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Development of Innovative Surface Ornamentation by Utilizing Pre-consumer Textile Waste for Sustainable Fashion

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Abstract

Going green has been a catch word in the global fashion circle. The concept of reduce, reuse and recycle is gaining momentum. Each year the garment industry generates tons of pre-consumer and post-consumer wastes, which is a great ecological threat. The Management of this pre-consumer waste is the greatest challenge that fashion Industry is facing. It is high time, we take a wakeup call being design responsible, creating designs which can be lucrative to Indian and International market. This can contribute to a new genre of Ethical Fashion. This motivated us to create a design range, using pre-consumer waste in form of fabrics. The main idea was to experiment with different techniques for creating surface design using consumer waste. The two techniques used were integration and disintegration. So we collected different fabric wastes relating our colour story and shredded It (Disintegration). Thereafter we created a fabric surface by sandwiching the shredded fabric (Integrating) between two fabrics i.e. poplin and net. We used net so that the shredded surface becomes more durable for easy use and maintenance. These were created using inspiration from fluid art, for fabric formation from fabric pieces. Fluid art is an abstraction which depicts the free flow in varied colours, creating a psychedelic effect. We considered designing an entire formal party wear collection, using these developed fabrics for surface ornamentation in different areas of the garments. The dresses were designed for males and females keeping in mind sustainability, consumer usage and serviceability, making it user friendly and innovative. The surfaces developed on the garments were sturdy, washable and easy to maintain, if put to consumer use.

Keywords: Pre-Consumer waste, integration, disintegration, surface-ornamentation

1. Introduction

In recent times the word green has increased value in all aspects of life. Hence, this word also has importance with reference to fashion industry, as every year it generates the tons of textile waste. With the recent changes in fashion trends, there is a marked change in the way fashion is consumed. The concept of re-design, re-use and re-cycle has caught up in the name of sustainable design. Not only designers are enhancing their design collections towards eco-fashion, but even there is a marked awareness in consumers, motivating designers to think towards these lines. Hence while innovating the design process with sustainable approach, we decided to create innovative surface ornamentation using the pre-consumer fabric waste.

Methodology

After researching on the types of fabric waste generated, at various stages of garment manufacturing. We figured out that most commonly, generated waste was in the form of fabric pieces in varied colours. These were generated during the garment manufacturing and was found in variety of colours and fibre content. We decided to use this waste and use it to create an innovative surface ornamentation. For this we used disintegration technique. The process involved shredding of leftover fabrics pieces, generated as waste after cutting the garments. Later integrating them to create an interesting psychedelic formation resulting into a creative surface ornamentation. Integration involves sandwiching the shredded fabrics in between two layers of fabric. These were explored with variety of fabric. Three different permutations and combinations of fabric were experimented and explored to get the optimum kind of look and aesthetics. i.e. i) cotton and net ii) cotton and glass nylon iii) cotton and tissue. These were used only as ornamentations, incorporated in designing. For this the source of inspiration was

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fluid art. Keeping the surface ornamentation as a key feature, we designed a formal party wear collection using black as the base colour of the outfit. Twenty Sketches were made out of which five were selected (Table 2).The designing was done

for both men and women. For the construction a black suiting fabric was used and for ornamentation the base fabric as suiting fabric along with net was finalised. As net gave the correct luminosity and aesthetics to the ornamentation.

Table 1: Exploration of surface ornamentation techniques with different fabrics

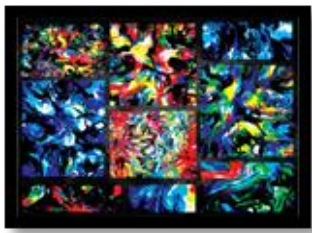


1		<p>This is the inspiration board of fluid art. Fluid art is paint pouring in abstract form, creating a visually psychedelic effect.</p>
2		<p>Exploration -1 Sample 1 These are experimented by sandwiching the shredded Silk and rayon fabrics between the black coloured poplin and net.</p>
3		<p>Exploration -2 Sample 2 These are experimented by sandwiching the shredded Silk and Rayon fabrics between the white poplin and black coloured net.</p> <p>Exploration3 Sample 3 These were made by sandwiching the colored rayon and silk between black poplin and white tissue fabric</p>

Table 2: Final Selected sketches



Results and Discussion

After the development of the surface ornamented samplers, on the basis of visual effectiveness and aesthetics, the Sample -1 was selected for surface ornamentation, which consisted of black fabric as the base. The waste fabric was shredded and laid over and held by rows of machining on the base fabric. To give it a finished look and for more durability and better maintenance, the ornamented area was covered with net. The net fabric added aesthetics and gave the effect of fluid art in the surface design without interfering with the visibility of the colours. The five design which consisted of three female and two male designs were constructed using a black suiting

fabric, which was ideal for a formal party wear collection. The surface ornamentation for each design was constructed according to the sketched design. It was observed that the application of the developed surface ornamented was aesthetically very appealing. It even justified the inspiration it derived from that is fluid art. The table-3 shows the final collection of all the five garments. As the surface ornamentation was covered by net and reinforced by machine stitches it was also sturdy. The usage of black base fabric also ensure the vibrancy and the visibility of the surface ornamentation for aesthetics. The usage of sheer fabric i.e tissue in the collection also added interest in the designs.

Table 3: The Final Collection

Conclusion

Hence we conclude that the surface ornamentation developed by disintegration and integration of the waste fabrics, served as effective method for making up the surface ornamentation. It was also innovative method for utilization of fabric waste pieces generated during garment manufacturing, hence contributing to sustainability. The surface ornamentation in psychedelic arrays of colours, added interest and innovativeness in the formal party wear collection. As the ornamentation was covered by a net fabric, it was found sturdy and easy to maintain and after care.

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