

Upcycled Textile Products: A Study on Consumer Acceptance and Sustainability

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Abstract: The increase in textile waste, with its major rising environmental concerns has led to the need to add sustainable solutions in the fashion industry. One effective approach is upcycling textile waste, which helps minimize landfill waste and promotes a more sustainable future. The accumulated textile waste should be reduced and the city should be made greener. Compared to the waste that is generated upcycling practiced by the society is very less. Though many researchers have worked on this still upcycling is considered a niche in the market and is not very well known among common people. This research focuses on applying upcycling to create creative home decor and functional products from the textile waste generated. 30 innovative upcycled home decor and functional products were developed out of which 13 products were selected for further study. The products were evaluated for their acceptability in consumers and sustainable benefits: economic, social, and environmental aspects in Pune District. The findings revealed a significant level of consumer acceptance for upcycled textiles, driven by perceived economic, social, and environmental benefits. The study also confirms that upcycling textile waste into new products is a highly effective strategy for solving the textile waste problem in Pune District. Design, innovation, aesthetic look, texture, and price are considered a few important aspects considered by consumers for upcycled products. To maximize these approaches, continued support and investment in upcycling initiatives are essential, fostering a sustainable approach to waste management and consumer engagement in Pune District.

Keywords: Upcycling, Textile waste, Sustainable Benefits, Consumer Acceptance, Home Products, Designing.

1. Introduction:

The textile industry is a crucial player in the consumer goods sector, yet it is often criticized as one of the most polluting industries. The generation of textile waste is closely linked to the production volume higher production results in greater waste. This industry significantly harms the environment, as clothing manufacturing produces substantial amounts of textile waste that frequently end up in landfills. Moreover, textile consumption also contributes to waste generation. To counter the problem, a few sustainable solutions- 4R concepts like reuse, reduce, recycle and rebuy need to be implemented (Subramanian Senthilkannan Muthu, 2016). Upcycling is a creative design solution that helps in reducing textile waste thus helping in conserving natural resources and is considered the most efficient one. Product recreation by upcycling not only eliminates the need and reduces the

use of a new product, thus helps in conserving natural resources and energy leading to a decrease in greenhouse gas emissions. If the product longevity is increased, the lifetime of the products and materials will also increase enabling the reduction in new raw materials. Among all the sustainable solutions, upcycling is considered as most effective with an alternative consumption for consumers and an alternative production for entrepreneurs.

Starting from 1990, numerous publications on upcycling have emerged; however, the overall volume of literature on this topic remains limited, and no comprehensive review has been conducted to date. Braungart and McDonough known as the pioneers of industrial upcycling have helped several industries to start with circular material utilization i.e. cradle to cradle technology so that the industries can function more sustainably. They have mentioned that the initial design process is very important for future upcycling as it helps to easily disassemble the product to recreate it again. Szaky in his article has said that upcycling is one of those circular sustainable solutions where the frequent need for new resources is eliminated. According to a survey, the majority of the book publications in upcycling were done between 2008 and 2014 and they are published in the category of 'craft and hobbies.' Due to the limited resources available, it is common in developing countries to practice upcycling more. Moreover, in recent years, developed countries have begun focusing more on upcycling from a commercial standpoint. "Trashion" (a portmanteau of "trash" and "fashion") is a term coined in 2004 that explains upcycled jewelry, bags, clothes, and other fashion products (Trashion, Wikipedia). These products are home created from used, thrown-out, found, and repurposed elements. Initially, trashion was used for couture fashion but now as recycling and upcycling have become more popular, trashion is used only for wearable garments. Today, in artistic circles, the word is commonly used to describe any wearable object or decoration that is made using all or part of recycled materials, including thrifted and reconditioned clothing.

Many researchers have stated the various important points for creating upcycled products. Key elements like environment, design, and self-expression value (H. Y. Kim & Kim, 2018), design along with story (Gould, 2014), combination of nostalgia and sentimentality to make memorable products (Stewart, 2014), innovation, efficiency, intuition, and creativity (Pereira, 2017), rethinking through creativity and innovation (ÇİNİ, 2019) are important for creating innovative upcycled products. The upcycling design process differs significantly from traditional design methods, with less freedom to design due to the limited amount of fabric; the designer should be surer of the design and construction technique and should understand the amount and quality of fabric. From the normal design procedure, Sustainable design requires a creative mindset, aesthetic awareness, innovative vision, and expertise (DeLong et al., 2016). Upcycling concepts should be included in design education such as theory and practice to create awareness amongst students. Upcycling is strongly linked to irreplaceability, which in turn correlates with product care and anticipated longevity. The expected lifespan of an upcycled product, when there is an emotional attachment, exceeds the average estimated lifespan of mass-produced items. More people if attached to a particular product its longevity increases as more care is taken (Kyungeun Sung et al., 2015). People who engage in upcycling typically possess a concern for the environment, a keen interest in sustainable fashion, and an emotional attachment to their clothing (Janigo et al., 2017).

There are a few barriers to upcycling that need to be solved. The sourcing of the materials and finding factories that are skilled and willing to work with secondhand garments and waste fabrics are quite limited. It is difficult to separate the blended fibers which leads to inadequate sorting due to this the upcycled products can vary in their quality and properties as the usage times of the products are different (Vats, 2015).

The acceptance of upcycled products is very important to increase its production, and still today this is considered a niche. The awareness of sustainability has increased from the COVID period, but its usability is still less. As per research by (Shim et al., 2018) younger age groups have a higher degree of understanding about upcycling. Higher ages are quite unfamiliar with the word 'upcycling,' but they are unknowingly already practicing it. The younger generation does not have enough budgets for upcycled products hence they get easily attracted to fast and cheap products (Thorstensson, 2011). Price has always been an issue for purchasing

upcycled products. People are interested in upcycling because of its uniqueness and the particular story behind that product, but due to the price, they do not accept it (Koch, 2019). The lack of usage is due to upcycled products being costly, time-consuming, and require attention, creativity, and care. Some people avoid upcycled garments due to problems with fit, dissatisfaction with the design, or issues related to the garment's functionality and overall design. Consumers believe that style, affordability, and clear labeling of upcycled items are essential to boost acceptance. Promotional tools that can be preferred are social media and websites which are considered more effective for upcycling (Han S., 2021).

1.1. History Of Upcycling:

It is quite difficult to track the upcycling in ancient times. Technically, we can trace the history of upcycling from the early humans, in which the upcycling and the reuse were part of everyday life. Historically individuals have conducted recycling and upcycling activities on a domestic basis. Upcycling is not a new concept; in earlier times, it was a method used to manage materials, reduce costs, and save labor. For thousands of years, it has been viewed as an individual practice of transforming waste or used items into products of greater value or quality.

In the 15th century, Japan practiced Kintsugi, or Kintsukuroi, where artisans repaired broken pottery using precious metals as adhesive. Rather than discarding a broken pot, it was carefully mended, resulting in an upcycled piece that became a unique, renewed artifact. Around the Eastern Mediterranean, somewhere 3000 years ago the Egyptians and Greek people would transform the imported vessels into shapes they liked.

Szaky explains that before the Industrial Revolution, reuse and recycling were common practices. In 1939, the iconic green curtain dress worn by Scarlett O'Hara in *Gone with the Wind* became a notable example of upcycling. The green curtains from her home were transformed into a stunning dress. This design, originally created by Vivien Leigh, was featured in several films with slight modifications. Designed by Walter Plunkett, the dress was repurposed again in the film *Bedlam*, where it was altered from a bell-shaped to an A-line style.

The terms "upcycling" and "recycling" were first introduced by Thornton Kay, citing Reiner Pilz, in an article published in *SalvoNEWS* in 1994. In his article, he stated that he calls Recycling as Downcycling as the product is completely smashed and made into a new one. He emphasized that what is needed is upcycling, where old products are transformed to hold greater value.

In 1998, entrepreneur Gunter Pauli, often called the Steve Jobs of Sustainability, used the term in his book *Upsizing: The Road to Zero Emissions - More Jobs, More Income, and No Pollution*. In his book, he has identified the 3R factor- Reuse, Reduce, and Recycle for use in the industries and taking steps towards a responsible nature. He argues that rather than expecting the Earth to provide more resources, we should focus on using the resources that have already been produced more efficiently. By this, we not only create 20 times more material needs but also will create huge jobs making machines and industries will be more productive. In 1999, the revised title Upcycling was given to the book *Upsizing: The Path to Zero Emissions – More Jobs, More Income, and No Pollution*. This concept was further explored in 2002 by William McDonough and Michael Braungart in their book *Cradle to Cradle: Remaking the Way We Make Things*. They introduced the Cradle-to-Cradle Design model and outlined how industries can implement this strategy. They proposed that the 3Rs—Reduce, Reuse, Recycle—should follow the cradle-to-cradle approach instead of the cradle-to-grave model. In 2009, Belinda Smith from Reuters noted that while upcycling is popular in wealthier nations, there is an even greater need for it in poorer countries. In 2011, David Hertz, an architect, purchased the remaining parts of the Boeing 747 aircraft and turned it into a house named 747 Wing House.

In the 20th and 21st centuries, it has become a mainstream artwork in various industries as it helps to save money. Also as people are more aware of environmentalism there is more and more rise in upcycling. Following the 2008 financial crash, upcycling gained significant popularity on platforms like Pinterest and Etsy. The

number of items tagged with "Upcycled" surged by 275%, growing from around 7,900 in January 2010 to nearly 30,000 a year later. 2019 marked a notable year for sustainability (DIY Vinci Team). Brands such as Adidas, Rothy's shoes, Kevin Murphy's packaging, a variety of products from Patagonia, and Ecoalf have incorporated recycled plastic into their fashion lines.

In recent years, the trends of upcycling and recycling have seen significant growth. Within the industrial sector, some studies have focused on incorporating energy requirements to evaluate performance in recycling processes, though they often lack long-term sustainability perspectives. Other research has emphasized the need to integrate social, economic, and ecological factors into the design of sustainability assessment processes. Ethical production also constitutes a very integral part of sustainability. But still today, upcycling is considered a niche market.

1.2. Benefits Of Upcycling:

While the economic and environmental benefits of sustainability have been emphasized in various publications, the social benefits are seldom addressed in the existing literature. The benefits of upcycling are discussed based on three pillars of sustainability:-

1.2.1. Economic-

The economic benefits include cost savings, opportunities for entrepreneurs and buyers, and the creation of new profit avenues. It also creates employment, especially for the youth and women's community, and improves the livelihood through sustainable income-generating activities.

1.2.2. Environmental-

Environmental benefits include reducing the volume of discarded materials and waste sent to landfills, minimizing solid waste, conserving landfill space, decreasing the use of raw materials, lowering energy consumption, cutting greenhouse gas emissions, and reducing pollution. Most of the consumers have become conscious of the impact on the environment and necessary actions are taken to conserve.

1.2.3. Social-

Social benefits include poverty alleviation in developing countries, opportunities for education and training, psychological well-being, and socio-cultural advantages stemming from individual upcycling efforts. It is quite difficult to quantify the real impact caused by social benefits.

In the contemporary fashion industry, upcycled garments are becoming more and more popular. The fashion industry should adopt the circular economy that includes repair, regeneration, and reuse of products and materials instead of a linear economy i.e. manufacture-use-dispose. The upcycling that is done at home is more environmentally friendly as compared to industrial upcycling as it can save more energy resources. One key reason behind the poor adoption of the circular economy is the lack of knowledge and awareness among consumers. Many types of research have been done to find solutions and create innovative products and technologies from the waste but still, the market is at its raw stage.

The aim of this study is to develop awareness and change the perspective of consumers towards upcycling. People still prefer buying fast-fashion clothing to upcycled ones. This study will be conducted in the Pune district and consumers from this place will be studied. The primary objective of the study is to create and develop innovative upcycled products through different upcycling techniques from the textile waste collected in the Pune district. The developed products were studied to understand the benefits of sustainability, consumer acceptance, and behavior. Awareness among the society and consumers of Pune District for upcycling is going to be created.

2. Methodology

The current study is structured into two phases: the Experimental Phase and the Evaluation Phase.

2.1. Experimental Phase:

In this phase, to find the data, 30 upcycled articles were created out of which 15 articles were selected for further study. The details of the products are as below:

2.1.1. Category- Home Décor

- Product 1- Macrame Mirror
- Product 2: Wall Hanging Stripes
- Product 3- Denim Art Frame
- Product 4- House Frame
- Product 5- Frame- Nail Art
- Product 6- Beach Story Applique Frame
- Product 7- Dream Catcher
- Product 8- Magnet Planter
- Product 9- Wall Hanging

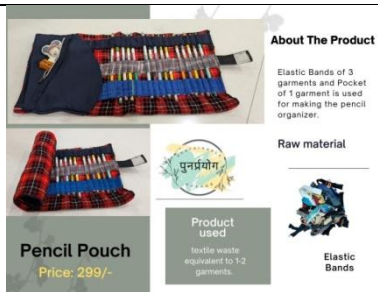
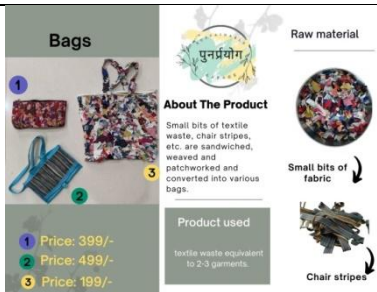
 Mirror Price: 1999/- Raw material Hosiery stripes About The Product The Product is made from hosiery fabrics joined together by using macrame process. Product used textile waste equivalent to 5-6 garments.	 Wall Hanging Price: 599/- Raw material Woven Chindis About The Product The Product is made from woven fabric waste. Various printed and coloured fabrics are mixed and converted into wall hanging with patchwork. Product used textile waste equivalent to 5-6 garments.
<i>Fig.1. Product 1- Macrame Mirror</i>	<i>Fig. 2. Product 2: Wall Hanging Stripes</i>
 Denim Art Frame Price: 999/- Raw material Denim Chindis About The Product Pieces of various denim fabrics are joined together by patchwork. Traditional motifs are embroidered on each block and framed for home decor. Product Used textile waste equivalent to 1 jeans.	 Frame- House Price: 999/- Raw material Knitted Fabric stripes About The Product Knitted garments are cut into stripes and used for making the design. Product used textile waste equivalent to 3-4 garments.
<i>Fig.3. Product 3- Denim Art Frame</i>	<i>Fig. 4. Product 4- House Frame</i>
 Frame- Nail Art Price: 999/- Raw material Knitted Fabric stripes About The Product Nails are hammered on the base frame and knitted stripes are used to make the yarn art. Product used textile waste equivalent to 3-4 garments.	 Beach Story Applique Frame Price: 799/- Raw material Woven Chindis About The Product The Product is made from woven fabric waste. Various printed and coloured fabrics are mixed and as per the design, applied on the main fabric. We Upcycled textile waste equivalent to 1 garment.
<i>Fig.5. Product 5- Frame- Nail Art</i>	<i>Fig. 6. Product 6- Beach Story Applique Frame</i>

 Dream Catcher Price: 1999/- पुनर्प्रयोग Raw material About The Product Small bits of textile waste are stuffed in dream catcher. Woven Chindis Product used textile waste equivalent to 6-7 garments.	 Magnet Planter Price: 299/- पुनर्प्रयोग Raw material About The Product Woven Fabric pieces are joined into patchwork. Old Shower curtain lining is added to prevent leakage. Woven Chindis Product Used textile waste equivalent to 3-4 garments.
<i>Fig.7. Product 7- Dream Catcher</i>	<i>Fig.8. Product 8- Magnet Planter</i>
 Wall Hanging Price: 799/- पुनर्प्रयोग Raw material About The Product Various waste fabric pieces are embellished by printing and embroidery and converted into a wall piece. Product Used textile waste equivalent to 1-2 garments.	
<i>Fig.9. Product 9- Wall Hanging</i>	

2.1.2. Category- Functional/Useful Product

- Product 10- Laptop Sleeve bag
- Product 11- Pencil Stand
- Product 12- Pencil Pouch
- Product 13- Bags

 Laptop Sleeve Bag Price: 999/- पुनर्प्रयोग Raw material About The Product The Product is made from Elastic Bands of various old garments. Elastic Bands Knitted fabrics for base of product Product used 7-8 T-shirts and Elastic Bands from 38 pants.	 Pencil Stand Price: 99/- पुनर्प्रयोग Raw material Chair Stripes Chair Stripes-Weaving About The Product Small pieces of fabrics are mixed in resin and converted into tea coaster. We Upcycled textile waste equivalent to 1 chair & 1 bag. HandBags
<i>Fig.10. Product 10- Laptop Sleeve bag</i>	<i>Fig.11. Product 11- Pencil Stand</i>

	
Fig.12. Product 12- Pencil Pouch	Fig.13. Product 13- Bags

2.2. Evaluation Phase:

In the evaluation Phase, the data was collected from Upcycling Units and Consumers in Pune District. The innovative Upcycled products created were evaluated. The acceptability of the upcycled products and the sustainable benefits were studied.

2.2.1. Data Collection from Upcycling Units:

The data collection was collected by using the Interview and Focus group method. An open-ended interview technique was used where the perspective of the Upcycling units was studied. The objective was to find the challenges faced by these units, the sustainability benefits, consumer acceptance and awareness, and buying Habits of sustainable products.

2.2.2. Data Collection from Consumers:

As per the objective set, Qualitative data collection through survey using Questionnaire tool was conducted to find the acceptability and the benefits of sustainability for upcycling products created. The objective was to collect feedback from the Consumers for the developed innovative articles. Acceptance and awareness were also evaluated. This was collected by considering four parameters- price, design and innovation, willingness to use the product, and promoting the product to others.

3. Results And Discussion:

The results of the questionnaire are mentioned below:

3.1. Upcycling Units:

As per the data received from the upcycling units, the benefits of sustainability are achieved and people from the neighborhood are employed. It has given financial support and uplift to the rural community and created livelihood opportunities for tribal Women and Youth. The project has helped in reducing the waste. Many of the units confirmed that there is no government policy to support or fund such projects. On these products no subsidy, GST or grant policies are applicable. Therefore, as a business owner, it becomes difficult to manage the finances and profit of the company.

Some quite several consumers do not know about upcycling but the awareness is increasing day by day. Just by looking at the product, the consumers are not willing to buy it. After knowing the cause behind the products, creating a unique design collection and socially driven fashion are the various ways to attract more and more consumers. Consumers are only willing to purchase the products at a premium price once they understand the cause behind them. This shows that there is less awareness among consumers about the products. To spread awareness such products should be promoted on common platforms such as Amazon, Etsy, etc and paid

collaborations should be made. There should be awareness campaigns, people at a young age should be taught at schools and colleges, and in every household and society sustainability should be practiced and awareness be done door to door. The government should take the initiative and take strict action on the rules and regulations of waste disposal. As new job opportunities are created people should be encouraged to take up such jobs. Currently due to low demand and high labor with higher production costs it becomes difficult for upcycling units to sustain.

3.2. Questionnaire- Potential Customers

Based on the findings, the data strongly supports the Alternative Hypothesis. The hypothesis result states that the upcycled innovative textile articles created from the textile waste collected in the Pune District had a greater impact on the three benefits of sustainability and were accepted by the consumers in the Pune District. Upcycled textiles have a substantial positive impact on sustainability by reducing waste, lowering carbon footprints, and promoting the responsible use of resources. The products are expected to adhere to eco-friendly practices and support a sustainable future. This suggests that consumers in Pune demonstrate a strong preference for upcycled textile products, reflecting a high level of acceptance. This includes factors such as consumer awareness, satisfaction, and willingness to choose upcycled products over conventional ones due to perceived benefits. The upcycling initiatives lead to significant economic advantages, such as cost savings and profitability, alongside social benefits like increased employment and community engagement. Additionally, it supports environmental benefits through effective waste management and conservation efforts.

66.7% of people responded by using sustainable products in their day-to-day lives. Majority of the people's purchase decisions depend upon the texture and feel, design, and aesthetic look of the product. The raw material is the least bothered category for purchasing the product, as many do not know about the same. 95% of people responded of willing to buy a product made from textile waste. The remaining were not willing to use sustainable products as they had concerns with the hygiene, cleanliness, design, and cost of the product. The solution to these should be developed so that every individual uses upcycled products. Businesses and policymakers should leverage this relationship to further promote and develop upcycling initiatives that resonate with consumer values and expectations.

3.3. Feedback of articles created

Upcycling initiatives contribute to economic growth and social development, aligning with sustainable practices and consumer preferences in the Pune district. Overall, the results highlight the effectiveness of upcycling in driving sustainability and consumer acceptance, indicating a meaningful shift towards eco-friendly and innovative textile solutions in the market. Consumers are increasingly conscious of environmental sustainability and prefer products that align with eco-friendly practices. There is a promising market for upcycled products in Pune District, with consumers ready to embrace sustainable alternatives.

The results indicate that upcycling not only reduces waste but also offers environmental, economic, and social benefits. Upcycled textile products play a crucial role in sustainability by reducing waste and promoting environmental conservation. There is a high level of consumer acceptance for upcycled textiles. The study confirms a significant relationship between qualitative consumer insights and quantitative results regarding upcycled products from textile waste. This alignment suggests that consumers not only understand but also value the benefits of upcycling, leading to increased acceptance and support for sustainable practices. Upcycling initiatives foster economic growth and social development. Overall, the findings emphasize the effectiveness of upcycling in promoting sustainability and consumer acceptance, signaling a significant shift towards eco-friendly and innovative textile solutions in the market. To maximize these benefits, continued support and investment in upcycling initiatives are essential, fostering a sustainable approach to waste management and consumer engagement in Pune District.

The feedback for the four parameters- price, design and innovation, willingness to use, and promotion to others collected from the consumers is presented below.

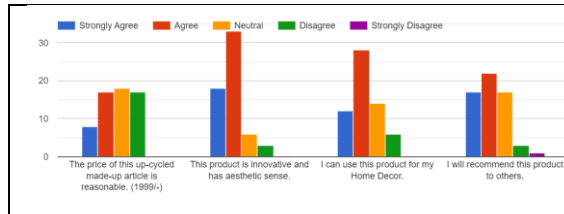


Fig.14. Product 1- Macramé Mirror

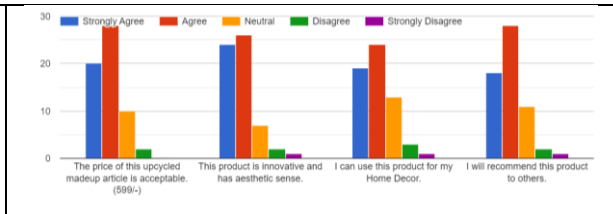


Fig.15. Product 2: Wall Hanging Stripes

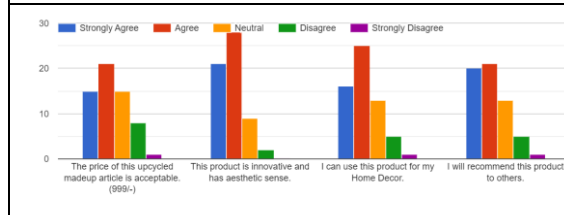


Fig.16. Product 3- Denim Art Frame

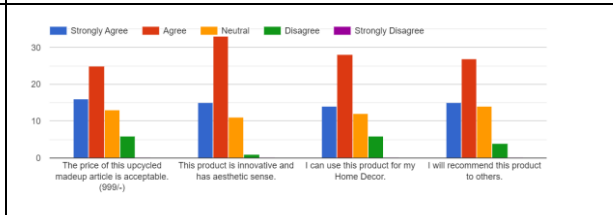


Fig.17. Product 4- House Frame

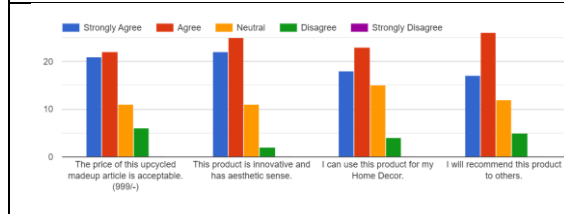


Fig.18. Product 5- Frame- Nail Art

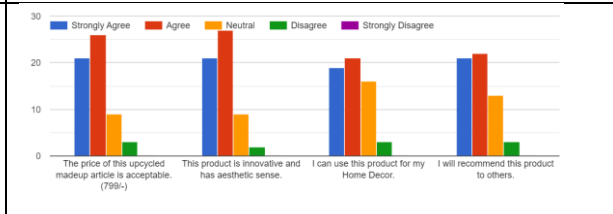


Fig.19. Product 6- Beach Story Applique Frame

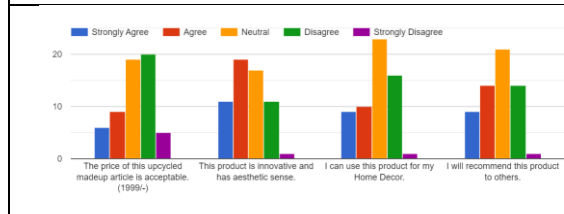


Fig.20. Product 7- Dream Catcher

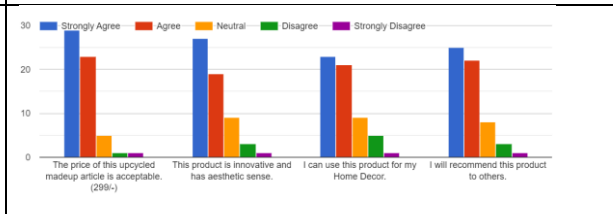


Fig.21. Product 8- Magnet Planter

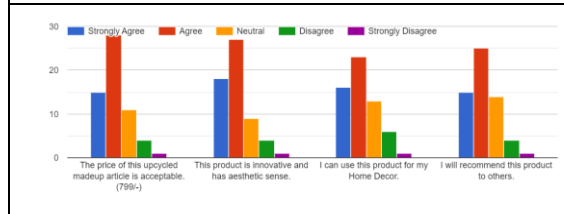


Fig.22. Product 9- Wall Hanging

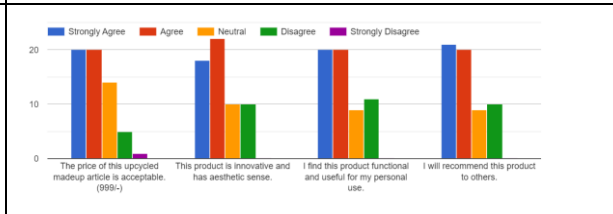
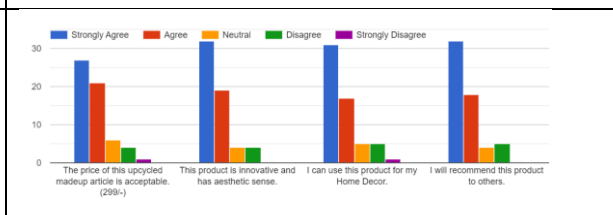
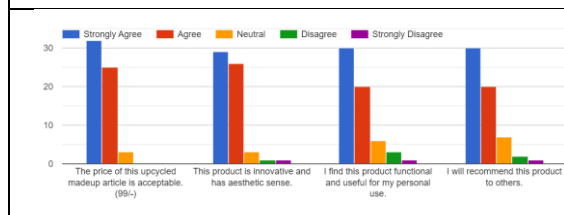
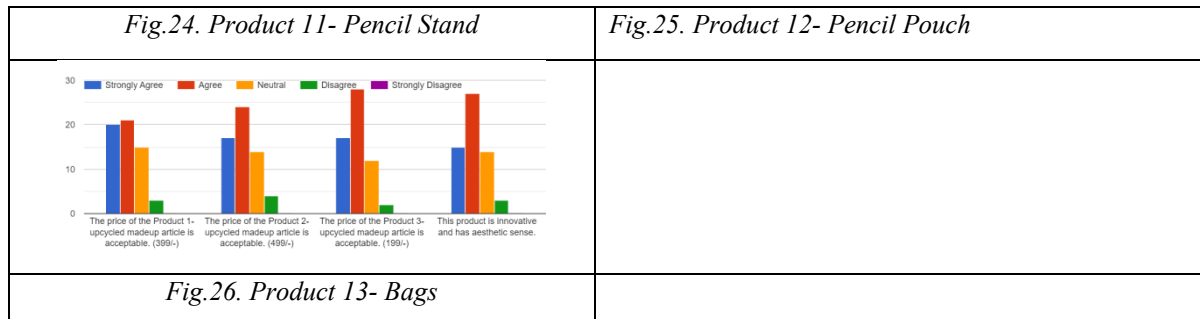


Fig.23. Product 10- Laptop Sleeve bag





Price of the products: Out of 13 products, the majority of consumers accept the price of 11 products. 2 products with price- 1999/- were not accepted by consumers. Consumers preferred products with a Price of 99/- even if not innovative or aesthetically good strongly accepted for the price. For Functional use products, the customers are ready to pay. This shows that for upcycled products cost matters the most. More than the design consumers think about the price before spending.

Innovative and aesthetic sense of the products: All products were agreed to be innovative and have aesthetic value. Products 8, 11, & 12 were strongly agreed to be innovative and creative by the consumers. The remaining products were agreed to be innovative. This shows that design is considered an important aspect of attracting consumers towards upcycling.

Willingness to use or buy the product: The consumers showed interest in using and buying the upcycled products for their personal use. The functional used products had more demand than decorative products. The majority of the consumers were ready to buy the products for their home or personal use. Out of the 15 products, only 1 product was not accepted by the consumers.

Willingness to recommend this product to others: Out of 13 products only 1 product was not recommended. The majority agreed to recommend others and encourage people to use upcycled products.

Product	Price	Aesthetics + Innovative	Willing to use	Recommend to use
1	Neutral	Agree	Strongly Agree	Strongly Agree
2	Agree	Agree	Agree	Agree
3	Agree	Agree	Agree	Agree
4	Agree	Agree	Agree	Agree
5	Agree	Agree	Agree	Agree
6	Agree	Agree	Agree	Agree
7	Disagree	Agree	Neutral	Neutral
8	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
9	Agree	Agree	Agree	Agree
10	Strongly Agree	Agree	Strongly Agree	Strongly Agree
11	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree

12	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
13	Agree	Agree	Agree	Agree

Fig 27: Data collected from Consumers- Result presented as per ratings received

4. Conclusions

The study showed that upcycled textile products have a significant positive impact on sustainability through waste reduction, environmental conservation, enhancing community well-being by creating jobs, empowering local artisans, strengthening the local economy, and promoting social inclusion. Upcycling provides an effective solution to reduce the environmental impact of textile waste. By creating awareness the consumers will avoid throwing away the garments and converting them into valuable products thus helping to reduce landfill accumulation and promoting a circular economy. This study introduces an innovative approach to tackling textile waste, showcasing the potential of upcycling as a scalable solution. By focusing on consumer behavior, the study provides valuable insights into market dynamics, helping businesses align their strategies with consumer expectations. The integration of both quantitative and qualitative data provides a thorough understanding of the impact of upcycling, enhancing the existing literature on sustainable textiles. The findings offer a practical framework for implementing upcycling projects, and guiding stakeholders in the textile industry and beyond. Given the positive outcomes of upcycling initiatives, it is recommended that stakeholders in the textile industry continue to invest in and promote upcycled products.

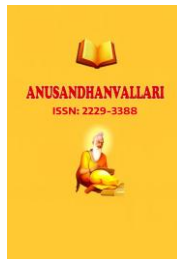
Further research could explore expanding upcycling practices to other regions, enhancing consumer education on sustainability benefits, and developing policies that support sustainable textile production. Embracing upcycling can contribute to a more sustainable future, fostering a positive change in consumer behavior and industry practices. Educational workshops and training should be arranged at various localities to help consumers understand sustainability. Governments should develop policies and strategies, and provide benefits to encourage people to develop sustainable businesses. More and more jobs and employment for women and disadvantaged people can be created.

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