

# Pocketz

**Product name:** Pocketz

**Category:** Environmental wellness

**Team Name:** Design-Earths

## **Design Statement:**

In Singapore, there is a large amount of single-use plastic bag wastage due to the habit of using them when purchasing items from stores. Specifically, 820 million per year just from supermarkets. [1]

Now, imagine the total amount of single-use bags all around the world, including from clothing stores, convenient stores, wet markets and so forth. How much waste are we actually making in total?

While there have been many innovations to target this issue, such as reusable bags which are readily available on the market, they are inconvenient. People often forget to bring them out which then defeats their purpose. Instead of helping to reduce plastic usage, it further worsens the situation as consumers resort to using more single-use plastic bags or buy additional reusable bags. These are extra materials used, adding to the impact of global warming.

## **How Might We statement:**

How might we make reusable bags more convenient for consumers to bring when going out in order to reduce the total usage of single-use plastic bags in Singapore?

## **Statistics:**

From Monday 3 July 2023, NTUC will be implementing a 5 cents charge per disposable carrier bag across all their stores, in line with NEA's Resource Sustainability Act. While they aim to reduce the amount of packaging waste generated, locals are still paying and using large amounts of single-used plastic bags. [2]

Due to the large amount of single-use plastic bags purchased and used, we feel the need to find a way to help reduce their spendings and reduce plastic consumption through a more convenient and fashionable way. [3]

## **Our product:**

Our product is the concept of having a reusable detachable pocket on one's clothing that transforms into a reusable bag when needed. This will act as an option to carry any products bought from a shop, accessible on one's clothes. Since it is attached to one's clothing as a fashion item, the user is unlikely to forget to bring it when going out. We will sell the clothing with the product attached. When purchasing items, one would simply be able to detach the pocket and turn it into a reusable bag to carry the items.

**Target Audience:**

Youth and young adults, aged 16-25.

**Product material:**

Fabric: recycled polyester fabric dyed in different colours [4]

Pros: reduced landfill waste, durable, easy to care for, quick-drying, affordable

Cons: difficult to recycle (however, we can repurpose them after use)

Dyes can be seen as detrimental to the environment. They can produce toxic fumes harming the environment. If it enters water bodies, it will be harmful to marine animals if consumed and aquatic plants as it will block sunlight from reaching the plants, reducing its capacity to photosynthesise. To tackle this problem, we will ensure we use eco-friendly dye and ensure proper disposal of dyes by sending it to a toxic waste collection facility licensed under National Environmental Agency (NEA). [5]

An example of a collector we will consider working with is Aroma Chemical Pte Ltd.[6]

**Step-by-step how to use:**

<p>Step 1: Detach Pocketz from pants and hold it facing up</p>	
<p>Step 2: Unbutton the flab</p>	

Step 3:  
Unfold it downwards



Step 4:  
Open up on both sides



Step 5:  
Flip up the handles and you're good to go!



### **Reaching Out to Target Audience:**

Since our target audience is youths and young adults aged 16-25, there are a few ways that our product can be effectively advertised to reach our target audience.

Youths and young adults tend to go shopping often, spontaneous shopping where they do not have reusable bags on them. Furthermore, they are likely to follow trends and keep up with the latest fashion. This group of people are generally more open minded and accepting of innovations and taking actions to reduce their impact on Earth.

### **Social Media:**

Most teenagers and young adults use social media applications in their daily life. Apps to target would be Tiktok and Instagram, as they are the 3rd and 4th most used social media platforms in Singapore, with the ad reaches of 51.5% and 30.8%. We can advertise our product on these platforms by making Instagram Reels/Tiktoks and updating our followers on updates of our product. [7]

We will also sell our product through a Pocketz website, where consumers can purchase Pocketz anytime anywhere. This increases convenience for consumers as they do not need to go to Pocketz's physical store

### **Campaign:**

We are not only selling a product, but a vision. The vision being to reduce usage of single-use plastic bags in Singapore. Hence, we would like to market our product as part of a larger effort to minimise plastic bag usage in Singapore.

We would send our product for eco-conventions taking place at expo or sports events to popularise ourselves to Singaporeans, and promote our campaign through social media.

### **Brand Collaboration:**

We want to target fast fashion brands to make fashion more sustainable. We will do so by collaborating with popular clothing brands worn by locals, allowing us to be able to better reach out to our audience and increase awareness about our product to people out of our target audience (eg. uniqlo, H&M, cotton on, Love, Bonito)

There are brands with a large presence in Singapore. Hence, by collaborating with them, we would be able to influence more youths and young adults to use our product.

### **Customisation:**

We need to be able to connect with our audience and by allowing them to customise Pocketz, it gives them the freedom to choose a unique design perfect for them, encouraging self-expression. We can do so by selling Pocketz on its own and allowing a wide range of

colours. Furthermore, we can allow services such as printing designs of customers' choice onto Pocketz as long as they provide an image of it. This customisation service will be available on our website and at all our physical stores.

### **Considerations for the bag:**

Why did we choose to make reusable bags over single-use plastic bags or paper bags?

1. Single-use plastic bags are easily available and convenient for consumers all around the world, leading to a high consumption rate. Most single-use plastic bags are hard to recycle due to their small size. Bags that do not get recycled go to the landfill or the sea from littering which can endanger the environment. For example, marine creatures may suffocate from plastic bags entangled around them. Over time, they become microplastic, which are appearing everywhere in large amounts. They can be detrimental to health. Hence, we will not consider making our product with single-use plastic bags. [8]
2. Paper bags are considered more environmentally-friendly than single-use plastic bags. They are easier to recycle as long as they are not contaminated and are biodegradable. However, it takes four times the amount of energy to produce a paper bag than a plastic bag. Additionally, the amount of trees needed to be cut down to produce paper bags will be at a faster rate than at which trees grow to their mature state. While one may argue that we can reuse paper bags many times or recycle them, paper bags are not durable to last through multiple uses, especially when coming into contact with water and recycling them uses extra energy. Hence, we will not consider making our product with paper bags.
3. Reusable bags are innovated such that they will last after multiple uses, reducing the usage of single-use bags. However, studies show that "cotton bags have to be reused 131 times before they reduce their impact on climate change to the same extent as plastic bags". This is due to the material of the bag, the amount of energy needed to produce the bag and the resources being used in the production. Therefore, in order to make reusable bags more sustainable, we need to consider the usage of the bags and how effective it will be to reduce environmental impact.

Therefore, we came up with Pocketz. Pocketz will be reusable to reduce material usage and environmental footprint. Additionally, it will be more durable to last at least a few hundred uses. Pocketz, a reusable bag made into a pocket, will be more convenient for usage to tackle the issue of reusable bags going unused due to consumers forgetting to bring them out. [9]

### **Future Outlook:**

- **Expanding to other age groups** (children, working adults)  
→ We will create more products catered for different age groups. If we target more age groups, we can make a bigger positive impact on our environment. Thus, causing a greater decrease in Singapore's single-use plastic bag usage. Children and working adults are more likely to accept new environmentally-friendly innovations into their lives.

We hope to also be able to find a common understanding and target our older age groups, making them come on board to this journey towards sustainability.

- **Gather feedback from users**

→ Environment: To innovate for the environment is to adapt to the ever-changing nature of climate change. As a group, we may not hold all the best answers as to how to improve and adapt our product for the future. Hence, third party feedback and suggestions will be crucial to improve our product to be more environmentally-friendly. For example, if a user has a suggestion on a type of environmentally-friendly fabric to use for our product, they would be able to suggest to us to consider implementing. We will also consult experts to give us suggestions on how we can make our product better for the environment.

→ User: innovation is user-centric. By getting feedback directly from our users, we will be able to best improve our product to suit their needs. For example, if a user finds our material to be too rough on skin, they could give feedback to us and we could make the necessary changes to our product. We can do so by doing surveys at our shops, or even going out to survey people at our local clothing stores to check for their needs and wants to make our product suitable for them.

- **Implementing a recycling program**

→ not all things last forever, including Pocketz. Hence, establishing a recycling program to collect all the old Pocketz is very important. This is because we do not want Pocketz to end up in landfills and contribute more to climate change.

→ Fabric: We would take apart our Pocketz, and recycle the fabric by sending it to Greensquare. (They are a textile recycling service in Singapore which repurposes used textiles as industrial rags to be used in developing countries.) [10]

We can also start a new product in our shop, where Pocketz are made up of recycled fabric that we have collected. At the same time, we could also sell recycled fabric at a low price for other companies to purchase to ensure the continuity of the usage of the fabric.

→ Buttons: Buttons would be collected and used as art on the walls at our physical stores. The multi-coloured mural will turn heads and pique the interest of passers-by, enticing them to visit our physical store. Buttons can also be collected to be reused by the store or even given to seamstresses to ensure that no buttons are wasted.

→ Magnets: Magnets would be collected and used as wall decoration at our physical stores. It would be an interactive structure that we would use to stick announcements and customers could use it to express their creativity. The base would be a tiled wall with magnets as the tile. More colourful magnets would be available for customers to arrange to make their own piece of art. Every store would have a different looking magnet wall. Furthermore, customers are also encouraged to use them at home! Magnets can be used on the fridge to stick up reminders.

**Impact on Society:**

- Singapore uses 0.5% less single use plastic bags when going shopping by 2030
- As of June 2022, there are 400,700 youths aged 15 to 24 in Singapore. [11]

They account for 7.10% of Singapore's population, which stands at 5.64 million.

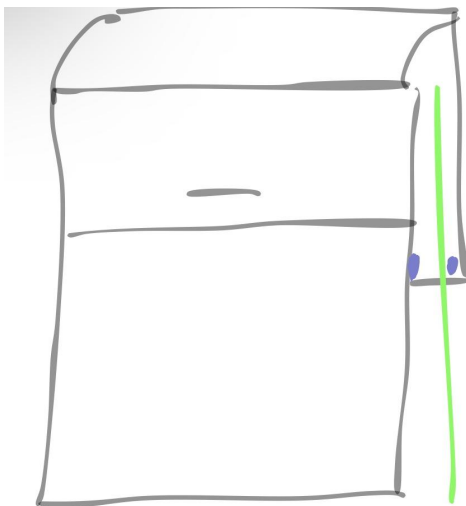
Singapore used 820 million plastic bags from supermarkets in 2018. [12]

We hope to decrease this number by 4.1 million, which is 0.5% by 2030. Considering the average person uses 146 plastic bags per year, we will need to influence 28 000 youths to use Pocketz. [13]

- more people to cultivate other environmentally friendly habits into their lifestyle.  
→ people will incorporate sustainable fashion into their wardrobe (reduce fast fashion) → people outside of the target group will be influenced to be more open minded to try out new initiatives that benefit the environment.

### **Areas for improvement**

- making the bag more accessible to people who do not want to buy a new piece of clothing to use our product



Pocketz in this version allows users to hook onto their accessory, be it a tote bag or their pants. This version gives users the freedom to add on to what they have currently instead of purchasing a new piece of clothing. The green line represents the fabric that Pocketz is hooked onto. The blue dots represent magnets and this feature prevents the user's clothing from being damaged due to the attachment.

### **Interview:**

Question	Answer
<b><i>Do you own reusable bags?</i></b>	29/30 respondents answered 'yes'
<b><i>Do you use reusable bags often?</i></b>	6/30 respondents answered 'yes'
<b><i>Do you think reusable bags are inconvenient? Why or why not?</i></b>	22/30 respondents answered 'yes' 8/30 respondents answered 'no'

	<p>Points raised: (yes)</p> <ul style="list-style-type: none"> <li>- Forgetting to bring them out</li> <li>- Bulky and having to fold them to fit in bags</li> <li>- Purchasing new reusable bags when one forgets to bring them out</li> </ul> <p>Points raised: (no)</p> <ul style="list-style-type: none"> <li>- Bringing them has become a habit, so they do not forget</li> <li>- Many fold into small sizes and can be kept in the smallest of bags</li> </ul>
<p><b><i>Imagine reusable bags being convenient, such that you do not have to remember to bring them out. Would that be helpful for you to inculcate the habit of bringing them out?</i></b></p>	<p>28/30 respondents answered 'yes' 2/30 respondents answered 'no'</p> <p>Points raised: (yes)</p> <ul style="list-style-type: none"> <li>- Do not have to actively remember to bring them out</li> <li>- Feel at ease that they will have a reusable bag when needed</li> </ul> <p>Points raised: (no)</p> <ul style="list-style-type: none"> <li>- Do not want to bring reusable bags out for shopping; prefers plastic bags</li> </ul>
<p><b><i>We actually made a reusable bag that is attachable to your clothes so you can bring it wherever you go without needing to remember to bring it. What are your thoughts on this?</i></b></p>	<p>General:</p> <ul style="list-style-type: none"> <li>- Happy <ul style="list-style-type: none"> <li>→ can use the bag as a fashion item</li> <li>→ do not have to remember to bring it out</li> </ul> </li> <li>- worried <ul style="list-style-type: none"> <li>→ if bag will weigh down clothes</li> <li>→ how bag will be attached to clothes</li> </ul> </li> </ul>

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