Investigating the Reasons for Customer Choices on Sustainable Clothing

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Abstract—This research paper accentuates the fact that human beings as a species, are naturally inclined to give back to society. According to Becker (1993), Individuals are not solely motivated by materialism or economic gains. Apart from investing in assets and education, individuals also invest in social capital for non-financial gains. In this context this study aims to identify different factors that influence customer choice of green clothing consumption. This study is an effort to validate the influence of functional, epistemic, and social circumstances. According to Becker, Individuals are often influenced by personal and social experiences (Becker 1996; Becker & Murphy, 2000). These principles are the foundation for examining the motivations of customers on sustainable clothing decisions. Research so far is mostly focused on the production mechanism, with little research on consumer's preferences. Relevant literature data indicates much of clothing consumption depends on public perceptions of sustainable clothing. There is little work on sampling and on actual consumers behavior habits on sustainable clothing. Therefore, this study focuses on exploring the values and motivations supporting a sustainable clothing consumption. The outcome of this study can positively impact production house strategy and marketing strategy in sustainable clothing space.

Keywords— Consumers of sustainable clothing, Environmental value, marketing, consumer behavior.

I. INTRODUCTION

Clothing and sustainability are contradictory concepts, the former is defined by profligacy and short product life cycles, *especially in fast fashions.* while the latter implies reducing, recycling, and the reusing of products. (Ertekin & Atik 2015) the researchers have published their work on the implications of mindless production in the fashion industry. Factories were forced to implement better monitoring programs for their manufacturing units. This indicates the emergence of a sustainable clothing consumer movement. (2023 | British Vogue) this popular magazine labeled the environment as a new trend in clothing. In 2004, the first Ethical Clothing Fashion Show was held in Paris. Then in 2009, New York Fashion Week launched its first Eco Clothing Fashion Week, and one year later the first official sustainable clothing fashion show took place at London Clothing Week 2010. Established brands like Louis Vuitton Moët Hennessy Group got involved by acquiring a 49% stake in Edun an eco-friendly fashion house. (British Vogue 2019) Online retailing, brands solely dedicated to sustainable clothing such as People Tree, Colored Organics, and Tiny Twig are floated briskly. The makers concentrated on eco-friendly materials like organic cotton, khadi, and other hand-woven fabrics. Over production of clothes loses the very essence of sustainable theme. It is important to understand customer motivation to buy these products to come up with clear strategies on selling, otherwise these inventories will add extra flabs to environmental pollution. Mindless production should be channelized to planned production by understanding customer motivation. The limited research investigates the motivations driving consumers to sustainable clothing. (Pederson & Gwozdz, 2014), has researched investigating consumer responses to sustainable clothing. Research in the broader context of ethical consumption suggests personal values play a pivotal role in ethical decision-making (Connolly & Prothero 2008). However, their study gives ample of opportunity to substantiate it with quantitative evidences. The commercial value can be categorized under two attributes. One is quality value and second is product value. Where quality value is the price for the product quality and the material, whereas the product value is the value arrived by market comparisons. The customer choice is based on either of the two characteristics. The research tries assess the facts with a survey-based approach for testing numerous quantitative aspects. The inclination of 132 respondents is studied in this paper by relating them to motivations to purchase. The four important dimensions of means-end theory such as attributes, benefits, emotions, and personal value are taken into consideration while preparing the questionnaire. The results of survey are consolidated using factor analysis method. The first part of study defines the ethical or green clothing through various studies so far, further the research develops hypothesis and tests it using statistical techniques, Further the study presents analysis and conclusions on ethical clothing consumption patterns.

II. LITERATURE REVIEW

We first studied definition of sustainable clothing in literature. The definition differs in the literature with varied levels of consumption patterns. The ethical clothing, in previous literature studies is defined as the clothes that are integrated with fair trade practices and the manufacturing conditions, which do not harm the environment, also does not harm workers and consumers. Few other studies consider biodegradable and organic clothing with a reduced carbon footprint as eco-friendly clothing. Cervellon & and Wernerfelt (2012) in their study used "green clothing" to refer to organic production. Researchers also tried to highlight and correct several perceived wrongs in the clothing industry. That includes cruelty towards animals, damage to the environment, damage to human health, and worker exploitation (Bianchi &

Birtwistle 2010; Blanchard 2013; Bray 2009). The literature terms use "green clothing" and "reduced cruelty towards animals including humans" interchangeably and for different purposes. Research suggests that 82% of the energy used during a garment's lifecycle, comes from the laundering process which led to an increase in textile waste by an average of about 2 million tons per year between 2005 and 2010 in the UK (Niinimäki & Hassi 2011). Therefore, aspects of consumption such as laundering, use, re-use, and disposal can have a substantial impact on the sustainability of a garment and should not be excluded from a definition of green and reusable clothing (Cervellon et al. 2010). In this article, Author`s use the broad term of green clothing to encompass the many issues of an ethical or environmental nature in clothing production and use.

These studies provide solid ground for research on consumer motivation. The perceptions of what is sustainable are not necessarily those suggested by scientific studies. There are some studies which suggests that consumers express ethical concerns while purchasing (Niinimäki 2010, Dickson (2001) In this study researchers have found that consumers, are concerned about the social impact of their purchases. Human rights violation in textile factories are considered unjust. The consequence is resultant in costumer experience. Since the textile factory is the largest employers in Asia. The concern around working conditions also forms a parameter for green clothing. Most of the research is conducted with general population samples. Hence most of them have in all probability never made an active sustainable clothing consumption decision. This provides significant room for new research. Further literature studies show that there is an attitude and behavior gap in the sustainable clothing field. It is similar and as much as in any other organic consumption spaces (Davies, et al. 2012; Niinimäki 2010). Joergens (2006) conducted a focus group study in London and Germany and noted that consumers have limited options when it comes to sustainable clothing. Most of the new brands are addressing this scarcity now. However, the prices are often very high, and they are of no comparison to low-cost clothing available to consumers. This leaves certain room for the assumption on influence of economic factor for decision making. Literature on means end theory, summarizes survey results by laddering approach. Kaciak, E., Cullen, (2006) He uses a detailed mechanism by assigning a value to each links of customer, such that attribute (A) is product with consequence (C) and how these characteristics link to consumer's personal value is given by (V), the relationship between A, C and V is given by means end chain (MEC). The MEC is utilized for business development activities by Kaciak, E., Cullen, (2006). This study utilizes the evaluation of MEC use and recommends to find most relevant reason for consumer behavior towards costumer judgement. In our study we use the number of ACV connections and evaluate it for four different attributes. The number of ACV connection is recorded as ladder. The conclusions are derived based on the results. Consumers often evaluate the product according to the different factors. Decisions are based on price, quality, and clothing style. This shows that clothing is not only about pro-environment, but

also needs to appeal to the costumer and not to be heavy on pocket. Consumers of sustainable clothing are in all probability driven by multiple end goals including self-expression, aesthetic satisfaction, attractive price, age, and gender. Much of the literature lacks clear evidences on the factors influencing clothing decisions in green space.

III. OBJECTIVE

The objective of this paper is to explore the values and motivations behind frequent sustainable clothing consumption. For this study, we assumed the social behaviour and attitude as a factor linked to social awareness, gender and age of the consumers as contributing to the decision. This is arrived at from the studies by (Davies, et al. 2012; Niinimäki 2010) about the behaviour and attitude of the customers. Further assumption is based on the influence of economic factors by Joergens (2006) This serves as a predominant influencer of final purchase. *Following Alternate Hypothesis are tested in this study.*

(H1)- The quality and epistemic value has greater influence on the clothing choice among the sustainable clothing consumers.
(H2) - The functional price value has greater impact on purchasing behaviour more than personal ethics and values for sustainable clothing decisions among consumers.

Scope of Study:

Closer observation of the production process indicates that there is no such thing as a 100% eco-friendly piece of clothing. The reason is that all types of fibers used to manufacture textile absorbs large volumes of water. It also consumes electric energy and chemical dye to make the fabric into final garments. Hence for this study, sustainable clothing is defined as clothing made of natural fibers that take up fewer resources. The clothing that uses natural dye. The dye which is made up of vegetables. Few examples are mulberry green, beetroot maroon etc. The fabric which is obtained from organic source such as cotton and silk. The scope also covers any fabric that uses small amount of water and energy, with chemicals that have minimal impact on the environment.

Questionnaire

The interview questions were structured in a progressive manner starting from questions about specific purchases of sustainable clothing, into questions about why they purchase sustainable clothing, and then to their general understanding of sustainability in clothing including post-consumption activities. This study aims to understand actual sustainable clothing consumption decisions. Therefore, it was essential to tie respondents to known specific consumption events. We focused only on those known to have undertaken sustainable consumption behaviors. The survey was done in sustainable clothing outlets, with regular customers known to the storekeepers of those outlets. A sample size of 132 people was included. The survey took almost three months to complete. Frequent sustainable clothing consumers were interviewed who have self-identified as regular customers of the selected outlets. The individuals were distributed with hard copies of the survey questionnaire. Demographic characteristics such as

age, gender, income, and education were collected in this study.

IV. METHODOLOGY

The questionnaire is based on the means-end theory approach of marketing. This theory links purchased products back to the purchasing criteria of the customer and the personal values of the customer. The research design used in this study is quantitative research which focuses on the collection, analysis, and interpretation of numerical data. The sampling technique used for this study is focus group sampling. The study is carried out with 132 respondents. The population consisted of customers in south Bengaluru, Karnataka, India. This study utilizes primary data. The tool used for the analysis of data is JMP software. Factor analysis is used for tabular summary of data to show the frequency (or count) of each value or percentage of values in a dataset. Measures of central tendency are used as statistics that describe the typical or central value of a dataset, such as the mean, median, and mode. Further Visualization techniques such as histograms, box plots, and scatterplots are used to identify the trends and patterns. Finally, conclusions are arrived at using means end theory of marketing.

Data Collection

The respondents of this study are Indians who are staying in Bengaluru (Karnataka). A survey was conducted using physical forms at the clothes store of Forum Mall. Each participant's demographic information was tracked and examined. We made sure that each participant submitted only one response. The formal questionnaire was issued between June and August 2023. The questions were categorised using factor loading method into following groups.

TABLE 1. Grouping of qualitative questionnaires based on factor loading method.

Quality value questionnaire	Results	Mean Value
The quality of sustainable clothes is good	68.9%	$\bar{x}=71.66$
The green clothing products have good positivity	82.6%	
The green cloths are good for health	63.5%	
Price value questionnaire		
The sustainable clothing is reasonably priced	56.8%	$\bar{x}=57.53$
The clothe is value for money	58.6%	
The value does matter but health first	57.2%	
Environmental value questionnaire		
If I buy sustainable clothes, I am positively impacting the environment	82.6%	$\bar{x}=71.08$
Reducing carbon footprint is important hence I buy sustainable clothing	81.6%	
I buy sustainable clothing products instead of conventional products when there is discount	76.8%	
I buy green clothing products based on availability and prefer it over conventional clothes	56.8%	
I have switched clothing brands for ecological reasons	57.6%	
Epistemic Value questionnaire		
I compare different brands of sustainable clothes before making choice	58.9%	$\bar{x}=67.28$
I normally purchase them for the new experience	63.8%	
I often buy them based on my old experience	74.8%	
I have found them more durable than conventional products	71.6%	

Further the survey results indicated following demographic insights.

TABLE 2: Grouping of quantitative questionnaires based on factor loading method.

Demography	Number of consumptions	% of consumption
Gender:		
• Female	• 74	• 56.06%
• Male	• 54	• 43.93%
Age:		
• 25-35	• 111	• 84%
• 35-45	• 13	• 9.8%
• Above 45	• 9	• 6%
Income:		
• 25k-35k	• 66	• 50%
• 35k-50k	• 46	• 34.84%
• Above 50K	• 20	• 15.15%
Social concern:		
• Yes	• 72	• 54.54%
• No	• 43	• 32.57%
• Not Sure	• 17	• 12.87%

The selection efficiency was 92.6%. Among the data samples collected, 43.93% were men, and 56.06% were women. According to the age distribution, 84% were under 25-35 years old, 9.8% were 35-45 years old, and 6% were above 45. The income distribution of 50% of the population earned around 25k-35k, 34.8% earned around 35k-50k and 15% earned above 50k. The societal help inclination was part of the sustainable clothing choice for around 54.54% population. It was a choice for fashion for 32.57% population, and 12.8 % population was not sure about the choice.

Data analysis

The correlations between the four main attributes were tested. The mean value score for the quality is highest with 71.66% followed by Environmental value and epistemic value. The price value mean is the lowest among the four attributes. The Hypothesis (H1) is proved and the hypothesis (H2) is not proved. The frequency distribution of the demographic data Age, is mentioned in Table: 2 Most of the respondents were aged between 25 and 35 with a percentage of 84%. This can be directly attributed to shopping enthusiasm in this age group.
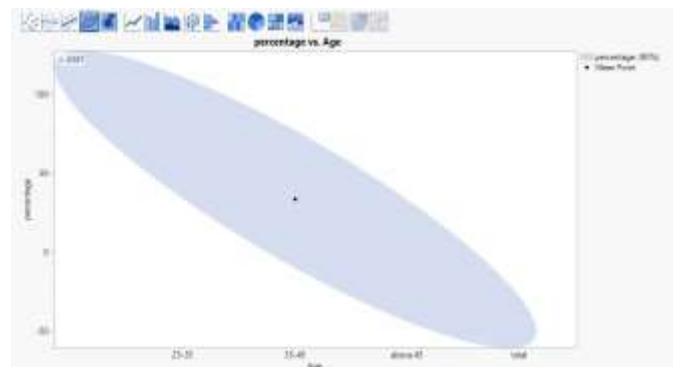

Fig. 1. correlation towards inclination for sustainable clothing influenced by age

Few of the respondents were aged between 35-45 which contributed to 9.8%. Only 6% of the respondents were aged above 45. This data shows a direct correlation of age to the shopping choices for sustainable clothes with r =-0.887. The measure of central tendency with mean =90, Fig 1. The bubble graph shows a negative correlation between age and shopping habits.

The frequency distribution of the demographic data gender is mentioned in Table 2. Most of the respondents were female, The measure of central tendency with mean =50 with the standard deviation SD=0.86
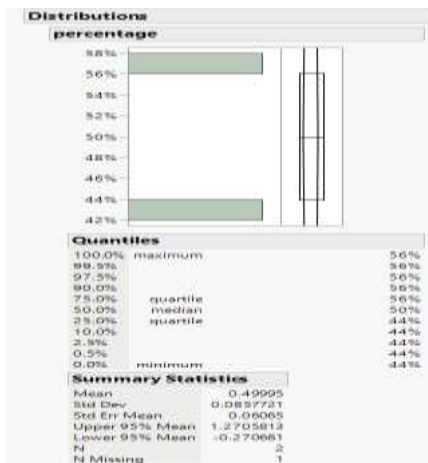

Fig. 2. Gender distribution

The frequency distribution of the monthly income is mentioned in Table 3. The income distribution shows a negative correlation with shopping tendencies. The higher frequency at the 25K-35K income level. This can be attributed to the young age of the respondents. This age group is fashion cautious and shops on frequent basis. The distribution graph of income shows a steady decrease in the percentages with the increase in salary as shown in fig 3.
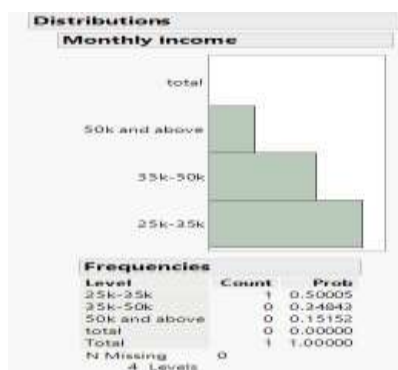

Fig. 3. Income distributions

The frequency distribution of societal help in mind shows 54.54 % of the respondents were assertive about societal help through sustainable clothing decisions. The graph Fig 4. shows the differentiation of results

Interpretations From Survey results

Here we analyze several attributes to pin point the critical attribute. The dominant values generated from study under each category are as follows.
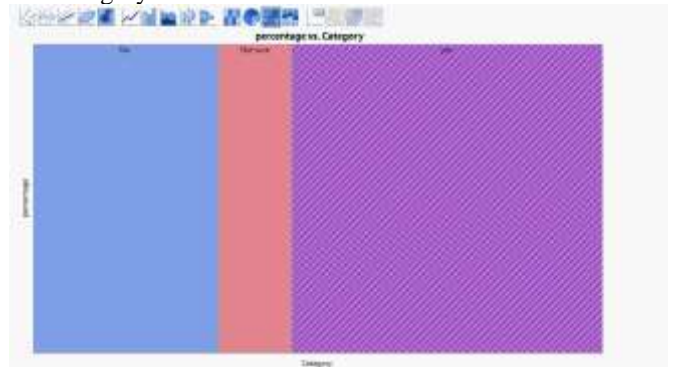

Fig. 4. Graph showing Inclination to a social cause

TABLE 3. Dominant factors tabulated from each category

Societal help (Yes response)	Age (Most frequent shoppers)	Gender (Female shoppers)	Income (predominant shoppers)
54.54%	25-35	56.06%	25k -35k

The literature study so far concludes that ethical and societal concerns are prominent factors in sustainable clothing decisions. Interesting fact of this survey shows the maximum customer fall in the income group of 25k – 35k. This income group is the dominant contributor in sustainable clothing section. One more fact is the predominant shoppers in this category are in the age group of 25- 35 years of age. The youth can be attributed to more shopping spree. However, the fact is income group which spends maximum amount of time and money in the sustainable shopping is 25k to 35 k, this means the money what they can afford to spend on shopping is limited and not exuberant. Which supports the alternative hypothesis(H2) The consumers assert that one of the most important features they require from clothing is for them to be contemporary and fashionable this is proved by negative correlation between age and shopping habits.

V. OVERALL RESULT ANALYSIS: MEANS END CHAIN (MEC)

Fig. 5. Means -end theory, ladder approach for interpretation of data

This study utilizes the evaluation of MEC use and recommends to find most relevant reason for consumer behavior towards costumer judgement. Analysis uses the number of ACV connections and evaluates it for four different attributes. The number of ACV connection is recorded as ladder. The conclusions are derived based on the results as shown in Figure 5.

This study illustrates data from consumer study of sample N=132. Each respondent provides up to four important attributes of sustainable clothing. This is linked into perceived consequence resulting from each attribute. Finally, each consumer identifies one value associated with the attribute. The laddering format of the questionnaire is based on the format introduced by *Cullen and Kaciak (2006)*. Our format of survey questionnaire followed step wise pattern. The pattern considered for this study is constructed based on three steps, Step1: Most important attribute for me, Step 2: The consequence of this attribute, Step 3: why this is important to me. All associations from the questionnaire were analyzed to identify the linkage among the attributes using MEC (Fig 5)

Each consequence of result is associated with one value as below.

using $(a_i=4)$, Associated consequence $(c_j=1)$ and underlying value $(v_k=1)$. table 2)

Hence $q=a_i+c_j+v_k=4+1+1=6$, (fig5)

Let P be the number of A-C-V connections. Called ladder provided by 132 respondents.

Assume value of p=3

Next, partition matrix L into three submatrices. A, C and V. which corresponds to attribute consequence and Value category.

Summary implication metrics (SIM)

➢ Number of direct connections in the ladder between each pair of attribute and benefit category is $a_i*c_j = 4*1 = 4$

➢ Number of connections between each pair of consequence and value category is $c_j*v_k=1*1 = 1$

➢ The number of indirect connections between each pair of value category is $a_i*v_k=4*1 =4$

VI. CONCLUSION

The literature on decision-making studies gives solid importance to the noneconomic aspects. This is primarily focused on the individual preferences. Other alternative theories, such as prospect theory and bounded rationality theory, approaches only enrich the existing models of individual choice on various noneconomic aspects. Including sociocultural environment, multicultural outlook, social behavior, international exposure, etc. Combined effect of all these factors as well as the unique influence of each factor play important role in final decision making. The consumer's requirement with clothing in general is favorite color, durability, and fashion. The consumer enjoys expressing themselves as socially conscious citizens. This increases their self-esteem. Also, this is a way to expression of values. Individual values that drive this phenomenon, is responsibility to preserve the planet for the next generation. All individuals wish to contribute their level in a small manner, this plays significant role in clothing choices. Especially when

advertised with added health benefits. The results show and prove this aspect in the overall conclusion as shown in Fig 5.

The value that drives sustainable clothing consumption is social justice. Interesting facts of this study is that it indicates the consumer belong to certain economy class which cannot afford to spend more money on the sustainable clothing. Inclination of consumers towards the responsibility of protecting the planet Earth and social justice plays important role and is in line with literature study so far. However predominant influencers of sustainable clothing choices are the functional price and Epistemic value. Although this research provides insight into a very under-researched space, it does so with some limitations. First and foremost is the reliance on means-end theory. The means-end theory is reviewed at a combined level, where all consumers are treated collectively. It does not make sense to record an individual opinion. Means-end theory gives room for consumers to reflect on their consumption activity. The means-end theory approach is a collective view of a specific sample. It is impossible to get someone to reflect on sub-conscious activity, but the method encourages respondents to create cognitive structures that may not have been consciously explored during a decision process. These results should help develop further analysis in future research on incentives of buying ecofriendly clothing.

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