SUSTAINABILITY JOURNAL

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Week 1

17 UN Sustainable Development Goals

For this week lesson, I learned about the United Nation (UN) and 17 goals that were set in 2015 General Assembly. The purpose of these goals is to create strategies for all developing and developed companies around the world that "improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests." 17 goals included with 169 targets, 3108 events, 1307 publications, and 5487 actions. These goals are intended to achieve by 2030.

I found this video is a well explanation for the dimensions of Sustainable Development Goals

One of many companies is leading in the process of achieving these goals, Adidas stated in their 2020 report that the UN Sustainable Development Goals (SDGs) framework is correlation with their commitment to sustainability and human rights. The selective goals that Adidas chose for the company are: 3. Good Health & Well-Being, 5. Gender Equality, 6. Clean Water & Sanitation, 7. Affordable & Clean Energy, 8. Decent Work and Economic Growth, 9. Industry, Innovation, and Infrastructure, 10. Reduced Inequalities, 12. Responsible Consumption & Production, 13. Climate Action, 14. Life Below Water, and 17 Partnership for the Goals.

In order to work on these goals, Adidas partnered with many organizations. Some key memberships are:

- Better Cotton Initiative (BCI)
- Zero Discharge of Hazardous Chemicals (ZDHC) working group
- Fashion Pact
- Leather Working Group (LWG)
- Apparel and Footwear International RSL Management (AFIRM) working group
- World Federation of the Sporting Goods Industry (WFSGI)
- Fair Factories Clearinghouse (FFC)
- Fair Labor Association (FLA)
- German government-led Partnership for Sustainable Textiles (‘Textilbündnis’)
- The Accord on Fire and Building Safety in Bangladesh
- United Nations Fashion Industry Charter for Climate Action

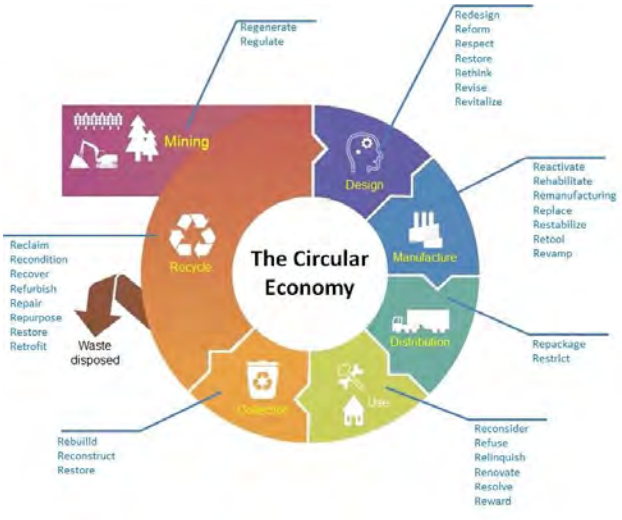
Sources:

https://sdgs.un.org/goals

https://report.adidas-group.com/2020/en/group-management-report-our-company/sustainability/our-approach.html

The Circular Economy and The Ellen MacArthur Foundation

The Ellen MacArthur Foundation is a UK based charity founded in 2009. They develop and promote the idea of circular economy. A circular economy is a transformation of our regular "take-make-waste system." The circular economy has a framework of where to begin, the material, the design, and how business is going to work it out so pretty much sounds like a eco-system.



Here is the illustration video that explains about the circular economy and some examples. I think it is easier to understand by looking at the illustration.

My favorite example for the circular economy is Patagonia. They start the products by using organic or recycled materials, many distributors are located over the worlds, products will be shipped straight from factories to international distributor to decrease carbon footprint, customers can trade-in their products at the end of theirs uses so that the company can reuse the materials or fix and sell it as second-hand products.

Sources:

https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

https://www.triplepundit.com/story/2020/brands-circular-economy-2020/709596

Week 2

5 Phrases of The Fashion Life Cycle

- **Design: Selecting materials for the products**
- **Production: Manufacturing**
- **Distribution and Packaging: Transportation and packaging**
- **Consumer Use: How customer using products (washing, drying)**
- **End-of-Life: Products will be thrown to the landfill or recycled**

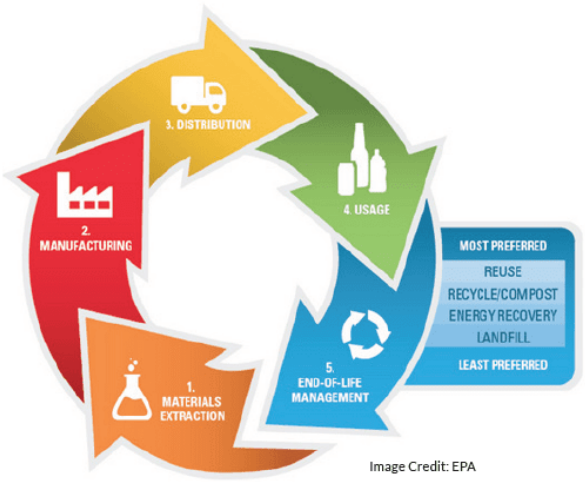


Image Credit: EPA

Facts That I Learned From The Class (T-shirt Making and Sneaker Making)

- 2,700 liters of water are needed to produce the average T-shirt.
- Cotton uses more insecticides and pesticides which is harmful for farmers, beneficial insects, and environment.
- Organic cotton makes up less than 1%of the 22.7 million metric tons of cotton produced worldwide.
- Azo dye is the most popular way to dye fabric which contains cancer-causing chemicals. They release this as toxic water to the river and ocean at the end.
- Employees work in the factories typically face poor conditions and low wages.
- The average household does nearly 400 loads of laundry per year, each using about 40 gallons of water.
- Dryers requiring five to six times use of energy more than washers.
- Sneakers alone generate 313 million metric tons of carbon dioxide every year.

- A typical sneaker is made up from 65 parts. Transporting these parts between countries created significant carbon footprint.
- A pair of sneaker takes up to 1000 year to degrade.

I found an interesting article about what is the most to the least sustainable fabrics. I was so surprised that I got a lot of them wrong before. The top 1 least sustainable fabrics is polyester (I thought cotton is top 1). Polyester is non-degradable so it takes 20 to 200 years to break down in the landfill. Large amount of water is used for the cooling polyester process. Each washing cycle can release up to 700,000 mini plastic fibers to the environment. Acrylic and Rayon are also on the list of least sustainable fibers. I did not know that before since I thought they were made from green products. However, the process of manufacturing Acrylic and Rayon is extremely polluted to the workers and environment.

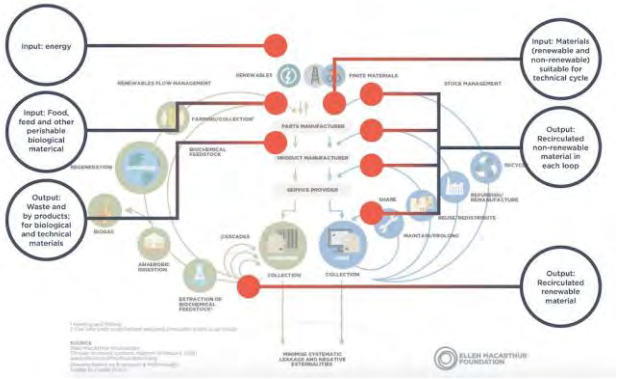
Sources:

https://www.youtube.com/watch?v=BiSYoeqb_VY

https://www.youtube.com/watch?v=A_YMOhpyErI

https://www.eco-stylist.com/a-guide-to-the-most-and-least-sustainable-fabrics/

Week 3



Circulytics: How to Make Your Companies More Circular

Circulytics is a methodology found by The Ellen MacArthur Foundation to measure the circular economy performance of companies based on their strategies, processes, and entire operations. By using the comprehensive set of indicators, the company will be able to self-examine under two main ways: Enablers and Outcomes.

Why Companies Need to Use Circulytics?

According to the The Ellen MacArthur Foundation, the benefits of using Circulytics are:

"

- Measures circularity performance - Measures a company's entire circularity, not just products and material flows
- Supports decision making - Supports decision making and strategic development for circular economy adoption
- Highlights strengths and blind-spots - Demonstrates strengths and highlights the areas for improvement
- Provides transparency - Provides transparency and generates brand value to investors and customers about a company's circular economy adoption – if the company chooses to publish it
- Opens up opportunities - Delivers unprecedented clarity about circular economy performance, opening up new opportunities to generate brand value with key stakeholders"

The Biggest Advantage of Circulytics: Free to use compared to other service which may cost ($100,000+/year)

Here is the video showing how business should use Ciculytics

Resources:

https://ellenmacarthurfoundation.org/resources/circulytics/overview

Week 4

Kristine Upesleja and The Story of The Renewables Materials

The concept of turning waste into materials is increasing right now. Here is some highlight from her talk:

- Nucycl by Evnru - which turn discard garments into materials that can use for sustainable apparels
- Circulus Fiber by Renew Cell - which made from a textile wastes like worn out jeans
- Ocean Waste and Bionic Yarn - transform plastic waste in the ocean and turn it into fiber
- Unify with Repreve Fiber - Made from recycle plastic bottles
- Econyl - Fabrics that made from discard fishing nets and fabric scraps by using recycle chemicals
- Adidas Loop - which is the first runner shoes that made from one material only - TPU (but only 5-10% can be recycled). Normal shoes made from 12 materials which will end up toss away

Microfiber pollution is one of the big sources that polluted the ocean right now. Every time you wash a synthetic fiber garment, the microfiber will be released into the ocean and there are 1.4 trillion particles microfiber can be found in the marine. Many of company turns food left over and waste to fabrics and textiles nowadays. Most commonly seen are Orange, Apple, Coffee, Milk Coconut, Mushroom, Pineapple, and Cork. Another fact that 1.3 billion ton of food that made for human globally are tossed to the landfill each year.

Some materials that already produce in commercial:

- Pinatex - which is alternative vegan leather made from pineapple leaves
- Orange Fiber - which made from left-over orange blend with silk (The company actually collaborate with Salvatore Ferragamo)
- Agraloop - which is a company located in Los Angeles that turn food crop waste into high quality bio-fibers
- Bolt Thread - they have two materials: Milo from mycelium and mushroom root and microsilk from spider-silk (the company located in the bay area and collaborate many times with Stella McCartney)

We also went over the [Higg Index Tools]

It was developed by the Sustainable Apparels Coalition as a Standardized Measurement tools for businesses and retailers. The tools will show the details performance index of each cycle phrase which include: Raw Materials, Manufactures, Logistics & Policies, Retail Operations, Comsumers & Communities, Design & Production. In overall, Higg Index shows more details and easier to work with compared to Circulystics, many big companies also chose Higg as the tools for their sustainable index. However, the pricing for Higg Index is expensive.

Week 5

Facts About How People "Use" Clothing Right Now

- The fashion industry produces more CO2 than all the international flights and maritime shipping combined.
- More than 100,000 lives under water are killed every year because of the plastic wastes (included microfibers)
- 92 million tons of waste textiles are created and tossed in the landfill every year by the fashion industry which equivalents of 1 truck of waste textiles are dumped every second.

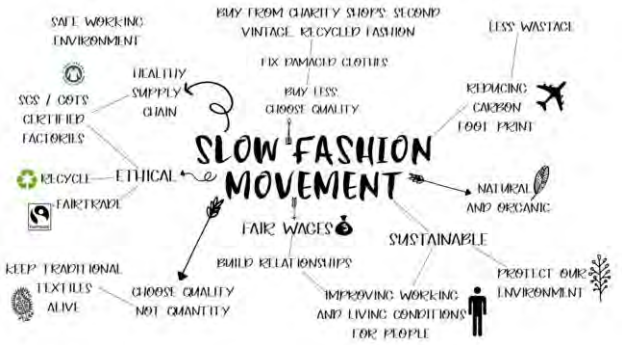
While fashion industry produces a massive amount of clothing every year, the consumer is still having the habit "buy now, toss later." This situation created the current fashion wasted crisis.

Facts From the Levi's Lifecycle of a Jean Report

The Levi Lifecycle of a Jean report is one of the most completed reports about consumers' behavior from a fashion brand.

- Washing every 10 times the product is worn instead of 2 times will significantly change the impact to the climate (reduce energy and water use)
- Consumers in China are really leading in the utilizing energy competition (they mostly wash their jeans in cold water and air dry them)

- American consumers have the highest number of using water intake and non-renewable energy.
- UK and France consumers mostly air dry their jeans, however, they tend to wash their jeans with hot water.
- UK, USA and France consumers wash their jeans more frequently than China consumers.



Slow Fashion

Opposite with Fast Fashion, Slow Fashion is now the most effective way to save the current crisis. Slow fashion brands produce a small number of productions every year. Their clothes have to be made with high quality and sustainable materials. The overall making process is also locally.

Stella McCartney

Stella McCartney is a slow fashion brand that committed to not produce massive products for each season, garments from brands also are made with sustainable eco-friendly materials like organic cotton, mushroom fibers... Their products are mostly made locally. High craftsmanship is exercised in the making process as well since it is a luxury brand.

Sources:

https://levistrauss.com/wp-content/uploads/2015/03/Full-LCA-Results-Deck-FINAL.pdf

https://www.net-a-porter.com/en-us/campaigns/net-sustain/

Week 6

End-of-life Terms (Rank from Lowest to Highest Level)

1. Downcycling: Turning/recycling or reuse thing to something that has lower value.
2. Recycling: Turning/recycling or reuse thing to something that has the same value.
3. Upcycling: Turning/recycling or reuse thing to something that has higher value.
4. Circularity: The highest level which is a complete sustainable lifecycle of a product.

Certifications for Fashion:

To avoid Green Washing from brands here are some certifications that are given to companies to recognize their effort being sustainable

- B Corp - the certification awarded by a non-profit organization B Lab to prove the commitment to "doing good" in wide range categories of brands. B Corp is one of the most powerful certifications that many companies are reaching for.
- BlueSign - the certification awarded by a Swiss organization - Bluesign Technologies for textile manufactures that producing under environmentally-friendly and health-conscious.
- Fair Trade Certification - the certification that awarded to products that made under an environment that prioritize worker safety and fair pay.
- Leather Working Group - the certification awarded to leather trade goods with Gold, Silver, and Bronze ranking .

- USDA Organic - the certification awarded by The United States Department of Agriculture Organic to agriculture products like cotton and cashmere without using synthetic pesticides, fertilizers.

Dr. Martens

Dr.Martens is best known for its leather products. By that the most popular sustainable certificate that any leather good company wants to achieve is The Leather Working Group (LWG). LWG classified their certificates as "Gold," "Silver," "Bronze," and "Audited" based on the company's environmental performance. Dr. Martens proudly said in their 2021 report that more than 98% of leather that they used "came from Gold, Silver or Bronze medal rated LWG certified tanneries with 48% being from Gold medal tanneries." They have a website called www.drmartensplc.com (Links to an external site.), this website included all the information that they have about sustainability and work ethics. They also claimed that they are following the UNSG's frameworks.