

A Study to revive old denim by up cycling Procedure

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ABSTRACT

Up cycling of denim is one of the major features in the apparel industry nowadays because sustainability has become a crucial component for all new startups throughout the globe. The goal of up cycling is to preserve an affluent, healthy lifestyle and prevent any issues with the economy, society, or the environment. The goal of this project is to create new designs and fashions that add value to discarded old denim apparel through up cycling, being innovative, and being environmentally friendly. By creating a self-designing, the extra value is highlighted through a three-dimensional surface on apparel. The idea resulted in the creation of a modern collection using recycled denim. Finally, a collection of five prototypes was created, including apparel and bags constructed from used denim jeans and designs created by the wearer.

Keywords: Sustainability, Upcycling, discarded denim, Recycling denim, Reuse, Fashion Accessories

INTRODUCTION/ BACKGROUND

Industrial processes have been using the energy that comes from burning fossil fuels for the past 20 years. The environment has been exposed to significant levels of carbon dioxide and other greenhouse gases as a result of human activities including deforestation and various farming practices. Due to today's high rate of garment consumption and the resulting low product quality and pricing, there is an increasing amount of textile waste (1). Denim has a negative influence on the environment and human lives because it uses a lot of water and chemicals. One method of treating denim clothing that poses a risk to the health of textile workers because of a lack of safety measures is sandblasting using various chemicals. By recycling and reselling used denim products, these factors can all be decreased (2). According to studies, it takes a lot of energy and toxic chemicals, as well as 2,900 litres of water, to make just one pair of jeans. Indigo colour is consumed throughout the denim manufacturing process, creating water that is poisonous to humans and aquatic habitats (3).

Upcycling is a crucial method of transforming trash and old discarded materials into new materials or reusable items in order to reduce the water and carbon footprints. In addition to offering a textile material a second opportunity before being tossed in the trash, it also reuses production-related textile wastes with altered functionality. (4). However, studies have shown that fewer than 1% of old, abandoned products are recycled or upcycled, and that over 80% of this volume is marketed as second-hand clothing in underdeveloped nations and close to 20% ends up in landfills. It says that 2.16 million tonnes of garbage are produced from denim each year (3). According to the Sustainable Clothing Action Plan (SCAP), changing how clothing is produced, used, and disposed of can lower the carbon, water, and waste footprint of clothing use by 10% to 20%. According to the United Nations website, the garment industry produces more than eight percentage points of greenhouse gases and about 20 percentage points of wastewater annually. Some ways to dispose of worn clothing include burning, recycling, reuse, and disposal (5). Due to measures like fewer usages of raw materials, energy and water consumption, chemicals and auxiliaries, and waste water treatment, denim upcycling is crucial to reducing the negative effects on the environment and human life (6).

METHODS AND RESULTS

In this study, used denim trousers were gathered from several markets and transformed into 3D street-style clothing and accessories, including handbags. Initially, gather trash and abandoned denim trousers from stores and neighbors' houses

before washing them. These jeans were then completely unstitched and separated into their component pieces. Using a sewing machine, the separated waste denim components were transformed into 3D-structured clothing and accessory products.



Fig: 2.1

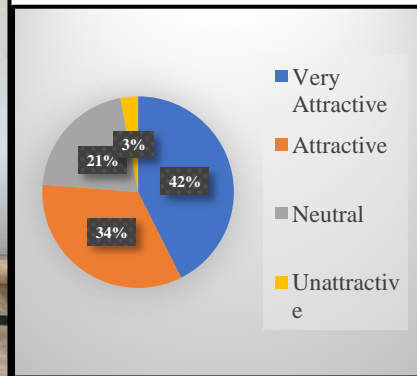


Fig: 2.2

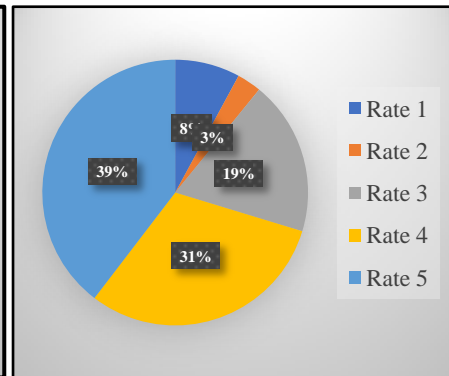


Fig: 2.3

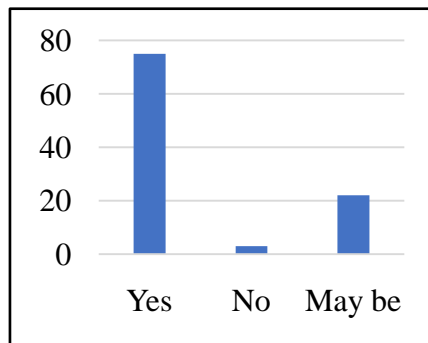


Fig: 2.4

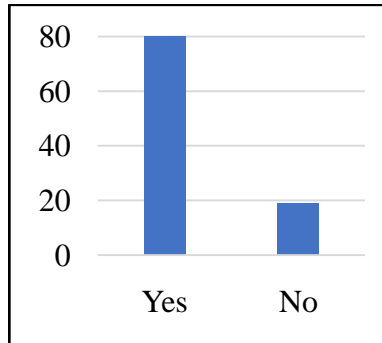


Fig: 2.5

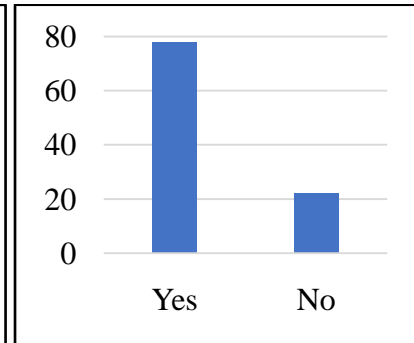


Fig: 2.6

The survey's results show that 43% of respondents think a dress design fashioned from waste denim is extremely appealing, 34% think it's attractive, while 21% and 3%, respectively, think it's unsightly. From the data in figure 2.3, it is also clear that 40% of respondents rated this garment a design score of 5, 31% a score of 4, the remaining 19% a score of 3, 3% a score of 2, and 8% a score of 1. It is also found from figure 2.4 that 75% of people are agreed that the dress design using waste denim suitable for current fashion while others 22% say that dress "may be" and 3% "No" suitable for current fashion. The 81% percent of population is concern about fashion, wearability and modest price of this upcycling denim design and only 19% say that they will not concern about fashion, wearability and modest price of this upcycling denim design and the results are shown in figure 2.5. It is also clear from the data of fig. 2.6 that 78% of people are interested to buy this garment while 22% are not interested.



Fig: 2.7

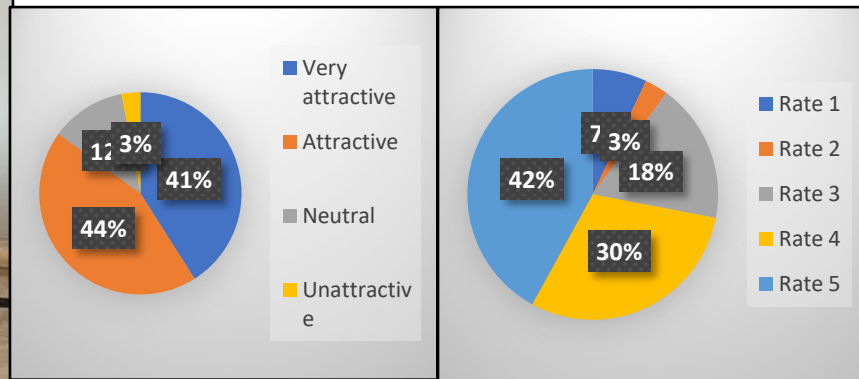


Fig: 2.8

Fig: 2.9

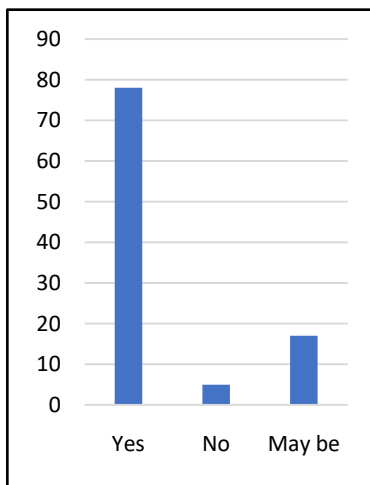


Fig: 2.10

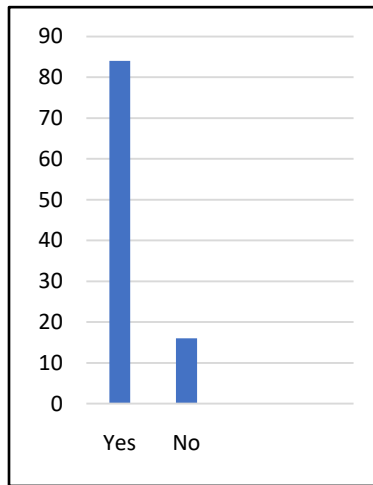


Fig: 2.11

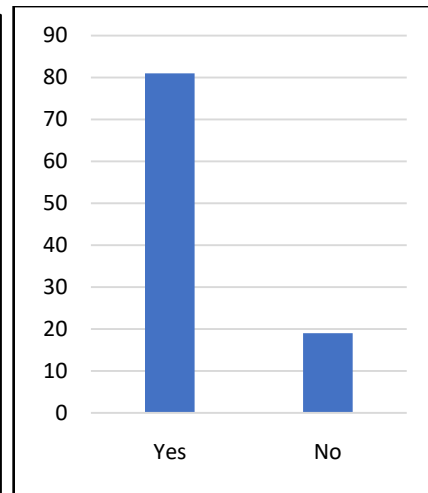


Fig: 2.12

The results reveal of the questionnaire from figure 2.8 that 41 % of the people are agreed that dress design made using waste denim is very attractive and 44% attractive while others 12 % of them have neutral and 3% unattractive observation. It is also observed from the data of figure 2.9 that 42 % of people gave the 5 rating and 30% gave the 4 rating and rest 18 % gave the 3 rating, 3% gave 2 rating and 7% gave 1 rating to this dress in terms of its design. It is also found from figure 2.10 that 78 % of people are agreed that the dress design using waste denim suitable for current fashion while others 17% says that dress “may be” and 5% “No” suitable for current fashion.



Fig: 2.13

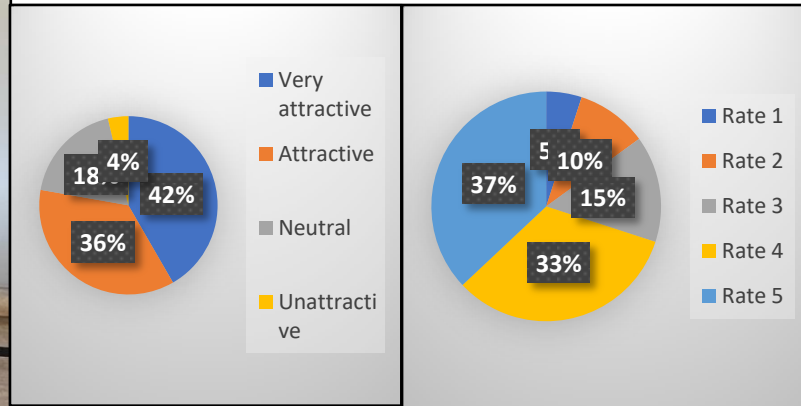


Fig: 2.14

Fig: 2.15

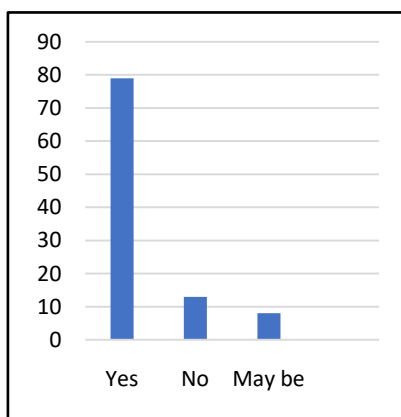


Fig: 2.16

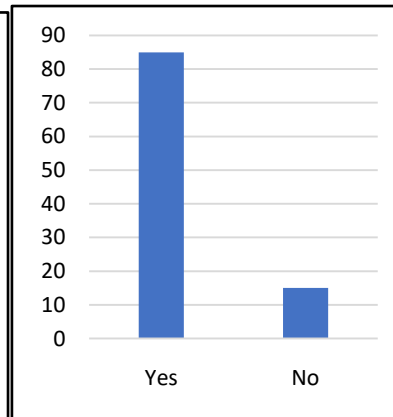


Fig: 2.17

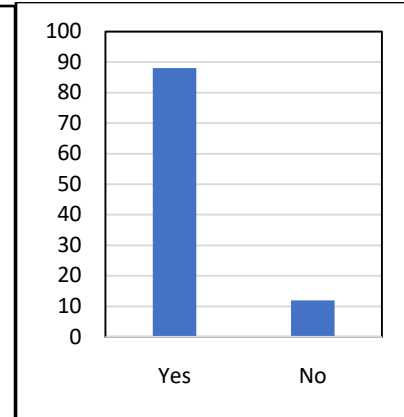


Fig: 2.18

The 84% percent of population is concern about fashion, wearability and modest price of this upcycling denim design and only 16 % say that they will not concern about fashion, wearability and modest price of this upcycling denim design and the results are shown in figure 2.11. It is also clear from the data of fig. 2.12 that 81% of people are interested to buy this garment while 19% are not interested. The results reveal of the questionnaire from figure 2.14 that 42% of the people are agreed that dress design made using waste denim is very attractive and 36% attractive while others 18% of them have neutral and 4% unattractive observation. It is also observed from the data of figure 2.15 that 37% of people gave the 5 rating and 33% gave the 4 rating and rest 15% gave the 3 rating, 10% gave 2 rating and 5% gave 1 rating to this dress in terms of its design.



Fig: 2.19

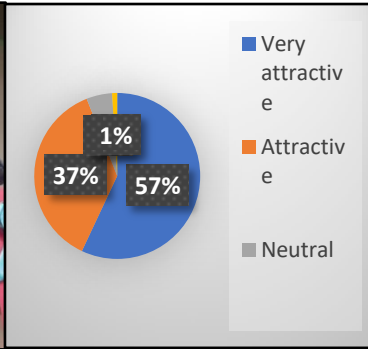


Fig: 2.20

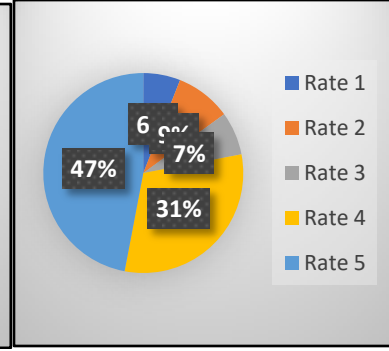


Fig: 2.21

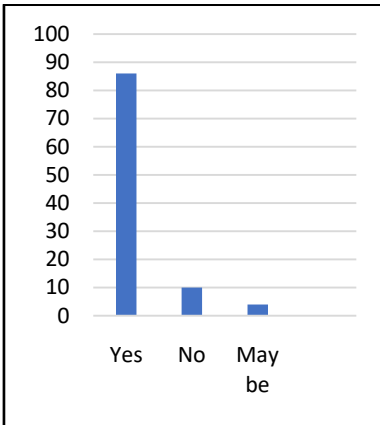


Fig: 2.22

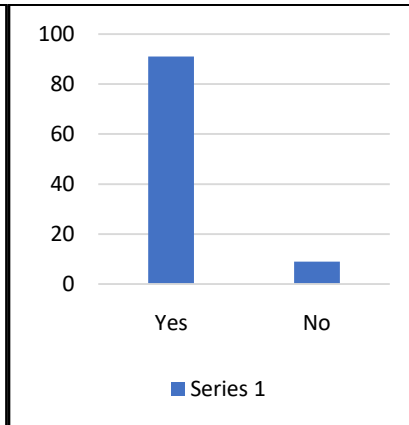


Fig: 2.23

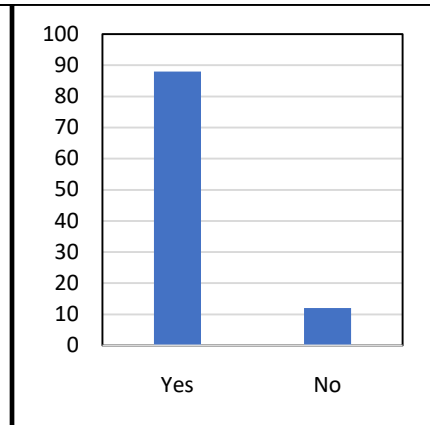


Fig: 2.24

It is also found from figure 2.16 that 79% of people are agreed that the dress design using waste denim suitable for current fashion while others 13% says that dress “may be” and 8% “No” suitable for current fashion. The 85% percent of population is concern about fashion, wearability and modest price of this upcycling denim design and only 15% say that they will not concern about fashion, wearability and modest price of this upcycling denim design and the results are shown in figure 2.17. It is also clear from the data of fig. 2.18 that 79% of people are interested to buy this garment while 21% are not interested. The results reveal of the questionnaire from figure 2.20 that 57% of the people are agreed that dress design made using waste denim is very attractive and 37% attractive while others 5% of them have neutral and 1% unattractive observation. It is also observed from the data of figure 2.21 that 47% of people gave the 5 rating and 31% gave the 4 rating and rest 7% gave the 3 rating, 9% gave 2 rating and 6% gave 1 rating to this dress in terms of its design. It is also found from figure 2.22 that 86% of people are agreed that the dress design using waste denim suitable for current fashion while others 10% says that dress “may be” and 4% “No” suitable for current fashion.



Fig: 2.25

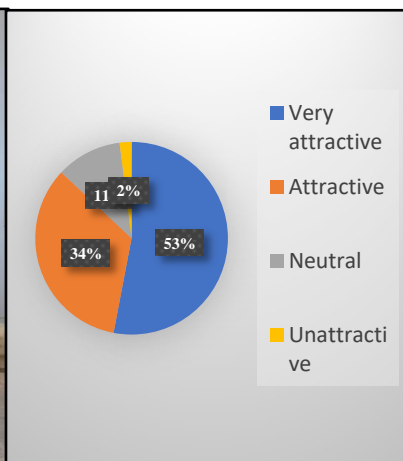


Fig: 2.26

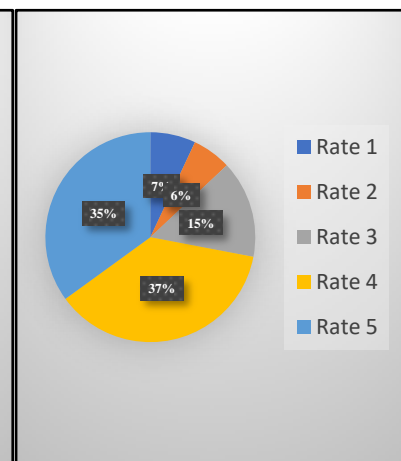


Fig: 2.27

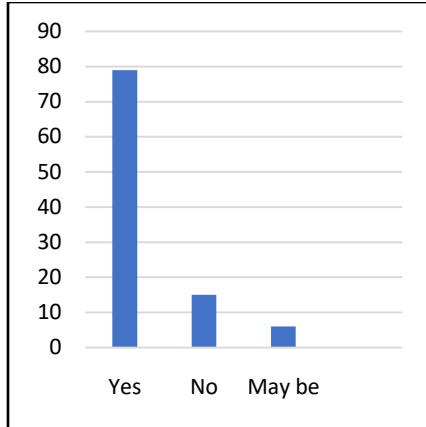


Fig: 2.28

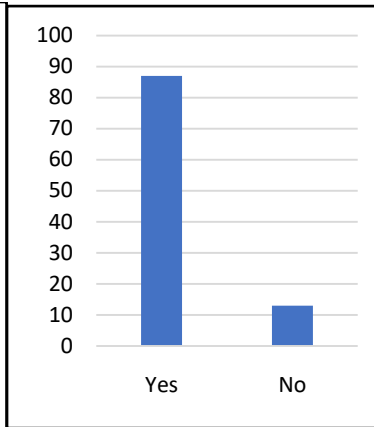


Fig: 2.29

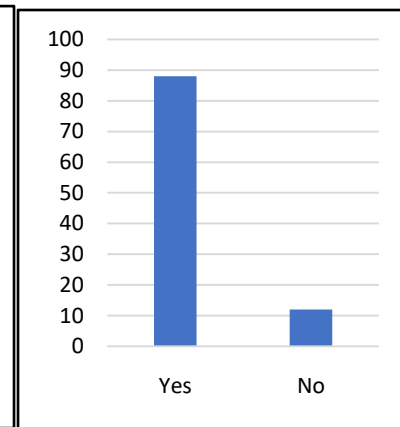


Fig: 2.30

The 91% percent of population is concern about fashion, wear ability and modest price of this up cycling denim design and only 9% say that they will not concern about fashion, wear ability and modest price of this up cycling denim design and the results are shown in figure 2.23. It is also clear from the data of fig. 2.24 that 88% of people are interested to buy this garment while 12% are not interested. The results reveal of the questionnaire from figure 2.26 that 53% of the people are agreed that dress design made using waste denim is very attractive and 34% attractive while others 11% of them have neutral and 2% unattractive observation. It is also observed from the data of figure 2.27 that 35% of people gave the 5 rating and 37% gave the 4 rating and rest 15% gave the 3 rating, 6% gave 2 rating and 7% gave 1 rating to this dress in terms of its design. It is also found from figure 2.28 that 79% of people are agreed that the dress design using waste denim suitable for current fashion while others 15% says that dress “may be” and 6% “No” suitable for current fashion. Figure 2.29 illustrates the results. Figure 2.29: 87% of the population is concerned about the fashion, wear ability, and reasonable pricing of this upcycled denim design. Only 13% believe they will not be concerned about fashion, wear ability, and reasonable price of this up cycled denim design. Additionally, it is evident from the statistics in Fig. 2.30 that 88% of people are interested in purchasing this outfit, compared to 12% who are not.

CONCLUSION

This research study can help to make recycling and upcycling better. It offers a distinctive strategy for dealing with textile waste and serves as an upcycling company that creates things from previously discarded items, particularly in the denim market. The article suggests an innovative upcycling technique for repurposing leftover denim trousers. The creation of a denim handbag and clothing line for ladies. According to the questionnaire answers in this research report, the majority of respondents thought that dresses manufactured from waste denim were quite appealing. Additionally, it has been discovered that the majority of the populace is eager to purchase all denim designs that promote environmentally friendly goods and is concerned with fashion, wear ability, and a reasonable pricing for this upcycled denim design. It has also been determined that the majority of individuals concur that a garment made from waste denim is appropriate for the current style.

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