



JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

DESIGN AND DEVELOPMENT OF SUSTAINABLE PRODUCTS USING UPHOLSTERY SWATCH CARDS

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Abstract:

Upholstery fabric is the material used as soft coverings for cushions, chairs, sofas and curtains. Swatch cards consists of sample fabrics which allow consumers to visualize and feel the quality of the fabric. The retailers receive these swatch cards almost every three to six months for every new collection. Every retail outlet stocks upholstery fabrics of at least ten to fifteen brands; thus, a lot of fabric is discarded later in the form of swatch cards. Annually more than 17 million tonnes of textile waste were dumped into landfills of which rarely 13% to 15% is being re-cycled. Synthetic fibres present in the textiles can take more than two-hundred years to decompose. Old swatch cards are also discarded contributing negatively to the environment. Swatch cards are pre-consumer waste made of sturdy fabric which can be used to develop a variety of sustainable products, thereby reducing the waste generated. In this study, the researcher aims to design and develop sustainable products from discarded swatch cards. The research is exploratory in design, survey was conducted with shopkeepers of upholstery stores to understand waste generated. The survey was conducted using Google forms and the sampling technique used was convenience and snowball sampling technique. On the basis of results received, old swatch cards were sourced from an upholstery store and sustainable products were developed. Small products used regularly in every household were developed like coasters, hot pot holders, pouches for make-up and sunglasses. Techniques used to create the products are quilting, patchwork and applique work. Acceptability study of the products will ascertain the future scope of the research project thus enabling effective waste management of swatch cards.

Keywords: *Upholstery, swatch cards, textile waste, sustainable product development.*

Introduction and Rationale:

Despite the steady growth of science and technology, the excessive use of resources in the field of textiles has resulted in various environmental issues. The textile industry contributes to almost 20% of the waste generated across the globe. Thus, being a major contributor, we should take responsibility to undertake a conscious effort to help reduce its impact on environment. The alternatives should be designed to reduce the amount of textile waste ending up in the landfills. Upholstery swatch cards are one form of pre-consumer waste which many a times ends up in the landfills. The fabric is strong, sturdy and is available in a wide range of colors and patterns. Collection of such upholstery swatch cards can be an important step in developing sustainable products.

Upholstery fabrics are made up of various fibres such as polyester, cotton, and wool. These are usually made up of pile or flat weave. With a cushioned design, upholstery fabrics are commonly used as covers for mattresses and other furniture in homes and establishments. Varieties of upholstery fabrics are many, some examples being Jacquard, Lace, Silk/Faux silk, Embroidered curtains, etc. Another category of upholstery is bed linen which includes bed-sheets, quilt, comforts, pillow covers and cushion covers, carpets & rugs and slip covers. Swatch fabric represents the whole of larger fabric. Sample pieces of different fabrics, designs or colors are stuck in one card or book to make swatch cards. Benefits of swatch cards are they can be customized to meet the needs of different business customers, physical swatches give the real representation of the materials and their various characteristics compared to digital image, saves display space and protect fabric from damage. ⁽⁴⁾

Due to the rise of clothing consumption globally, textile has become a major source of environmental pollution. Pre-consumer textiles waste is mainly composed of non-biodegradable materials such as discarded or damaged samples, technical textiles, and unfinished fabrics. Post-consumer waste refers to the end-of-life issues that occur when a product is no longer useful. These include clothes with missing or damaged buttons, torn or worn-out items, and old textiles that are thrown away. Industrial textile waste is generated from various industrial applications. It includes conveyor belt components, geo-textiles, wiping rags and filter components. ⁽¹⁾ It is widely believed that around 25% of the fabric used for making clothes is lost during the cutting and making process. This amount is estimated to be about 3 to 25% of the total waste generated by the apparel industry in India. Most of the waste in India is sold to the informal economy of waste workers, who earn around Rs. 6-10 per kilo. They are known as Chindi-wallas and are associated with the nomadic community of Gujarat. ⁽²⁾ Upcycling allows people to reduce their impact on the environment while also producing unique one-of-a-kind products. It is also beneficial for companies as it allows them to save money and time by turning used materials into new ones. Aside from reducing landfill space and energy consumption, upcycling also conserves resources and helps minimize the impact on the environment. Upcycling is a great opportunity for designers to improve their skills and reduce their impact on the environment. One way to upcycle is by remaking old readymade garments. Some of these include old belts, discarded fabrics, and finished pieces. The designer then decides on what to make from these pieces. Upcycling of unused upholstery swatch cards can help to reduce the negative impact on the environment. ⁽³⁾

Hence, this study aims to work towards cause of consuming pre-consumer upholstery swatch cards to design and develop sustainable products and thereby reducing the waste in the landfills.

Objective:

- To understand the disposal methods of upholstery swatch cards from retailers/shopkeepers selling upholstery fabric.
- To design and develop sustainable products on the basis of consumer preferences.

Methodology:

The study aims to find out the disposal methods of discarded swatch cards for upholstery fabrics sold by retailers. The objective of study is to develop sustainable products and reduce the trash in landfills thereby saving the environment, and to assess acceptability of the developed products by retail store owners and consumers.

Research Design:

The topic of the research was finalized on the basis of the significance and feasibility of the study. The research design is exploratory in nature and is flexible. This research was multi-method (face-to-face interview, questionnaire and observation methods were used).

Data Collection:

Data was collected from secondary sources like e-journals, e-books, research papers and articles. Pilot study was conducted through survey forms. Data was collected on the basis of 'Reliance on available subject' and 'Convenience sampling' method.

Steps followed:

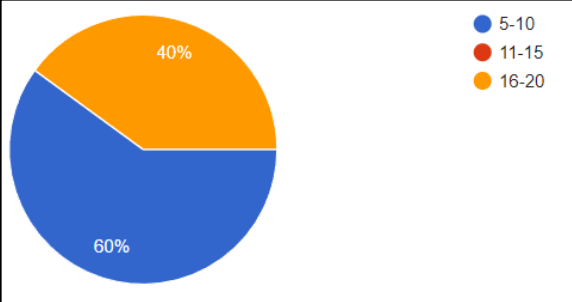
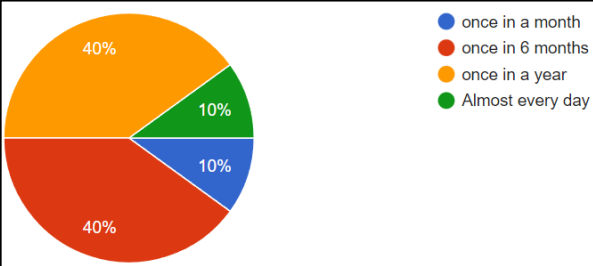
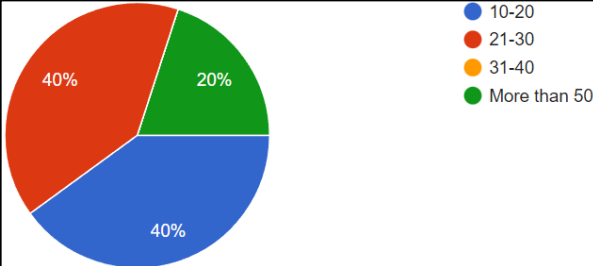
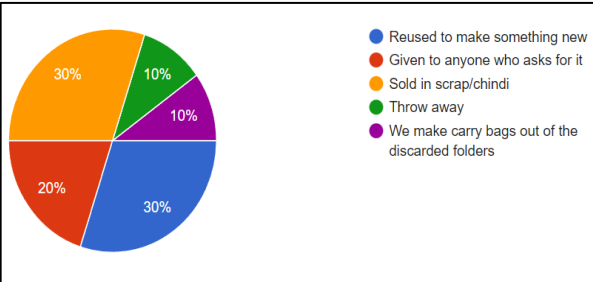
Survey 1	10 Shopkeepers of upholstery stores	Survey / interview method	To understand disposal of upholstery swatch cards
Analysis of Survey 1			
Survey 2	65 Consumers	Self-constructed Survey	To find out preferences for product development from swatch cards
Analysis of Survey II			
Sourcing of upholstery swatch cards			
Sustainable Product development	3 products on the basis of consumers	Self-created Design development	Combination of different

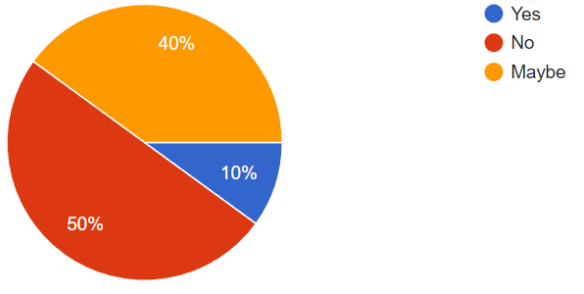
	preferences obtained in Survey II		techniques of product making
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Results of Survey Form-1:

In survey form 1 the data was collected to understand how the upholstery swatch cards are discarded or reused by upholstery manufacturers or retailers. The form was sent online to fill and some of the shopkeepers were interviewed and the form were filled by the researcher.

The form was filled by 10 upholstery retailers. Basic information of the shopkeeper was collected through their name, location, contact number and email id. Other questions were for the data collection of how they discard upholstery swatch cards.

	Shops having different brands of upholstery fabric in their store: • 5 to 10 different brands – 60% • 16 to 20 different brands – 40%
	Shop receives upholstery swatch folder: • Once in a month – 10% • Once in 6 months – 40% • Almost every week – 10% • Only once in a week – 40%
	Average number of collections/swatch card folders comes from each brand in a year: • 10 to 20 – 40% • 21 to 30 – 40% • More than 50 – 20%
	Discarding of swatch cards: • Reused to make something new – 30% • Given to anyone who asks for it – 20% • Sold in scrap/chindi – 30% • Throw away – 10%

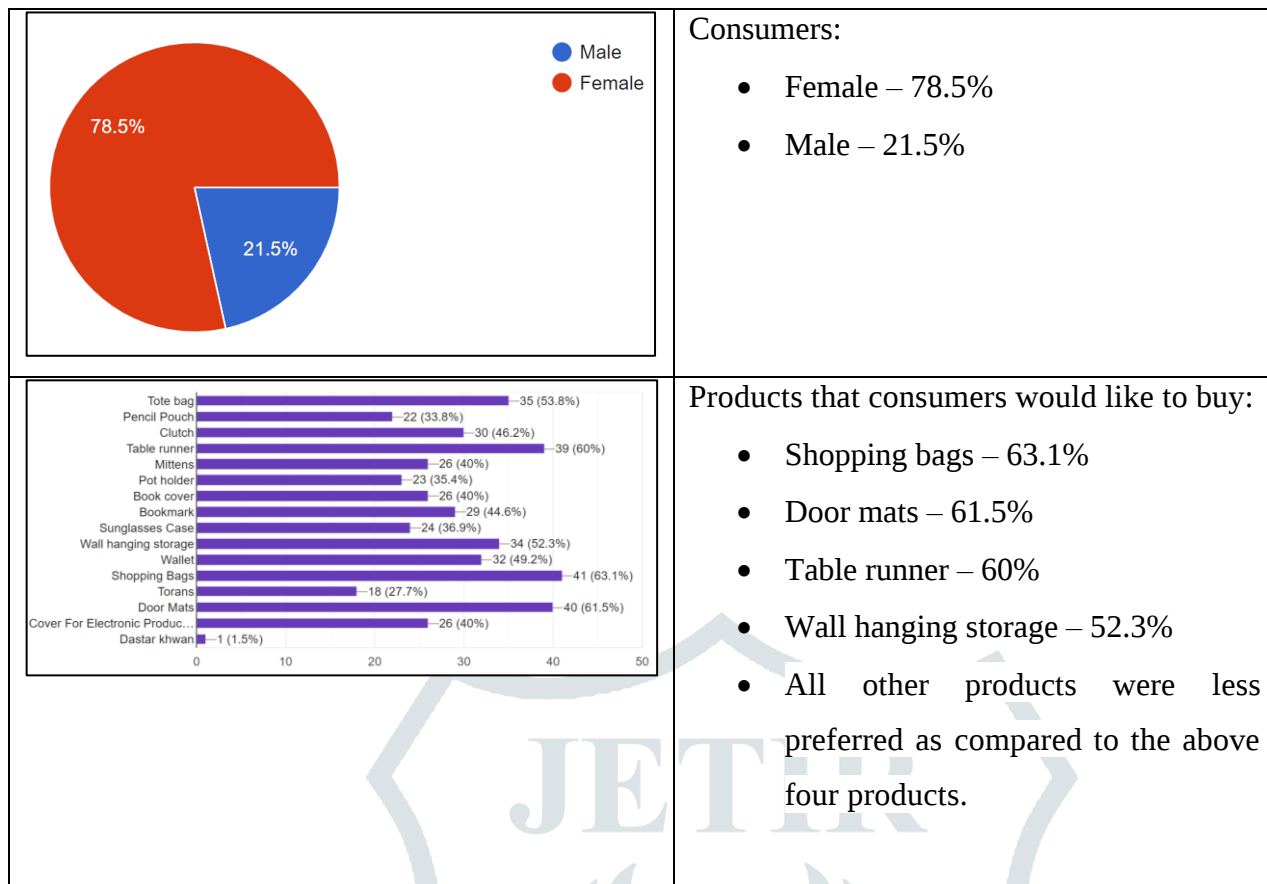
	We make carry bags out of the discarded folders – 10%
 Legend: Yes (blue), No (red), Maybe (orange)	Swatch cards reused in any other way: - Yes –10% - No – 50% - Maybe – 40%
No We can make cautions of small size and sell it You can use the fabric's for design's May be for hand bags Maybe hand bags What to do if it is discontinued I had never used them no we can not reuse swatch cards No	Suggestion of upholstery shopkeepers on reusing/upcycling of upholstery swatch cards.

The results indicates that multiple swatch cards are received by upholstery stores from every brand and however, they are used only for showing to the clients and thereafter they are just discarded. As per the results only few of them reuse the swatch cards that too larger cards and small ones are thrown away or sold in scrap. According to the respondents smaller swatch cards are of no use as the fabric is too small and no products can be made with it.

Results of Survey Form-2:

In survey form-2 the data was collected to understand preference of consumers for sustainable products that can be created out of swatch cards which are discarded or reused by upholstery manufacturers/retailers. The form was sent online to consumers.

The form consisted of 6 questions out of which 5 were open-ended questions and 1 was close-ended question. The form was filled by 65 consumers. The initial questions were age, name, gender, contact number and email id to collect the basic information about the consumers.



The results indicate that consumers prefer household utility products more than fancy products. On the basis on consumer preferences products like shopping bag, doormat, table runner and wall hanging storage were developed.

Benefits to the society/Future Scope:

- The study will create awareness about upcycling material instead of wasting it by throwing it away in the landfill and polluting the environment.
- There are many upholstery manufacturers and shopkeepers who discard upholstery swatch cards by throwing them away and they are landed in landfills because of new collections coming in the market.
- Sourcing of unused upholstery swatch cards, upcycling and developing utility products out of it tends to lessen the wastage of textile in landfills.
- Zero-waste product can be created and thereby saving the environment.
- Designing and developing zero-waste products out of pre-consumer waste will be an innate desire to save the environment.
- Raw materials used will be free of cost as upholstery swatch cards are pre-consumer waste and they are only used to show the sample of the fabric to the clients.
- Easy availability of raw materials because many swatch cards are produced and available with the manufacturers and shopkeepers.
- Many other products can be experimented and created other than shopping bag, doormat, table runner and wall hanging storage.
- High quality products are created as upholstery fabrics are very strong and sturdy.

SWOC Analysis:

- **Strength and Opportunities:**

1. Sustainable design development
2. Development of a feasible entrepreneurial venture
3. Can cater to the requirements of the customer
4. Can grow from a local seller to a large entrepreneur

- **Weakness and Challenges:**

1. Difficult to contact store owners and also to convince them to fill the form.
2. Google forms were in English and not all shopkeepers were able to fill online.
3. Opening of upholstery swatch card folders

Conclusion:

By creating products out of upholstery swatch cards which is a pre-consumer waste reduces the textile waste in landfills and it lessens the negative impact on the environment. This study will create an awareness about upcycling material instead of wasting it by throwing it away in the landfill and polluting the environment. This study will be further carried out to assess the acceptability of the designed and developed products in the market. The researcher tends to do social-entrepreneurship by imparting product developing skills to economically challenged women and help them earn additional income.

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