



LADIES' SCRAP MANAGEMENT



■ Team name

Team Name: 3W1M

Institute : Universiti Teknologi Malaysia (Malaysia – Japan International Institute of Technology)

Team members :

- 1) Mafuzah Binti Mazela
- 2) Shairatul Akma binti Roslan
- 3) Muhammad Mahfuz bin Salehhon
- 4) Nur Sri Dewi binti Md Hisham

■ Team Introduction

All team members are responsible for handling all tasks assigned by the team leader and working synergistically with other team members. Every team member has their own expertise and knowledge in terms of science and technology.

■ What goal do you want to achieve

Supporting gender equality (SDG5), propose a better method for women's waste management which may provide more employment opportunities (R&D) and better sanitation product availability without the implementation of the pink tax. Therefore we aim:

1. Produce reusable women's cosmetics products such as makeup and skincare containers, and fast-fashion from biodegradable products.
2. Propose and improvise a new or available disposal method for women's menstruation waste.

■How will you achieve the goal

Likewise, if we are to compare the buying power between genders, the female would have the upper hand as most of the items sold in the world are in favor of the more feminine side. In fact, a lot of companies nowadays focus on producing more cosmetics, women accessories and women's fashion. Also, it is known to the world that women require menstruation necessities every month. However, not many people care about the waste they create and how it affects the environment.

Cosmetics are defined by the Food and Drug Administration (FDA) as substances applied to the human body for cleaning, beautification, boosting beauty, or altering the look without changing the body's structure or functions. This includes toothpaste as well as colognes, moisturizers, nail polish, cosmetics, and hair products. The cosmetics business produces more than 120 billion packaging units yearly, the majority of which is not recyclable. The bulk of cosmetic products are packaged in plastic, which can take almost 1,000 years to degrade in the case of the typical moisturizer pot. Then there are the plastic packaging, paper inserts, cardboard sleeves, foam, mirrored glass, and other materials, which are occasionally all included in a single purchase.

Besides, the fast fashion market was valued at \$35.8 billion, according to statistics from the fashion industry. Every sector will be shaken in 2020, and we all know why. Fast fashion is expected to be worth \$31.4 billion in 2020, having a negative CAGR of -12 percent. Fast fashion is anticipated to climb to 163.4 billion dollars with a constant growth rate of 19% over the following five years, and then reach 211.9 billion dollars (188.8 billion euros) in 2030, with a five-year average annual growth rate of 5.3 percent. 80 billion new articles of clothes are purchased annually around the world, amounting to a \$1.2 trillion business. Despite being the world's largest consumer of apparel and textiles, the majority of these products are made in China and Bangladesh. Nearly 3.8 billion pounds of the clothing that Americans consume each year, or about 85% of the total, are dumped in landfills as solid trash, or about 80 pounds per person annually.

Next, the age for one sanitary pad may last up to 500–800 years before degrading upon burial. However, absorbent gels, which react poorly to hot temperatures are used to layer sanitary pads. You must burn the entire package of sanitary pads because you cannot separate these gels before burning. When you do this, the gel may release some hazardous substances into the air, which adds to the myriad problems our ecosystem faces.

In order to achieve our first goal, “Produce women's products such as makeup and skincare containers, and fast-fashion from non-biodegradable products”. We must overcome the millions of waste that had been built up over the years from the constant use of makeup and skincare products. By far, recycling the ones that exist would be the best idea. Then, we would like to propose the idea of producing cosmetics containers using a biodegradable material with its own personal code that can be scanned. This code can serve as data information hence allowing cosmetic shops to know the brand and the information of the product allowing it to be refilled correctly. Suggested to brand owners to put a discount code for each refill as to attract more people to recycle instead of buying new products. Also, we had the idea of producing fashion from biodegradable material with their own expiry date. Once the expiry date is reached, the cloth would start to degrade by itself with its own purpose, for instance, a cloth may degrade to become fertilizer. The degradation of the cloth after the expiry date may take weeks or months depending on the chemicals used to manufacture it.

The second and final goal we would like to achieve, “Propose and improvise a new or available disposal method for women’s menstruation waste”. Our idea is to reduce the number of years of sanitary pads degradation from 500 years to approximately 100 years earlier. Due to the lack of data on how the method of disposal is done, we would like to propose the innovation of applying a natural based product to aid in the degradation of the pad. Hence, by using the natural-based product it would be easier to segregate them before burying them.

■What effect is expected after you achieve the goal

Upon achieving the goals, approximately 5 years from now, we expect that at least about 50% from 120 billions cosmetics waste are reusable, resulting in the prevention of about 60 billion cosmetics products becoming waste. Besides, about 20% of the current 1.72 billion kilogram (0.34 billion kilogram) of clothing are targeted to become biodegradable waste with each's expiry date. Finally, we aim to produce a new product of sanitary pads that could degrade within 300 years.