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DESIGNING FOR CIRCULAR FASHION: INCORPORATING UPCYCLING INTO FASHION DESIGN PRACTICE.

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ABSTRACT

One of India's most important economic contributors is the fashion industry. However, this industry produces a significant amount of pre-and post-production waste. This industry enthusiastically designs or updates the designs of clothing to satisfy consumer demands for fashion products, resulting in sizeable amounts of fabric waste being generated during the manufacturing process. The effort will be most effective, according to practitioners and academics, when made during the designing, pattern-making, and cutting phases in order to minimize waste. Students, researchers, and practitioners in the global fashion industry who are interested in the concerns of waste pre-production and its impact on the environment have studied and practiced the notion of zero waste fashion design, also known as zero waste fashion design. The procedures to develop garments using cutting fabric waste during the pattern making and cutting process are referred to as zero waste fashion design. The purpose of this study is to look into how the concept of zero waste fashion design can be implemented in the design and production of clothing. How different manipulation techniques and methods can also be used to develop zero waste garments.

KEYWORDS: Apparel, Manipulation, Zero Waste, Upcycling, Fashion Design.

INTRODUCTION

Waste is a substance that we don't want to produce but do so unintentionally. It has a significant economic impact from the manufacturing process to the consumer end. Similarly, wastage is a big term for manufacturers like textile or clothing manufacturers in their manufacturing process. When the production quantity is large, the amount of waste is massive.

Textile waste can occur in various textile manufacturing departments such as spinning, weaving, dyeing, finishing, garment manufacturing, and even at the consumer level.

Currently, researchers, manufacturers, clothing brands, and organizations are collaborating to find effective ways to reduce and manage textile waste. Besides this, a few clothing brands and organizations are working to recycle and upcycle textile waste.

There are two types of waste in the textile and fashion industries: Industrial waste and consumer waste. [1] According to Rissanen and Mcquillan (2016), one of the industrial wastes that received less attention was pre-consumption waste from the garment manufacturing process. Every garment that goes through the pattern cutting process generates an average of 15% textile waste per garment, while the estimated textile material used in garment production in 2015 is 400 billion meters. The Zero Waste concept, which optimizes the character and availability of materials with less than 15% pre-production waste in the garment manufacturing process, has been used in the textile and fashion industry since 2008.

To address the issue, the textile industry has implemented numerous measures to reduce its negative impact on the environment. Textile recycling, which is the reuse and reproduction of fibers from textile waste, is one of these measures. Another example is textile upcycling as a sustainability measure.

Every manufacturing activity, especially the textile sector, has been examined for sustainability due to the alarming level of greenhouse gases (GHG) in the environment, the rapid depletion of natural resources like water and petroleum products, and the rising levels of industrial effluents. An Environmental Protection Agency report estimates that India produces 80,000 to 85,000 tons of willow waste annually, which obviously necessitates proper treatment in addition to landfill disposal.

In this context, the affluent segment of society is adopting a "make-use-and-throw" approach, resulting in large-scale manufacturing on the one hand and the pressure to dispose of used clothing on the other.

Thus, sustainability researchers are discussing responsible consumption, recycling, and upcycling of used or unused/waste materials. It is possible that such used garments can be repurposed by refurbishing them with minimal processing and value addition techniques. Upcycling or refashioning clothing can be an anomaly in a world that is still churning out trendy throw-away fashion pieces at breakneck speed.

Before the clothes reach the consumers, millions of tons of textiles are wasted annually. 15% or so of textiles used to make clothing are left over. Pre- and post-consumer waste have less value. Because it enables designers to increase the lifespans of textiles and decrease pointless textile production, which depletes natural resources, upcycling is crucial.

As a result of using pre-existing materials, upcycling frequently consumes few resources during creation and prevents "unwanted" materials from entering the waste stream. A half-billion garments can be produced annually by many large clothing chains, which is a lot more than can be used. And after they've served their purpose, what happens to those clothes? Discarded. If unwanted clothing is not thrown in the trash, it is frequently donated to thrift stores. Even though this is a positive step toward reducing waste in landfills, it is not as advantageous as people think because only 20 to 30 percent of donated clothing is actually sold again.

R3: The urban buzzword for reducing the mountains of waste that are amassing in cities all over India is "reduce, reuse, recycle." Clothing is rarely reprocessed, whereas waste made of plastic, paper, and glass is recycled to some extent. Clothing and textile materials can almost entirely be recycled. More people are giving their old clothes away for recycling, but it takes a lot of time and effort to change the waste material's physical characteristics.

Upcycling: Upcycling is taking a product and creating a new use for it, which can be of higher quality or value than the original," explains Moram. Upcycling, also known as creative reuse, is the process of giving old objects a new lease on life. It's all about repurposing materials to create something more valuable.

Recycling: The process of collecting waste and transforming it into new usable objects is known as recycling. Bottles, plastic, and cardboard are sent to recovery facilities where they are sorted, cleaned, and processed into new materials that can be bought and sold. Plastic bottles, for example, can be melted down and reused to make new plastic items.

Upcycling vs Recycling

Upcycling takes waste and creates something new from it in its current state, whereas recycling involves the destruction of waste in order to create something new. The original form is retained and the object is recognizable when upcycling, which gives it a story — you can see what it was and what it has become.

In this sense, the upcycled object pays homage to the original object.

While recycling is useful, upcycling is highly creative and can use a wide range of techniques and materials to create the finished product. To summarize, reuse and upcycling reduce the need for recycling and are thus excellent environmental choices.

When a material can no longer serve any purpose, recycling it is more environmentally friendly than landfilling it.

The process of upcycling clothing is a better alternative to the time- and resource-consuming textile recycling process for reusing old clothing. This is not a novel concept; modern upcycling has roots in the 1930s and 1940s, a time when families had limited financial and material resources as a result of the World Wars. Because raw materials are expensive, people in rural areas of developing countries still make clothing, baskets, jewelry, and other useful items out of whatever they can find.

Upcycling allows designers to not only practice their creativity, but also to reduce their environmental impact by reusing their own or others' waste.

Giving textiles a second life can result in both one-of-a-kind and reproducible items.

Again, there are numerous ways to upcycle. One approach is to update and modernize old clothes. This category includes ready-to-wear garments that did not sell or are no longer in use. Often, these discarded garments are in good condition and only require minor cosmetic changes to become interesting and appealing again.

A fashion designer is responsible for deciding on the material and design of each garment in a collection. The designer should understand the pattern making and sewing processes in addition to having a good sense of style and taste. Knowledge of garment production will also help designers create prototypes and more innovative designs in the future. When creating a prototype for a specific garment design, designers use creative pattern cutting techniques to cut, drape, or manipulate the pattern. Today's creative pattern cutting technique for garment production has evolved in response to waste issues such as pre-production waste from leftover materials.

The aim of this study is to examine how fashion design students and researchers perceive upcycling textile waste and to identify different methods for upcycling textile waste.

Methodology

This experiment's goal is to create wearable designer garments using fabric cutting waste through fabric manipulation techniques and a zero waste fashion design approach. This method can be used to create unique textiles, made-ups, accessories, and home furnishings.

This method of innovative fabric manipulation supports design students how to use fabric waste to generate effective upcycled products.

Step 1: Collected woven fabric cutting scrap from the classroom of a fashion design student that was left over after the garment was finished. What was the purpose of collection a fabric scrap from the classroom?

The goal of this kind of exercise is to practically involvement of fashion design students and experiments begin from the classroom. (Fig.1)



Fig.1

Step 2: Unravel all of the yarns manually from the small fabric pieces and collect all of the yarns to make the desired layers of yarns for the product. Depending to size of the garment/product. (Fig.2)



Fig. 2

Step 3: Spread yarns on the newspaper according to the desired layer and cover the layer with newspaper on both the top and bottom for sewing. To properly create the layer and entangle all yarns, a few machine stitches are required. (Fig.3)



Fig.3

Step 4: After completing the previous step, the newspaper must be removed. As a result, we would obtain the fabric's layers. (Fig.4)



Fig.4

Step 5: Fabric layers are now formed in preparation for cutting and sewing. Hence, we completed the garment cutting process and layout planning in accordance with the design. After completing the sewing of the garment.



Fig.5



Fig.6

Step 6: Final appearance of the designed garment, completed in less than 20 hours of work, even with the use of waste fabric for the lining. I make no financial investment in the clothing.



Fig.7

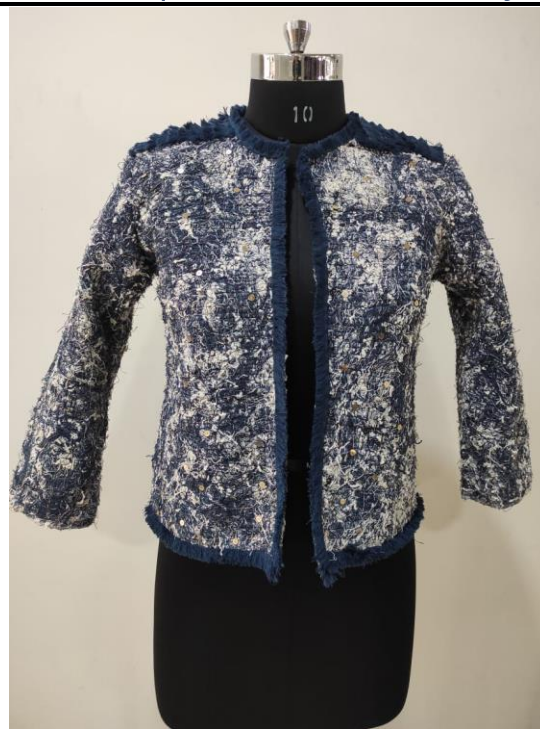


Fig.8

CONCLUSION

So far, implementing upcycling fashion within a circular economy has provided a new lens through which we as designers can preview how we would like to experience fashion. The textile industry and designers are beginning to understand the value, sustainability, adaptability, and future role of circular approaches thanks to research and development. By involving educational institutions in the research, we will create resources for zero waste design thinking and look into the role maker spaces can play in future learning experiences for students about sustainability in design and the circular economy. Through participation in a real-world intervention, fashion designers and students can experience the idea of zero waste fashion thanks to this feasibility study. With the aid of this technique, I will start a project to develop a collection of unisex clothing.

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