

Textile Sustainability: Reutilization of Clean Textile and Apparel Industry Waste

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Introduction

Today societies are already experiencing changes in their production systems and even consumption in order to guarantee the survival and well-being of future generations. This fact emerges from the need to adopt a more sustainable posture in both people's daily lives and productive systems.

Within this context, textile sustainability emerges as the object of study of this work whose aim is to analyse which sustainability dimensions are being prioritized by the clean waste management systems of the textile and garment industry's. This article aims to analyse creative solutions that are being proposed by sustainable business models in the reuse of discarded fabrics by the textile industry. Search also through a qualitative research by a case study (the Bank of Fabrics for Reuse) understand the benefits generated by the re-use in environmental, economic, social and ways to add value.

Experimental Part

For a better contextualization of the problem in a research project, a series of studies began: a bibliographical survey on the evolution of sustainability and its dimensions, in a sustainable way, as well as on the management of the clean residues of the textile industry in the specific case of Brazil. Delimiting the area of sustainable initiatives, an investigation was made of the studies that are being carried out on the field of sustainable fashion and it was verified that there is a strong current to rethink the values delivered by the fashion and the role of the designers [1, 2, 3, 4, 5, 6].

After this historical survey and concepts, was carried out as a qualitative research, which through a two cases studys, analysed the Clothing Bank of Caxias do Sul and the Reusable Fabric Bank of São Paulo. These two analysis units are the service for the collection, management and sustainable redirection of waste textiles or fabrics that would no longer be used, allowing the extension of their life cycle and adding value to them. The Toolkit Sustainability Design Orienting – SDO is a program that assists designers in the construction and evaluation of eco-efficient systems [1]; it was used in the analysis phase, to support the sustainable options evaluation in its environmental, socio-ethical and economic dimensions in each case study. It evaluates what is prioritized by the analysed units and establishes improvements in the comparison between these two systems.

Results and Final considerations

The result of this research shows that, much has been revealed and discussed about the impacts of this industry trying to find innovative solutions to implement radical changes in its operating system. These changes are being requested not only for business needs to adapt to current environmental policies, but also for the formation of a educated consumers searching for brands with principles that contribute to the evolution of future generations. Through work planned for each stage of the product Life Cycle (with the aid of the Toolkit Sustainability Design Orienting – SDO) it is possible to reduce

environmental impacts and contribute to the awareness of a more responsible consumption. It was realized that sustainable fashion can, through the intervention of designers as facilitators of change, be a way to solve some of today's complex problems, promoting a shared and not individual prosperity, based on transparency, solidarity, environmental preservation And human valorisation.

The two units of analysis (the "Clothing Bank of Caxias do Sul - BVCS" and the "Reusable Fabric Bank of São Paulo - BTR"), were organizations that do the service of receiving the waste, separating it, organize and give it the correct destinations. From the point of view of the application of the tool SDO - Sustainability Design Orienting Toolkit, to support the planning and management of eco-efficient systems, allowed to help the more specific understanding, of the sustainable dimensions priorities to be mapped. In the BVCS case, there was a strong inclination towards the appreciation of the environmental and social dimensions, verifying a weakness in relation to the economic dimension. The Fabric Bank for Reuse of São Paulo, because it is a private initiative structure, and focused on the profitability of the system, applies more efficient techniques aimed at guaranteeing maintenance of its structure and despite being a recent business, already presents evidence of its Eco-efficiency.

In the BTR structure, a greater balance was observed between the three dimensions of sustainability analysed. In addition to environmental and socio-ethical benefits, it can also be economically sustainable by adopting fair trade practices [7].

Both systems have their weaknesses, however, many other systems must be developed similarly and preferably improved, since those, already exist in the Brazilian scenario, are still very incipient for the solution of the negative impact of the textile sector in that country.

Keywords: Textile Sustainability, Sustainable Fashion, Clean Textile Waste.

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