Packaging

The disposal of packaging usually occurs when the product inside is being used or consumed. But what if we cannot finish the product, we would either have to find an extra container to store it or simply throw away, which is not sustainable. Resealable packaging makes it more convenient to store and reduces wastes as we are able to reseal it and make sure it is totally consumed before disposal.



Peanut packaging (Photo)

Resealing machines and tools have surfaced in the market for a while and it is a norm to actually reseal a packet of unfinished tidbits instead of transferring them into a container. This would not only be more convenient and sustainable, apart from the joy of being able to consume the food from its original packaging, it would also let the consumer aware off the product information from the packaging itself such as the expiry dates,



Resealing machine (Internet)



IKEA sealing clips (Internet)

## Takeaway Packaging

In takeaway food packagings which are meant to be soiled with grease and sauces, even if the materials are recyclable, they are considered to be contaminated. Nevertheless, they are built to be disposed, thus dining in is recommended if possible as not only does it saves the packaging required the food itself, it also reduces the packaging needed for the condiments.



Soiled food packaging (Photo)

## Smart Utensil Packaging

Consuming ice creams and yogurts are considered as enjoyments, but if we could save the extra spoon required to scoop the ice cream, it would seem even more desirable and sustainable, especially when the spoon requires extra materials such as plastic or wood to make. What if the spoon is part of the packaging, like a foldable spoon that can be easily created simply using the foldings of the packaging.



Awfully Chocolate ice cream packaging (Photo)

SpoonLidz by EcoTensil has made an innovative packaging in which the over-lid of packagings can be converted into a sanitary and sturdy spoon simply in one easy fold. Convenient for on-the-go eating, it is made by using material efficient and renewable paperboard. Since then, SpoonLidz has been providing a sustainable value-add to yogurt, fruit, and other to-go foods.<sup>8</sup>



SpoonLidz packaging (Internet)

<sup>8</sup> Christie. SpoonLidz – A New-fangled Innovation (2013)

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Nonetheless, packaging is an essential part of a product. It aids in transportation, provides physical and barrier protection and is a great marketing tool for attracting potential consumers.

However, sustainable packaging design plays an important role after the transaction is made. Is the packaging necessary after you have taken the product out of it? Are there ways for it to be avoided, reduced, reused, recycled or just simply built for disposed? As product designer myself, I find that the packaging of a product should not only work as an enhancer to the product before its transaction, but should also provide sustainable options for the consumers after being used as well.

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