

The strategy of designing women apparel with high quality that achieves the economic dimension of sustainability

Prof. Amr Mohamed Gamal Eldin Hassouna

Design professor at Applied Arts- Helwan University

Assist. Prof. Dr. Eman Rafat Saad

Assistant professor at Applied Arts- Helwan University

Mrs. Aida Mohamed Zayed

Fashion & Design center manager- Industry & Trade Ministry

Researcher. Doaa Farouk Mohamed Elmor

Head of design department- Industry & Trade Ministry

Doaa.elmor@gmail.com

Abstract:

Fabric remnants resulting from the cutting and individualization processes did not garner ready-to-wear clothing and attention although it is a cultural trend, in addition to the economic and environmental return, the resulting cloth waste is represented by Ready-made clothes factories (from the processes of engagement, cutting and individualism), which represent a maximum efficiency of 85%, but can be used by reusing these exhausts (Fabrics are the remnants of cutting and individualism) in creating innovative designs that suit their specific functional purposes. We notice that these industries leave large quantities of exhaust that pollute the environment and the air surrounding the person who breathes, which affects his health. From an economic point of view, there are problems such as the large burden of these exhausts, including the costs of transporting, storing, classifying and disposing these wastes, the required money and labor increases the "economic burdens" of these factories. Technically speaking, these exhausts can be dealt with in a variety of ways, the current research deals with studying how to make use of those exhausts. The study bought the remnants of cotton fabrics from one of the Italian factories that produce cotton fabrics in Burj Al Arab area, Alexandria - Egypt, as well as from the Mary factory. Louis in the industrial zone of the tenth of Ramadan, through these exhausts, a set of physical and mechanical tests of these exhausts were done to ensure their quality and suitability for use in women's clothing products. The results are validity of these exhausts (remnants of shear and individualism) in terms of weight, thickness, tensile strength and elongation, resistance to toppler, and resistance to explosion. Design proposals have been made to serve the garment industry to ensure quality and fit, these designs and design proposals are of lower cost and high quality. This experience can be taken advantage of and circulated to ready-to-wear factories to make the most of these exhausts without any harm to the environment.

Introduction:

Successful companies have shown the economic benefit of good design, as innovative and attractive products stand out, the market, demand and revenue increase, so the design strategy for more successful companies is more than just the shape and texture of a single product. It is

an essential part of its strategies and operations - and even its business that it faces towards developing into new ideas and designs that strives to market. (World Intellectual Property Organization: 2015). Design thinking is an innovation strategy focuses on the human being, matches creative and business thinking to generate value, and extract long-term solutions, it is a way to get the best possible idea to solve a problem. Through trial and error until it becomes a reality. In the field of the world of fashion and fashion design, we find that marketing performance is usually related to the aesthetic awareness of customers and by design that highlights the beauty of the material, she indicated (Al-Sharif: 2009) to the aesthetics of the design on the body and I mentioned that it is characterized by a renewed and diverse aesthetic rhythm that pushes the designer to creativity, and these aesthetics do not lie in the beauty of the material only but in the beauty of the way it is expressed. It is an applied work that makes everyone who feels it seek beauty, knowledge and culture to reach the methods of implementation, where the designer provides, in his executed design, a new intellectual awareness of the world and a good understanding of modern innovations in fabrics and materials and the possibility of their formation.

Research Problem:

- a- Is it possible to create designs based on the use of residues and wastes of fabrics resulting from garment industry waste?
- b- Can the highest quality of the physical and mechanical properties of the innovative materials and garments be obtained?
- c- Can the proposed designs keep up with contemporary fashion trends?

The research aims:

- a- Creating designs based on leftover fabrics.
- b- The possibility of making designs from the rest of the factory fabrics that keep pace with the modern era.
- c- Realizing the economic dimension of sustainability for the remaining fabrics of the factories.

The research importance

- The importance of the study lies in the fact that it deals with study and analysis, one of the important and modern issues that have been discussed since the last decade of the last century. Achieving the quality of fabrics in innovative designs that keep pace with fashion trends.

Research hypotheses:

- a- Creating designs based on the use of residues and waste for fabrics and yarns resulting from garment industry waste.
- b-Obtaining the highest quality of the physical and mechanical properties of innovative materials and clothing.
- c-To propose innovative outdoor designs for women, according to this strategy, to achieve the economic dimension of sustainable development in line with fashion trends.

The search limits:

Egyptian industrial establishments represented by the Egyptian brand Marie Louis, and Italian manufacturing establishments represented by the Italian brand, Filmar.

Technical limits: ladies' cotton outerwear.

key words:

Strategy - Design - Quality – Sustainability

Design strategy is a design method that uses the designer's sensitivity and methods to analyze problems, and find appropriate solutions to them through tangible, creative products that commensurate with the needs of the beneficiary and have value for society (Brown: 2008). IDEO CEO Tim Brown defines it as an innovative approach to problem solving, it starts with the beneficiaries for whom we design the solutions, and ends with new solutions that have been specially created to suit their needs.

Procedural steps for the research:

The rest of the fabrics resulting from the processes of straightening and cutting factories were counted and limited to poplin, jeans, voile, and derby, these raw materials were chosen after a survey of the most common materials in the women's ready-to-wear industry, and physical and mechanical tests were performed on them. Accordingly, proposals for these designs (design sketches) have been developed within the limits of the possibility of these materials so that these designs keep pace with international fashion lines and achieve sustainability among these Italian factories is Filmar Company, located in the free zone in Borg El Arab in Alexandria, which specializes in manufacturing Egyptian cotton products, and the Egyptian Marie Louis Factory. It is located in the industrial zone of the tenth of Ramadan - Egypt, and it is a global factory producing women's clothing, noting that all the waste or leftovers of the resulting cut are from Egyptian cotton fabrics. Physical and mechanical tests have been carried out on the remaining fabrics resulting from these factories in order to ensure the quality of the performance of the proposed designs, and then designs from these headers that are in line with international fashion lines, and the researcher has designed a group of designs taking into account how to optimize the use of these residues in the designs

Present the innovative design groups:

Seventh design	Sixth design	Fifth design	Fourth design	Third design	Second design	First design
						
fourteenth design	Thirteenth design	Twelfth design	Eleventh design	Tenth design	Ninth design	Eighth design
						
	Twenty design	Nineteenth design	Eighteenth design	Seventeenth design	Sixteenth design	Fifteenth design
						

First: The results:

Through the graphs for comparison between the weight of a square meter and the thickness of the fabric of the samples under test, we find that there are differences in the weight of each

sample from the other, as the highest weight was for the jeans material, therefore, it was used in some designs individually without being combined with other materials for its richness in the proposed design. The less weight was for the voile material, which facilitates the incorporation of voile in varying quantities, which serves the innovative design as it does not affect the weight of the proposed design, but rather adds an aesthetic touch to it.

There was agreement in the level of tuber for the four samples, and the level of tuber was medium .By comparing the drop coefficient of the tested samples, we find that the fabrics of Derby obtained the highest percentage and this had a positive effect on the proposed design .Where the material of the Derby was used in the designs with high drooping and this led to the addition of the aesthetic aspect of the innovative design and this is evident in the design number 3-5-7-8-10-11-13-14-15-20 and the lowest percentage of drip was for the jeans material, which must be taken into account. In design and in design number 1-6-16-17, there is a difference in the friction resistance of the tested samples and the highest friction resistance of the jeans material, therefore it is taken into account for its use in the areas most prone to friction as shown in design 4-10-13.

Second: Research recommendations:

a- The necessity of conducting applied studies and research to take advantage of design strategies with an economic dimension of sustainability by making suggested designs suitable for application at the industry level.

b-Paying attention to the physical and mechanical properties to reach the highest quality results for designs.

c- Directing small projects to pay attention to how to make use of the remnants of fabrics and employ them in various fields in general and the field of clothing in particular.

d-Studying consumer opinions and trends towards the proposed designs, using an economic design strategy

e- Carrying out studies and research for the problems and obstacles that prevent ready-made clothes factories from exploiting the remnants of fabrics and their raw materials.

f-The interest of the specialized academic authorities on how to employ the waste of waste fabrics in various fields to serve the community and the environment.

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