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**ANALYSIS OF CONSUMER PERCEPTION ABOUT ECO-FRIENDLY APPAREL**

Master of Science Thesis

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## ABSTRACT

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In recent years, ethical and environmental aspects of apparel manufacturing are given significant importance in many European countries. The major importance has been given to environmental wellbeing, Fair Trade & social welfare. Because of such socially responsible and moral aspects, popularity of Eco-Friendly textile is being observed in the European world lately. This is where its practices are being adopted by Textile Firms at a very fast pace. On the other hand, it has been argued that Eco-Friendly Textiles and its related terms are known at a minimal level among the consumers in European countries. It has also been observed that very little research work is attempted to investigate the perceptions, understanding and willingness of consumers in considering Eco - Friendly Textiles as clothing alternate, through quantitative techniques.

Thus, this research gap in literature has motivated the study where researcher has attempted to study the perceptions of consumers about Eco-Friendly apparel as an ethical alternate in European Region, with the help of quantitative research technique i.e. "Questionnaire Survey". This survey is based on 100 participants; consisted of 26 close ended questions, targeted equally at males and females (50/50). This research has demonstrated the fact that Eco-Friendly Textiles has the potential to succeed within various social groups, having different level of awareness, apparel buying preferences and criteria, who are concerned about ethical and socially responsible dimensions of environment. However, while operating in conventional apparel industry, organizations promoting the use of Eco-Friendly alternates require an extra effort to get the attention of customers, who are using conventional textiles since centuries. There is a high possibility of positive influence of these companies over European Consumers (and beyond) and enterprises in the West especially towards the ethical dimensions of Eco-Friendly textiles.

## **PREFACE**

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Tampere 01.05.2015

Saad Ali

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## LIST OF ABBREVIATIONS

|       |   |
|-------|---|
| AAMA  | American Apparel Manufacturers Association    |
| AP    | Alkyl Phenol                                  |
| BSR   | Business for Social Responsibility            |
| CSR   | Corporate Social Responsibility               |
| EJF   | Environmental Justice Foundation              |
| FLA   | Fair Labour Association                       |
| GOTS  | Global Organic Textile Standard               |
| HRN   | Human Rights Now                              |
| ILO   | International Labour Organization             |
| IPC   | Incentive Performance Centre                  |
| IPE   | Institute of Public and Environmental affairs |
| ISO   | International Standard Organization           |
| LCA   | Labour Action China                           |
| NGO   | Non-Governmental Organization                 |
| NICE  | Nordic Initiative Clean and Ethical           |
| NPE   | Nonylphenol Ethoxylate                        |
| OTA   | Organic Trade Association                     |
| UN    | United Nations                                |
| UNGC  | United Nations Global Compact                 |
| UNH   | United Nations Headquarter                    |
| USEPA | United States Environmental Protection Agency |
| WFTO  | World Fair Trade Organization                 |
| WHO   | World Health Organization                     |
| WRAP  | Worldwide Responsible Accredited Production   |
| WTO   | World Trade Organization                      |
| WWF   | World Wildlife Foundation                     |

# 1. INTRODUCTION

We have come across the discussions and campaigns to support and spread awareness about environmentally feasible and socially responsible eco-friendly product development at large. So much so, that now we are afraid that the effect and influence, let alone the purpose of sustainability and corporate social responsibility will fade away with the passage of time. And a growing social phenomenon will die far before its maturity.

In our day to day lives many of us are very well aware about the availability of products that originate from the facilities which run sustainable and socially responsible methods of production. But the question is how many of us actually move ahead to make those products our priority purchase instead of mere option which can be tried for a better cause.

Are we really willing to trade off between choices of our favourable fashion in order to look good or buy products that we like in order to feel better or buying sustainable products and converting this urge into a regular demand instead of a small market share we see these products have become successful to capture.

The motivation behind this research paper is to study the actual behaviour of the consumers regarding purchasing the eco-friendly apparel and fashion merchandise. Tool use to get the consumer data is by conducting a survey questionnaire to establish an empirical based analysis of the consumer's perception about eco-friendly apparel purchase.

## 1.1 Background

After the industrialization until the mid-20<sup>th</sup> century, humans believed that mother nature especially planet earth is capable of producing infinite resources. And it is possible for human beings to keep growing without any limits to the foreseeable future. But the scenario took a turn when after by passing the early seventies; science, politicians, researchers and scholars identified that it is not like that. Natural resources cannot be exploited without any balance of replenishment. It was then when these stake holders joined their hand to wake up another biggest patron of the planet that is humanity. Among the buzzing movements one of the most prominent was an occasion when world commission on environment and development presented a report by the name of "Our common future" in 1987. With publishing of this report a new beginning on the canvas of environment and the society's perception started to change. Government, organizations and people alike started to think about the issues of sustainable development. Ini-

tially corporation were under immense pressure due to new stringent requirements that started to take place for environment protection but later that new turn also proved to be a basis for developing new business opportunities (UNH “United Nations Headquarters”, 2010).



*Figure 1:1 “Otzi” Copper age hunter wearing animal skin as clothes (2011)*

Clothing manufacture is one of the oldest industries developed by the mankind. Since food, shelter and cloths are the earliest identified basic requirements of the human beings. As it can be seen in the Figure 1.1, a reconstructive Image of copper age hunter carrying his weapon and shattered clothing seemingly made of some animal fur. It is not dire for the clothing or apparel to be stylistic yet the appearance play an important role in the selection of the cloths and this demand has turned this industry into one of the largest business sector in the world (Stephens Frings, 2002).

## **1.2 Apparel Manufacturing Environmental Impacts**

A brief discussion about the harmful effects of the apparel production can be classified in to several stages as the production of apparel and textile is complex and involves many different steps. It starts with gathering raw material for example cotton crop to obtain cotton, which is then turned in to yarns. Those yarns are weaved in to fabrics, fabrics are then dyed to achieve desire colour and print, fabrics are then cut according to the style of the garment, sewn, packed and sent to the desired location mostly by sea due to huge quantities. Now this over simplistic step has many pros and cons on the environment and social aspects of the society.

For example let's take raw material example in a report DuPont stated the harmful effects of the fibres on the environment and cotton and viscose were rated among the highest harmful fibres because of the use of heavy amount of pesticides and fertilizers to produce them (Fletcher, 1999). Another issue related to the wet treatment of the textile fabric is the conventional dyeing methods that uses a lot of water resources and also produce harmful industrial waste effluent which pollute the natural water bodies of the society, for example carcinogens used in the Azo dyes or heavy metals that are usually part of the dyeing chemicals and according to a report clothing manufacturing alone consumes more water than any other industry (Fletcher, 1999).

In addition to that cotton also consumes a lot of water for production as per estimates one kg of cotton consumes about 5000 kgs of water that also produce erosion (Weizsacker et al, 1997). Due to cheap labour and manufacturing cost textile production is mostly done in Asian countries. But the biggest brands, retailers and distributors are in Europe mostly which also make it necessary for the textile goods to heavily transport around the globe contributing a great deal in the production CO<sub>2</sub>. Influence related to usage is also not negligible. According to Fletcher (1999) A study done on polyester blouse showed that washing and drying processes consume more than 80% of energy during complete garment usage life cycle (Fletcher, 1999). After utilization of the apparel, getting rid of it also doesn't come harmless. For example petro chemical based fibres like polyester and nylon do not decay till centuries, natural fibre like wool become the cause of methane production if the garments are just thrown to landfills and not properly degraded which erupts the quality of soil (Braddock and O'Mahony, 1998).

After the birth of the environmental consciousness in 80's it become central social subject in the 90's. This growing interest that people started to analyse in order to evaluate the link and influence of human activities and its impacts on the environment pushed all corners of the industries and corporate world to participate and start taking environmental and social responsibility as important factor to be taken care of. With the wave of consciousness all stake holder bodies like governments, businesses, policy makers and non-profit organizations established attentiveness to the preservation of natural resources and environment. For proactive corporations these trigger effected as a catalyst to create new business opportunities and they came forward to develop products, promotion and marketing offers in order to promote eco-friendly business and products and attract the consumers towards this new market dimension (Coddington, 1993).

As a consequence of these developments consumers become more informed regarding environmental concerns which give rise to the new market demand of eco-friendly products, designs and organizational policies to be in line with the ecological concerns. To answer this demand corporations and large apparel manufacturers and brands began to develop, produce, advertise and create images of socially and ecological responsible

business and product line. However despite of all these efforts still what is the perception in the consumers mind about environmental friendly apparel is still uncertain. As we can see a whole lot of people in our surrounding still use conventional fashion and apparel to full fill their clothing needs. There is very little study available that actually evaluated the day to day textile and apparel consumer preferences to buy apparel which motivated me to conduct an analysis on the consumer's perception about eco-friendly apparel.

Now the consumers are more than ever informed about the environmental friendly products and what eco-friendly consumerism is. Corporations today are producing products, brands and style images that are ethically responsible, which acknowledged the mass consumers about fair trade. Furthermore television and print media is also developing advertisement materials, blogs and articles that contain information about eco-friendly textiles. Ethical consumption means buying goods which are produced considering the prevention of resources, environment and social issues or in other words goods exchanged with fair trade.

Due to the availability of information, consumers have become more and more stimulated to purchase the eco-friendly apparel to play their part in the good cause of rising for the environmental and social concerns. This research is intended to carry out a focussed group survey based on gender, age, education and geographic location of the participants to collect data and analyse the extent of implication that eco-friendly consumerism was able to transfer in the real life decisions of the consumers. The survey questionnaire will also give us information about the factors and preferences of consumers that act as a supportive attribute or as a barrier in order to purchase or forgo the eco-friendly apparel.

### **1.3 Eco-Friendly Fashion and Apparel Retailers**

Despite the ever increasing volumes of clothing trade and overflow of conventionally made apparel and fashion related products, many businesses and retailers are still creating difference in the society by considering ethical fashion production and retailing as the core of their policies. These fashion brands are not only producing the eco-friendly garments moreover they are also making sure that the apparel goods are prepared keeping in mind the importance of aesthetic value in the eyes of consumer which goes along with the eco-friendly or ethically responsible garment production.

One the most renown example of such brand or retailer would be H&M, a Swedish based global apparel and fashion retailer which is trying to make difference in society by paying due attention to the corporate social responsibility. H&M offers a specific line of conscious sustainable style at their stores online under the umbrella of "Conscious-Sustainable Design" for both men and women. These dresses are not only made

keeping in mind ethical practices consideration but they are also as stylish as the other conventional apparels of the retailer is from aesthetic point of view. But when it comes to the prices there seem to be quite huge difference for example a conventional H&M ladies dress cost between 17\$ to 40\$ US dollars. But almost a similar style dress under the umbrella of eco friendly product line may cost somewhere between 40\$ to 300\$ which is a considerable difference (H&M, 2015). As seen in below Figure 1.2, H&M clothing collection of eco-friendly apparel that are available online but are twice as expensive as their counterpart conventional apparel.



*Figure 1:2 “Conscious exclusive” selective collection of eco-friendly apparel at H&M*

Other than selling eco-friendly apparel H&M is also running a large campaign for welfare of society. H&M is running an independent non-profit global foundation “H&M CONSCIOUS FOUNDATION” with an aim of improving the living conditions of the communities where needed and leaving a long-term affirmative change by investing in the lives of people. This is being done through making partnerships with global experts in respective areas. H&M is mainly focus on three main areas; clean water, education and strengthening women as can be seen in below Figure 1.3; an image of a poster created by H&M conscious foundation to promote the campaign for women rights globally (H&M conscious foundation, 2015).



*Figure 1:3 H&M social campaign for strengthening women globally (H&M Conscious Foundation, 2015)*

Another interesting example is of green label apparel T-shirts and fashion bags producer Heavy Eco. Based in Estonia this company is using the prison labour from Estonia and Latvia, urging them to utilize their creativity and produce interesting garments and accessories which are then sold in the market making the consumers think they purchased the garment for the good cause, as can be seen in below Figure 1.4 two prison labours in Estonian prison working for the brand wearing brand's t-shirts. The profit earned from this business also is shared 50% among the homeless and needy people of the society so refraining them from adapting criminal activities. On the other hands it also gives the prisoners a sense of positivity they are able to contribute for the overall good of the society (Toomas Plunt, 2011).



*Figure 1:4 Estonian prison labours working for “Heavy eco” brand (Plunt, 2011)*

## **1.4 Ethically responsible apparel and clothing terminologies**

In order to analyse the consumers perception about ecological friendly consumer perception it is important to understand the fundamental definitions related to the concept of what environmental friendly or socially responsible industry means. In today's world of apparel and fashion the consumers are constantly coming across a number of definitions and terminologies that define the eco-friendly or ethically responsible clothing and fashion industry. Sometimes so many different terms moving in the fashion industry also makes hard for the consumers to make the eco-friendly purchases hence it become very hard for them to differentiate between two products or decide what actually eco-friendly is. Therefore for true examination of the analysis of consumer perception about eco-friendly apparel and textile it is very important to first look in to the definitions of the few important terms (Thomas .S, 2008).

### **1.4.1 Eco-Fashion**



Eco-friendly is related to modern day fashion and textiles. Eco-friendly apparel marketing and ads can be seen and heard in print and television media, articles, fashion magazines and retailing industry campaigns. The history of the term can be located in the early nineties and it used for the apparel and garments or other fashion or textile related merchandise that is not leaving any negative impact on environment or society (Thomas .S, 2008). The term eco-friendly is not that simple however. Retail corporations have to ensure that eco-friendly claimed business has to be taken cared of throughout in whole supply chain from top to bottom. For example the raw materials are not exploiting the resources, harmful chemicals are avoided, labour rights have not been exploited and fair trade policies are considered. Also the transportation of goods is not contributing a negative impact to environment of the society (Beard, 2008).

#### **1.4.2 Fair Trade**

A term that was originated to be used for the food products and beverages only also later expanded to the other businesses as well specially to textile and apparel manufacturing. Since almost 80% of the production of apparel and textiles is going on in the developing countries therefore it is very pivotal to ensure for the retailers that the working conditions of the people associated with the industry are good. Workers are paid with minimum state declared wage rate. And they are also provided with good living if needed. Fair-trade practices are also related to the use of the fibre also regarding the use of chemicals, pesticides and other harmful substances are avoided (Thomas .S, 2008).

#### **1.4.3 Sustainability**

In environmental science, it defined as the ability of the natural systems to remain varied and prolific. For example natural forests and wet lands that are still living are the examples of sustainable natural systems. Conventionally sustainability is the durability of the natural and environmental systems (Peter Berck, 2015).

#### **1.4.4 Organic**

Organic term is related to the production of fibre and textiles. It means the production of apparel and fibre such as cotton is done with minimum 70% organic or natural fibres. The biggest and most authentic certifying organization for the organic products are global-standards org which assigns a GOTS (Global Organic Textile Standard) to the processes of textile which are made up of natural fibre while maintaining high level purity throughout the supply chain of the textile.



*Figure 1:5 “Global Organic Textile Standard” logo (GOTS, 2012)*

It requires the producers to comply with the social standards criteria, as seen in Figure 1.5 GOTS logo awarded to the certified companies. The producers need to ensure that chemicals and dyes used in the process are not or least harmful to the environment and that the manufacturing site, socially the wet treatment plants must have water treatment plant to treat the industrial waste affluent which is potentially harmful for the environment if released in the natural water bodies (GOTS, updated. 2012).

#### **1.4.5 Ethical Fashion**

Term ethical is also used as a replacement for eco sometimes but ethical is politically more authentic. The use of term is related to morally responsible business practices. In terms of textile and apparel fashion industry it represents the positive impact of fashion production, designing, consumption, retailing and disposal to the society. The ultimate beneficiary of ethically responsible practices can be human beings, environment, animals and consumers. For example consideration of natural resource depletion, human working condition, animal skin and leather use in order to manufacture fashion merchandise (Thomas S., 2008).

#### **1.4.6 Environmental Friendly**

Term referred to mostly natural fibres because of their ability for biodegradability and endurance with easy to wash and care attribute and better prospects for recycling and reuse (Thomas, 2008).

#### **1.4.7 Green Textiles**

Green textiles are referred to the apparel and textile products that have minimum impact on environment. Especially in last decade it has seen that consumers now have more eco-friendly textile, apparel and fabrics available in the market. Especially bay clothing, drapery, upholstery and other fabrics used in apparel and fashion merchandise manufac-

turing. In addition to that manufacturers are more and more getting concerned to produce merchandise that are free of toxic dye stuffs and other harmful chemicals like heavy metals and pesticides and they ensure that the apparel production is not having any negative impacts on the natural resources like water, land and air quality and are also recyclable (Ballard, 2014). As seen in below Figure 1.6, 3D printed apparel made up of recyclable thermoplastic material which apparently doesn't seem green but the usage of recycle able material with practically no waste production is eco-friendly technique (Jasmin Malik Chua, 2010).



*Figure 1:6 Apparel made of recyclable thermoplastic through 3D printing (Ecouterre, 2010)*

#### **1.4.8 Green Washing**

As the concept of green products, eco-friendly products and consumption is looming over the apparel and textile industry, so does the prevailing encounters of false claims and misleading information from the manufacturers are disclosing on the law makers. Green washing is term which is used for the companies that make claims and advertising and promotional campaigns on the basis of going green however in actual they are not implementing as much ethically responsible business practices as they are claiming to do so, because eco-friendly, green and organic terminologies are becoming so popular it has become very easy for the companies to utilize the opportunity of making business through using these professional jargons (Kewalramani & Sobelsohn, 2012).

#### **1.4.9 Recycled Apparel**

In apparel industry recycled apparels are those which are reused after used and disposed of already. They are either sold at used clothing shops, charity shops or are recycled to

make new garments and resell in to the market. Recycling and reuse of apparel involves collection of the used garments. Remanufacturing and reprocessing of the apparel to give them new life and then again resold in to the market. Due to the fast fashion production and increasing rate of consumption textile and apparel industry is producing huge volumes which can be recycled and reused. Textile material can be degraded to use in the pulp industry, they can be used to stuff toys and other textile home fashion products and they can also be used to decompose and again construct in to new garments to sell in the market (Gail Myers, 2014).

## 1.5 Research objectives

The objective of this research is to analyse the Consumer Perception about eco-friendly apparel and fashion. The study involves current status of the eco-friendly apparel and fashion consumerism. Impact of apparel manufacturing on environment and social aspects of the society and what are the factors preferred by consumers when making purchase decisions about apparel and fashion industry.

The main **objective/points** that will be discussed in this thesis are,

- To study the involvement of consumers in the purchase of eco-friendly apparel.
- Textile and apparel manufacturing and its impact on the environment and society.
- Factors that influence consumer to purchase / avoid purchasing eco-friendly apparel.
- To study how organizations are promoting the business of eco-friendly apparel and textile.

## 1.6 Research questions

Following research questions were answered during the research work and survey questionnaire.

### 1. What are the consumers' preferences while making apparel purchases?

- What are the main criteria when you buy clothes
- Ever considered Eco-friendly Apparel alternate?
- What is the frequency of eco-friendly purchases?
- What are the major expectations from Eco-Friendly apparel industry?
- Are Consumers more inclined toward Quality vs. Wellbeing?

### 2. Do consumers think of any barriers impacting the use of Eco-friendly apparel alternatives?

- How easily eco-friendly products are available in the market?

- What is the true motive of eco-friendly apparel manufacturers (CSR or profitability)?
- What are the barriers affecting the popularity of Eco-friendly textiles?

### **3. What is the consumers' perception of Eco-friendly apparel & merchandise?**

- Are eco-friendly apparel new generation status symbol?
- What is your perception about eco friendly apparel consumer?
- Do you think retailers or manufacturers are insisting eco-friendly change?
- How companies should put across message of eco-friendly apparel for awareness?
- Is buying eco-friendly food same as buying eco-friendly clothing?
- Do you think eco-friendly apparel to be more attractive for young people only?
- Is eco-friendly clothing healthier than conventional?
- Can celebrities & role models influence eco-friendly apparel purchase?

### **4. How much consumers know about the eco-friendly apparel?**

- Do consumers read hang tag / label info & understand what eco-friendly means?
- What the eco-friendly textile is?
- Do they understand Eco – friendly textiles related terminologies?
- How often do they consider the impact (on environment) of their buying decision?

### **5. What are the consumer's motivations to purchase eco-friendly apparel?**

- What encourages consumer to buy eco-friendly apparel?
- Would they ever consider switching to eco-friendly textiles?
- Will they be interested in organizations offering Eco-Friendly awareness workshops?
- How much more consumers are willing to pay for eco-friendly apparel?

## **1.7 Research Scope and limitations**

Primary objective of thesis work was to establish basic knowledge regarding consumer's perception about eco-friendly apparel and fashion industry and the practice being followed by the industry. Also, negative effects of different production aspects were considered to make a strong case for studying the consumer response to purchase eco-friendly.

Firstly, a major research gap has been detected in terms of literature regarding actual consumer behavioural data regarding eco-friendly apparel. Insufficient academic sources of secondary data relevant to the selected area of study led to face a high level of difficulty in building the body of literature that is supporting the research as main challenge faced during the research work was lack of material availability studying the

actual consumer responses and perception regarding eco-friendly apparel. However, it was covered with the existing material available in form of books, technical papers and blogs. Also, where possible, information obtained during consumer survey was used to explain research questions.

The limited time span has been recognized as a major limitation to this study. Due to the time constraint, the study was focused on the area conveniently accessible to the researcher which questionnaire survey for the analyses of this research. It has been believed that with having more time and resources available, researcher would have been able to collect more data by focusing on consumers outside Europe. This would also have allowed researcher to increase sample size as well which is reserved to 100 people. Thus, the research findings, that are based on only 100 questionnaires conducted in specific region of Europe, cannot be generalized.

### **1.8 Recommendations for future research**

Future studies, on understanding the perceptions of consumers in Western and European countries, are believed to further contribute to the existing literature, since limited of the previous studies have attempted to explore perceptions consumers regarding eco-friendly apparel has done.

## **2. METHODOLOGY**

This chapter deals with the explanation of methods used in this research for gathering information. How the data is achieved, utilized and evaluated. Hathaway panned effortlessness of the researchers' attitude of producing conclusions which deliver the required information ignoring the conventions that emphasize the methods of research (Hathaway, 1995). So this chapter will assert the description of data sources and how to get it. Research Methodology is defined by Hart as "A specific process to support the collection and analysis of information. It supports to begin the research by selecting an approach built by theories, ideas and definitions of the research topic, therefore, laying foundation for the critical research to make decisions about nature of assumptions. It is important to not mix it with the methodology implementation" (Hart, 1998).

Chapter of methodology contains multiple sections which are used to describe the framework of the thesis. This chapter bodies credibility and profound information of the research.

### **2.1 Research Approaches**

There are several methods to develop research approaches. The most prominent of those approaches assert focus on the nature of the research area. It is very important for maintaining a considerate critical view in making decisions in the research because any assumption made will provide the foundation for the future ones and all decisions are interconnected with each other. There are several different research approaches and all of them have advantages and disadvantages. For example exploration of existing material on the research area, conducting surveys in the form of questionnaires, selecting cases and conducting interviews, observations and action science (Gummesson, 1993). It is pivotal for the quality of decision making to give importance to the nature of research. Following part of this chapter will present the discussion about various approaches of inductive versus deductive research and qualitative versus quantitative research methods.

### **2.2 Deductive versus Inductive research**

Deductive research is one of the easiest approaches. It begins with the exploration of plenty of data or research which is already available at primary or secondary sources. It concludes at developing theories based on existing data and analysing or testing the authenticity or prevalence of those concepts in later part of the research through different

tools (Saunders, 2009). Inductive research is however a little complex it starts with a problem statement or research topic of for example some socio economic topic, or a subject matter on which not much research has been done or very little or no data available. Thorough investigative studies are done on the subject matter to devise theoretical support by utilizing different methods of research.

As there is already plenty of research already done in the topics related to analyse the ethically responsible apparel industry and green textiles consumers. Therefore I will use Deductive approach to research my Topic **“Analyses of consumers’ perception about Eco-Friendly apparel”**.

### **2.3 Quantitative versus Qualitative research**

In the following part of this chapter we will look at the research method which is best to conduct desired outcome of the research. There are two different renowned research approaches qualitative research and quantitative research (Saunders, 2009). It is important for the research work to be constructed on the basis of either qualitative or quantitative research methods in order to formulate a framework which will work as a guideline for collection and analyses of relevant results. Qualitative research can be associated with set of data which cannot be quantifies with numbers. With the help of studying existing researches, this type of data helps in producing good knowledge about any subject (Saunders et al. 2009).

Quantitative research is resembled with the deductive approach as it utilizes the technique of utilizing numeric data and factual information to drive results from the collected data. It relies on the numeric information like percentages, prices, costs etc. a raw form of data that be quantified. However qualitative research is based on multiple types of data forms that are particularly non numeric. In qualitative research techniques a more in-depth study of a particular area is done to develop new theories or factual information (Hughes, 2006). Qualitative research shows relevancy with inductive approach where in depth investigation and creation of new theories are pursued.

Based on previous explanations this research will be based on quantitative research technique. This research has been composed on the basis of learning the subject knowledge from studying several research papers, technical papers, reading materials. This research will mostly be conducted and constructed on the basis of available knowledge about the consumer’s perception of eco-friendly textile. The most critical part of this research which the analysis of consumers’ perception about environmental apparel will be explained with the help of empirical data which will be obtained from conducting a questionnaire survey of consumers perception from a sample size of 100 participants. Additionally, some of the information will also be collected from online



material such as research journals, blogs and websites related to the subject of eco-friendly apparel and consumers.

## **2.4 Research Design**

Research design is a very important step among the fundamental steps towards composing a thesis. It helps the writer to through the process of collection and analysis of data so that he or she can convert the research questions in to a research project. In addition to that it is very pivotal to design research question as they help the researcher to select research strategies that are going to be suitable to successfully conduct his/her research. They guide the researcher to opt for the choices of data collection techniques and also help to develop time and action frame work for the whole research project.

Saunders, Lewis and Thornhill have defined three different methods of research design. One of them is exploratory research design a technique that is used to develop deep knowledge of the subject first by doing a thorough study of the already done research related to subject matter and then developing a set of questions that can be used to analyse the problem from a new perspective. The method depends on analysing already available data and also conducting interviews in order to gain further depth (Saunders, Lewis, Thornhill; 2009). Second type of data relies on gathering information from a specific set of population through questionnaire surveys to analyse a problem, this method is mostly used for conducting statistical research, and this method is called descriptive research (James, 1997). Third and last method described by them is explanatory in which researchers make relationship between two different variables (Saunders, Lewis, Thornhill; 2009).

All of those three designs were studied in detail in order to conclude the type which will be most suitable for this thesis with regards to the intended analyses and conclusion of this research. As this thesis is intended to research an existing phenomenon which is to study the perception of apparel consumers regarding the eco-friendly apparel, thus this subject does contains a lot of research already done related to it. But there is not much research found on analysing what the consumers actually consider as crucial for making purchase decisions of apparel despite of being aware of the knowledge of eco-friendly apparels. Therefore it is suitable to use descriptive design method to analyse the problem by studying the perception of a sample of population with the help of survey questionnaire (Saunders, Lewis, Thornhill; 2009).

## **2.5 Data Collection and Basic Frame Work**

The data collection theory for this thesis is divided in to three steps.

- 1) Back ground and Theory (Literature Review)
- 2) Questionnaire Survey.
- 3) Analyses of Survey and Conclusion.

Literature review is the most fundamental and important part of thesis. It is the main source to gather current or already existing information relevant to the topic or research area. Literature review starts with reviewing international journals, thesis, research reports and online data available on websites, books or analysing secondary data that is available and relevant to the information about eco-friendly textile and consumer behaviour regarding making purchase decisions for apparel provided that they are already equipped with knowledge of eco-friendly apparel and fashion. Analysing the already done research and available data through literature review also helps the researcher to distinguish his/her identified problem in relation to what has already been researched. Therefore it also creates a guideline for the assessment of existing intellectual terrain (Saunders, Lewis, Thornhill; 2009).

As mentioned by Hart (1998) literature review of any subject area lays the foundation for the development of basic knowledge of the research topic and makes researcher acquainted with topic. Gummesson (1993) explains the nature of data by stating that normally data is available in many different sources for example books, journals, articles, media and thesis. This shifts the responsibility of selecting and analysing available data on the shoulders of researcher. One view of seeing literature review is it as a constant process which brings continues development and it is important to carefully observe the available intellectual knowledge about the subject in order to make logical judgments and arguments about the research problem (Machi, McEyoy; 2009).

## **2.6 Target population and data collection method**

The target population for the collection of feedback in this thesis is generally young population in which participants who are attending the survey questionnaire which is the primary data collection method for analyses are in between the ages of 18 to 50 years old people. I have chosen this age bracket because belonging to this age are mostly adults and usually they are financially independent and are responsible for doing their own purchases regarding clothing specially. There is another advantage which I will be having is of millennials which I am expecting will also be the large portion of my targeted sample size as they are the people who are now in the ages of 25 to 35. Millennials are the people born in 80s and early 90s who have grown up in an environment which was already aware of the environmental initiatives (J. Halepete, Littrell, Mary, Park, Jihye, 2009). Those are the people grown up in the age of cartoons like captain planet which was intended to introduce the planet health and safety concerns and environmental issues in the minds of young people along with entertainment (Anupama, 2010).

I have tried to restrain the targeted population to the residents of developed world that is mostly consisted people from Europe and few familiar people from Canada, Australia or America. Reason for doing this is to analyse the perception of eco-friendly apparel from the point of view of the target population which is sufficiently aware of the environmental friendly apparel & fashion & what are the current environmental issues faced by the planet. The purpose of this research is to analyse the efficiency of ground effect that companies, government & third party environmental causes organizations have spent a considerable amount of time & money in last half century in order to create awareness of environmental concerns among the masses especially in the developed world. According to a survey by Dual citizen LLC which is a US based consultancy firm. Sweden, Norway, Germany, Denmark, Finland, Austria, Iceland & Spain are among one of the highest eco-friendly countries on the world map (Anastasia Pantsios, 2014)

Most of the people among the target population are university students of different disciplines. Professionals related to the field of apparel, fashion or textile directly or indirectly because these are the people who are already aware of the environmental concerns faced by the planet, what impact apparel and fashion manufacturing is having on the environment and social aspects of the world and are most suitable to collect data from in order to make the analysis. Figure 2.1 shows an organic apparel designed by Lila Organics a south American based organic apparel retailer funded by a yoga teacher, her business started on the bases of the feedback she gathered from the fellow yogis and students who wanted to wear something more comfortable yet stylish for yoga sessions or even somewhere else (efu-ecofashionworld, na).



*Figure 2:1 A comfortable, durable yet stylish yoga dress by Lila organics (Lila Organics)*

For collection of data regarding consumer perception I am using a survey questionnaire consisting of approx. 30 questions that are based on the extension of basic 7 to 8 ques-

tions which are my fundamental research question and problem analysis. According to the advice of supervisor the form will be sent through email and other online sources to 100 people consisting of 50% males and 50% females. The reason for including both genders to participate in the survey is to analyse the perception and what role do they have in making environmental friendly decisions since men and women are equally leading the fashion and consumer industry and in some cases women are taking the lead role in fashion industry and especially opting for the environmental friendly apparel.

### 3. HISTORICAL BACKGROUND OF FASHION AND APPAREL

For thousands of years humans have continued to express themselves and their groups by covering in some kind of material that is sewn in the form of clothing. With course of time advent of languages gave them the familiar names of apparel, clothes, fashion or garments etc., which we know better in today's world. "Throughout recorded history, clothing, along with food and shelter has been recognized as one of the primary needs of mankind" (Horn & Gurel, 1975)

Wearing clothes is a very distinctive attribute of humans. Sometimes people also consider and treat clothing as a feature to differentiate societies. When it comes to garments or apparel we can say that it has both physical and practical roles to play. It can either be considered as a protector, it can be considered as an identifier when used as a uniform or simply people acquire apparel for to represent their style or to proclaim the differentiation of their identity (Horn & Gurel, 1975; Calefato, 2004; Ross, 2008). As human beings we love to get ourselves recognized. Humans love to associate their representation with certain clan of people at the same time keenly maintaining distance with others. For that matter we use clothes as a devise to transmit our message and beliefs which gives shape to an overall system (Calefato, 2004; Barthes, 2006; Fletcher, 2008; Wolfendale & Kennett, 2011).

There are many descriptions that justify the journey of clothing and fashion which started with basic need and how it make us to consume it the way we do it today, also how the language and signs or symbols related to clothing and fashion came in to being (Langener, 1959; Winakor, 1969; Bell, 1979; Barthes, 2006; Ross, 2008). For many people discussion about clothing and fashion may still be a little insignificant but we cannot underestimate the importance of this subject matter in the light of its contribution to international societies and economies around the globe.

Leaving aside the theoretical debate to shade some light on the importance of apparel, life styles and the consumption of clothing, there are several other roles played by apparel industry which we cannot ignore. Right from the start of industrial revolution in 18<sup>th</sup> century, we can also count on the progressive milestones achieved by the apparel industry. For example start-up of magazine targeted at fashion and apparel in 18<sup>th</sup> century, conceiving of design houses in mid-19<sup>th</sup> century such as Dior, out sourcing of appar-

el manufacturing around the world in 80's and the introduction of quick response and fast fashion concepts after 2000's are few of the most noticeable development that shaped textile industry and its consumption as we know it (Abernathy, Dunlop, Hammond, & Weil, 1999; Breward, 2003; Hethorn & Ulasewicz, 2008; Siegle, 2011).

The progression in apparel industry is also categorised by the availability of garments and apparel for all sectors of society due to rapid development in supply chain and distribution of fashion goods after the industrial revolution. Before the industrial revolution fashion, industry and clothing was only considered a thing for the elite because the raw material and making of clothes was very expensive at that time. Additionally lesser development in the machines and technology for sewing and producing textiles also left people to sew the garments with hands, which aided to the time consumption of the process (Breward, 2003; Welters, 2008). Therefore taking part in fashion endeavour was the game for rich people only in the past centuries.

However the dawn of industrial revolution brought a very meaningful change to the apparel industry, as more affordable apparels were produced due to mass manufacturing and its availability to the wider markets (Walsh, 1979). Above mentioned progression in the world of apparel along with the improved broadcasting of lifestyle and fashion trends made it possible for everyone to join the league of fashion consumption, which doesn't stop here moreover the invention of internet and trading policies that turned the world in to a global village has only increased the fast distribution and very fast consumption of fashion (Gwilt & Rissanen, 2011).

### **3.1 Social equality of apparel and fashion**

Before the dawn of industrialization, affording fashion and apparel was the business for the elite class only. Inefficiencies of looms (textile weaving machines) and involvement of handmade clothing made apparel very expensive at that time, only the few people who had more disposable income could afford to buy apparels (Kaiser, 2008). However after industrialization when time and labour was reduced because the development of textile industry, more efficiencies were started to come in the way of production. That intern started the dawn of mass production of apparel. These comparatively lower cost garments and vastly available apparel turned this industry in to demand and supply cycled driven. Fashion started to reach to the commons and the whole system converted in to complex apparel industry we are familiar with today. So the start of mechanization not only was driven as the means to reduce cost and time of production but it also changed the dynamics of textile industry which lead people towards extensive consumption of textiles and clothing (Kaiser, 2008).

### **3.2 Industrialization of fashion and apparel industry**

The dawn of industrial civilisation primarily rose from Britain and then was followed by North America. Processes to convert fibres into fabrics were developed in Europe and such new developments in textile mechanization and processes were pivotal to the industrial revolution in the world (Wilson, 1979). Manufacturing factories that were erected after industrialization started producing textile clothing specially in Britain and North America in 1820's. Mechanization of apparel production reduced the cost of production of apparel and increased the availability of goods. This change in the market of textile and abundance of textiles goods for the common people changed the society and people started getting well dressed as compared to any other part of history. Apparel became more available and with the increase of goods availability the apparel closets in the homes was also increased and consumption and production of apparel reached to a whole new level (Welters, 2008).

As humans have increased through the course of the history that none of the innovations come without any pros and cons. Therefore for almost a century after the dawn of industrialisation people reap benefit from the mass production. Customers had more apparel availability in reduced costs which increased consumption and manufacturers earned more profit which triggered further manufacturing, but in the mid-19<sup>th</sup> century people started noticing the negative influence of apparel mass production on the environment and social aspects of societies in Europe and America. Before making the textile garment the fabric undergoes many processes for example the wet processing where fabric goes through certain processes that require application of few harmful chemicals and metals in order to fix dyes on the fabrics for colouring or printing of the fabrics. But once the purpose was achieved the harmful industrial affluent waste started to mix with rivers and streams polluting the quality of natural resources (Welters, 2008).

Chemicals like organic solvents, phenols, chlorides and metals like Iron and copper were started assimilating into the nearby streams and rivers. Moreover it was found that when degraded dyes also were converting into a more harmful substances, that opened doors for concern (Bisschops & Spanjers, 2003; Welters, 2008).

Apart from the chemical and environmental issues, humans' basic rights of living also raised some concerns, as the working conditions in textile manufacturing are difficult and also have some serious implications on human health. In order to meet the demand, immigrants were also hired but poor physical conditions, long working hours and low wages were few problems that triggered many concerns and most of those are still going on in the developing countries, which are manufacturing these textiles (Ross, 2004; Welters, 2008).

### 3.3 Background of fashion industry & its impact on environment

Fashion was born with the birth of sewing machine and mechanized textile fabrication industry. The start of pattern making, dyeing and finishing chemicals and apparel manufacturing plants, all triggered the consumption of apparel and creation of Fashion (Abernathy et al., 1999; Ross, 2008; Welters, 2008). Due to industrialization, the income levels of house hold started to increase. Because of labour intensive nature of textile industry and with the rise of income levels, the middle class started to increase quickly in the 18<sup>th</sup> Century. With the rise in middle class, the difference between the middle class and the elites started to shrink and one major factor that was used as a tool to curb the gap was consumption of fashion and imitating the top elites of the society. Thus the consumer spending and apparel consumption of the middle classes also increased (Simmels', 2003). But as soon as the middle classes started imitating the fashion of the elites they started disposing of the goods faster as it affects the class differences. So the effect of production and consumption of apparels were further triggered due to social uplifting of the masses (Simmels', 2003).

In the continuing journey of industrialised world from 19<sup>th</sup> to 20<sup>th</sup> century it was seen that capitalism combined with the noticeable consumption of fashion got strong holds on ground. Rapid development of apparel manufacturing industry and increased consumption was also triggered by the introduction of departmental stores, when the world wide garment sizes were standardized. These developments made the apparels much more affordable and achievable for the masses and it became possible for all to acquire fashion and represent their style and appearance taste (Agins, 2000; Welters, 2008).

As we discussed in the past there are always pros and cons associated with any development. Same happened with development of apparel and fashion industry. The fast paced consumption primarily seen by few as based on the comparative consumption and waste of money. The trigger effect of quick mass production and consumption cycles also raised issues. Thorstien Veblen first raised a noticeable concern and heavily criticized the notion of fast fashion consumption. He extremely criticized the use of apparel and fashion to acquire enormous profits and regarded crazy consumption by the growing middle classes as an inefficient activity (Veblen, 1899/2009).

With the growth of fashion industry and its progression through 20<sup>th</sup> century, apparel production become faster as the focus was shifted from formal apparel towards more casual day to day garments. Rising middle class also added further classifications to the consumer market as mixed gender choices, class differences and cultural impacts on the society (Breward, 1995; Welters, 2008).

Rapid textile technology growth was unstoppable and with the growth of fashion industries big European cities like London, Paris and Milan took shape of fashion hubs. Fash-



ion houses and street fashion started taking birth from these cities and soon started to spread in the rest. Along with these developments, the cost of production and mass production efficiencies also kept improving, making the apparels cheaper and abundant. Combined these all macro and micro factors transformed the textile and fashion industry of the 20<sup>th</sup> century (Beward, 1995). The rapid growth apparel and fashion industry particularly the mass production also raised social and environmental negative implications. From the environmental point of view, the worst affected areas were the natural water resources. Rivers and streams were polluted with the waste water from the industries that include harmful chemicals mainly used in textile wet processing. And the most noticeable foot print on the social aspect was the poor working conditions. The rise of cheaper cloth demands gave birth to cheaper labor, bad working conditions at the work place for the sake of cost reduction and over time hours to produce more goods are the few of many unwanted social effects of producing apparel and fashion goods (Abernathy et al., 1999; Israel Rosen, 2002).

However the stake holders, policy makers and environmentalists took considerably long to paint their concerns loudly in order to eliminate or in most cases decrease or curb the negative impact of apparel production on the environment. Once the voices started becoming the lime light and rules and regulations started taking place as a law for manufacturing responsibly, the notion started moving in the direction against the interest of the profit makers since obeying those laws started increasing the cost of production and decreasing the profit margins. This was a labour intensive industry hence the rising costs of labour as well as ever increasing demand for them also shifted the apparel manufacturing from more developed and expensive West to least developed or developing East and the production was moved offshore (Abernathy et al., 1999).

The shift of apparel production from the developed towards the developing countries also played its role in shaping today's dynamic world of supply chain around the globe. Initially in Europe it was quite linear with a horizontal flow of goods from manufacturing to consumer but after off shore operations now there are many dimensions added to the supply network of the apparels and fashion (Abernathy et al., 1999; Armstrong & LeHew, 2011). For developing countries this shift has become the tool for industrialisation in their economies. It has also made the traceability of environmental concerns more difficult. Due to the intense labour needs however the move proved to be good for developing and least developed nations in form of more jobs and working opportunities since the apparel sewing operations particularly are hard for automation due to the ever changing design and nature of apparels (Abernathy et al., 1999; Elliot & Freeman, 2003; Allwood et al., 2006; Welters, 2008).

The thirst for low cost labour have continuously increased apparel production particularly apparel stitching towards the least developed and developing nations and the move has also triggered numerous environmental and social negativities. But along with that

the most positive impact the apparel manufacturing industry has made for the developing nations is provision of employment opportunities and improving their economies. This economic productivity driver will be seen positive only if the impacts on social and environmental aspects are properly addressed and dealt with in order to curb and eliminate the negative impacts eventually.

### **3.4 Consumption surge in relation to fast fashion**

If look at the global fashion industry it goes without saying that people have indulged in the habit of buying and disposing of clothes at a rate that was never seen before. This consumer behaviour which is planned had shaped the term fast fashion. The main reason that fuels this buying behaviour is the availability of cheap apparels and planned shorter shelf lives of the goods in order to force a quick buying-disposing cycle (Farrer & Fraser, 2009). Since the dawn of globalization, outsourcing induction and mass manufacturing at low cost overseas territories markets are flooded with compromised quality goods and transformed into a trillion dollar industry (Abernathy et al., 1999; Allwood et al., 2006). There are brands today such as Zara and H&M that push the apparels from design, manufacturing to the retail shelves in the span of 2 to 3 weeks only, a concept known as JIT “Just in time” manufacturing (Tiplady, 2006; Morgan & Birtwistle, 2009).

This fast fashion production and availability has resulted in people showing impulse buying behaviour. Due to abundance of cheap easy to get stylish apparels in the markets people have started to choose fashionable garments even for basic day to day clothing requirement. Today apparel consumer wants the colour, style and trimming of even the functional apparels to be timely fashioned. As result stores tend to throw the products at a fast pace in the shelves to meet the artificially created impulsive demand and supply cycle (Law et al., 2004; Gwilt & Rissanen, 2011). There have been strong critical opinions on the compromise of quality of fast fashion goods because producers have increased the design and style shifts and significantly reduced the delivery time because if the timings are not short there are greater chances for the new inventions to get unwanted in the market (Armstrong & LeHew, 2011). This fast fashion cycle has undoubtedly increased the consumption of resources, time and space people are allocating in producing and consuming apparels and fashion has grown to a large magnitude and has become much more rampant in our societies today (Brand et al., 2006, Stone, 2012).

Due to this fast fashion cycle the global apparel industry is expanding at a dramatic pace. Alwood has mentioned that in the 90’s on an average a person in America was buying 29 garments while the same number was only 2 per person in china (American Apparel Manufacturers Association (AAMA), 1996). However by the end of 2000s the global textile industry had touched humungous 1 trillion dollar mark (Allwood et al., 2006)

Robust economic activities in countries like India and China have also played a great role in expanding global apparel consumption. With growing economies rising income levels and better buying power people in Asia are also spending not much lesser than their counter part economies in the world. For example China is now the fastest growing nation on the face of this planet and in terms of apparel consumption the nation has become second runner up after the leading USA and then Japan. At 84 billion dollar industry, China is also becoming a mainstream apparel consumer now (Kerschner & Huq, 2011). This growing trend of consumption, expanding economies and not to forget the ever increasing population of the countries like India and China world powers are bound to think moving towards green textiles and the discussions and agendas are required to be put to practicality in order to deal with the burden on future resources consumption. According to a report by European commission in 2012, it has been stated that sooner half of the population on this planet will reach to become the middle class which will increase the demands for products specially apparels at dramatic high rate (Eco Textile News, 2012:35). According to Seagle on average a person is buying times 4 more apparel than it used to be in 80's (Siegle, 2011).

To understand the gravity of situation we can look at some very interesting and dramatic numbers researched by WTO. According to them the world exports of developing nations has increased to 37% in 2010 as compare to 18.3 in 2000. Out of which 80% of the world's apparel exports are being shipped to developed countries. Now apparel accounts for 2.4% of total world merchandise trade and textile is 1.7%. China is leading the exporters with being biggest exporter of textile in 2010 (WTO, 2011).

### **3.5 Consumer behaviour regarding apparel consumption and eco-friendly apparels**

When it comes to consumption of apparel, Winakor plausibly puts it in a three stage process, as far as the participation of consumer is concerned, it is seen as the buying apparel, using it for a certain time and then the disposal (Winakor, 1969). By looking at this definition it is quite evident that involvement of consumer is mainly restricted to the final operation of the whole cycle. A consumer links to the chain by buying the apparel, consuming it and then getting rid of that. But this rather simplistic end process is the tail end of a huge chain of supply from raw material collection, manufacturing till distribution of the goods which in totality is a huge global cycle. Therefore it is quite pivotal to indulge in to the significant area of apparel consumption behaviour of the consumers. Due to the magnitude of mass, production is pushed by the fast fashion industry. It puts huge burden on the resources and it is important to learn about excited consumption of apparels. It is seen that consumers buy apparel on the basis of peer pressure and comparisons with their counterparts, more over the growing phenomenon of matching and colouring attires also pushes unnecessary buying, culture also play its part in forcing people acquire things they don't need as much as they think they need it and finally af-

ter following prior three patterns consumers keep going on the same track for the sake of maintaining that self-created I identity (Fletcher, 2008).

During this research it has been observed that consumers still fall short of making knowledgeable buying decisions, despite of all the contacts that concerned bodies are trying to make the consumer aware about their choices, it seems there is still very limited information consumers have regarding environmental impacts of what they are buying. Caring about eco-friendly textile consumption doesn't only ends here but post purchase phase also has a lot to play when it comes to handle ethical apparel for example laundering of goods. And at last the consumer behaviour of quick disposal of apparels due to fast fashion (Butler & Francis, 1997; Kim & Damhorst, 1999; Birtwistle & Moore, 2007; Morgan & Birtwistle, 2009). Butler and Francis truly found out about the consumer attitude and a little bit ignorance in recognising the relationship between the apparels they are purchasing and its relationship or impact on the environment (Butler & Francis, 1997). Based on their findings we can define eco-friendly clothing as while purchasing the apparel the concern for eco-friendly apparels become quite subjective and based on the estimation. For instance the consumers are found to give more importance to the cost, styling, appearance and sizing of the garment rather than the garment being eco-friendly or not (Joergens, 2006).

Reviewing research, it is evident that price and styling some have gains more attention of the consumers rather than being environmental friendly. By following eco-friendly footsteps and producing ethical apparels the manufacturers are found to be charging more prices as compared to the conventional garments. Part from that availability and proper positioning to create good layman awareness about eco-friendly apparels is also seen as an issue to be pondered upon. It is found that for apparels aesthetics and styles are far more important for the consumer than being ethically produced, even in the developed world studies have shown with little or no knowledge of eco-friendly apparel manufacturing and retailing and there are consumers who are more concerned about the price, design and colours of their choices, even few people consider the domain of caring about ethical apparel production belongs to the government or entrepreneurs only consumers are not responsible for making eco-friendly apparels a mainstream choice (Dickson & Littrell, 1996; Butler & Francis, 1997; Kim & Damhorst, 1998; Carrigan & Attalla, 2001; Shaw & Tomolillo, 2004; Joergens, 2006; Rudell & College, 2006; Gam, 2011).

Eco friendly apparel can be termed as the garments that are produced keeping in mind elimination or reduction of the processes, materials or actions that contribute negatively for environmental and social echelons of society. There is no international standard set yet to make eco-friendly apparel an industrialised standard terminology but we can't ignore the efforts of retailers however who are trying to play their part in creating public awareness for eco-friendly apparels buying and encouraging the activity by introducing

and advertising eco-friendly line of apparels. Big retailers such as Zara, H&M, Levis etc. are trying to incorporate using organic cotton, recycled polyester in their product manufacturing in order to leave green foot prints on the environment (Joergens, 2006; Connell, 2011).

### **3.6 Social & environmental effects of apparel manufacturing**

Till now the background of apparel and fashion industry and its pathway from a niche industry becoming a mainstream global industry for masses have been studied. Before going in to the core of this research which is about the consumer perception of the eco-friendly apparels and fashion, let's have a brief look at what kind of potential affects apparel production has on the environment and social circle of the society. Apparel and textile manufacturing has many different impacts on the environmental and social aspects of society. The impacts also occur at different stages of the life cycle of apparel from raw material collection to manufacturing, usage and finally disposal. We have also studied that the magnitude of apparel production and consumption have escalated at huge scales due to large scale mass manufacturing and production and retailing of apparels at very low prices (Allwood et al., 2006; Claudio, 2007; Hethorn & Ulasewicz, 2008; Siegle, 2011).

Apparel manufacturing is the combination of a very complex manufacturing and supplying functions that join together from making apparel to making it available at the retail shelves. If we briefly discuss the functions, than it starts with designing; after that deciding or choosing the kind of fabric or material that should be used to make the garment. When the material type and fabric as well as colouring and printing schemes are decided that's when we come to know what kind of fibre will be used to produce that certain type of yarn which will be converted in to required fabric. And what kind of wet processing (dyeing, printing or finishing techniques) will be used to colour the fabric. After that stitching and packaging is designed and discussed and finally the role of shipping to send the apparels in desired markets where they are meant to sell. This whole process of picking raw material, manufacturing the textiles and then transporting the goods contains various different stages which leave their foot prints on environment.

As we have already discussed that after the mid-20<sup>th</sup> century environmental impacts of apparel manufacturing started coming in to radars of scientists and concerned authorities. But after the 1990's the negativity of apparel production for environment became a huge awareness and voices started to rise to curb that (Dickson et al., 2009).

#### **3.6.1 Excessive energy consumption**

Manufacturing of textiles require very huge transportation at every stage which consumes a lot of fuel. The processes of dyeing, stitching and fabrication also involve

heavy machineries and need a lot of electricity. Manufacturing of manmade fibre such as polyester is very famous due to its low cost as compare to cotton, but is also made by petro chemicals. Huge amount of energy is consumed in the processes like laundering and transportation. Cotton production also consumes a huge amount of water and need toxic chemicals and pesticides which are also dangerous for health (DEPA, 2003; Allwood et al., 2006).

### **3.6.2 Fibre production and its impact on the environment**

Before 18<sup>th</sup> century the major fibre that was used for textiles and apparels was wool and flex and cotton use was very minor (Soth, Grasser, Salerno, & Thalmann, 1999). But after the dawn of industrialisation usage of cotton production increased dramatically and after entering in to 20<sup>th</sup> century the usage of this natural cellulosic fibre reached to seventy percent (Shen, Worrell, & Patel, 2010). After the mid-19<sup>th</sup> century cotton is an extensively used natural fibre among all, in 50 years span from 1960's to 2010 the global usage of cotton reached from 10 million tons to double at approx. 25 million tons (Ferrigno, 2012). According a report by WWF and EJF, among all natural fibre usage 85% is the usage of cotton and out of that more than 80% is used for the production of apparel (World Wildlife Foundation (WWF), 2009; Environmental Justice Foundation (EJF), 2009). The major issue with the production of cotton is the usage of pesticides. It decreases the water levels, makes the water polluted, depletes the biodiversity and mutilates the soils (Ferrigno, 2012). A part from chemical damages as discussed before production of cotton puts humungous amount of burden on the water resources of earth just to estimate the extent; a conventional 250 grams cotton t-shirt seemingly a very small apparel consumes about 3000 liters of water and needs 0.15 kg of pesticides (Ridoutt & Pfister, 2010; Organic Trade Association (OTA), 2011). To produce 1000 kg of cotton, the producers consume about 7 to 9 million liters of water (IHE Delft, 2003; Mekonnen & Hoekstra, 2010).

About 85% of the global cotton is produced in China, India, Pakistan, Bangladesh and United States. These countries are alarmingly dependant on the agrochemicals (EJF, 2009; Ferrigno, 2012). For example India is using only 5% of its total agricultural land for producing cotton for which it has to rely on 50% of total pesticides used in the country (Ferrigno, 2012). Negligent cultivation of cotton has put some very drastic consequences on the ecology. Cotton is responsible for wiping out the aral sea from earth damaging the life of wild animals and fishes specially more than half of the aral sea were lost in mid-80's and by mid-90's three quarters of the aral sea was lost (Micklin, 2007; Siegle, 2011).

However there are many fibres that can be used as a good replacement of cotton. As cotton yield requires a lot of water and chemicals to be produced therefore focus is now diverting towards usage of fibre such as hemp and lyocell. According to (Fletcher,

2008) the growth of hemp is very fast as compare to cotton. It gives higher production yields, consumes a lot less water and chemicals and require pretty much less warmer climate so can be cultivated in cold weather as well which makes it far more better choice than cotton. On other hand usage of lyocell makes it possible to recover more than 99% of the solvents used. This biosynthetic fibre is made up of wood pulp. These alternative methods of apparel production will ultimately pose lesser threats on environment.

On the other hand manmade or synthetic fibres are getting popular in the world of textiles and apparel production. Polyester, nylon, spandex and rayon are some of the most common manmade fibres in use today which are made of petrochemicals. But hydrocarbon based fibre such as acrylic produces a lot of N<sub>2</sub>O and is known to consume much more energy and water like cotton (Laursen et al., 2007; Fletcher, 2008).

Another manmade fibre that is most popular and requires little or no water is polyester. It's been almost 15 years now that polyester has seen a double surge in its demand. But the production requires lot of petro-chemicals and petrol and the process emit harmful substances such as carbon dioxide, sulphur oxide, carbon monoxide, acetaldehyde, 1,4-dioxane, and acid gases like hydrogen chloride. The release of these gases intensifies diseases especially respiratory issues (U.S. Congress, Office of Technology Assessment, 1987; Claudio, 2007; Fletcher, 2008). Production of polyester also requires many heavy metals that are harmful for environment such as titanium dioxide, cobalt, manganese, and sodium bromide (Fletcher, 2008). Even produced with recycled materials the use of heavy metal catalyst such as carcinogen can't be eliminated (Victor-Innovatex, 2003). There is need or research and financial support in order to find out alternate fibres that are comparable to current natural and manmade fibres functionally and require fewer natural resources and produce none or very few negligible impacts on environment.

### **3.6.3 Textile wet processing**

The most prominent and vulnerable process of all in apparel manufacturing is wet processing. It is a stage where fabrics are washed, dyed or printed and then finished using different chemicals. The problem with this process is at first it consumes a lot of water which pushes burden on the water resources of the society and secondly after the processes are done. They release huge amount of hazardous waste water (containing harmful dyeing, finishing and other chemicals used during the wet processing of apparels) making the rest of the natural resources useless and polluted. Along with that this whole manufacturing process puts pressure on the natural resources like fossil fuel and produce a lot of solid waste (DEPA, 2003; Allwood et al., 2006; Fletcher, 2010). The problem is that most of the textile wet processing operations are carried out in developing nations which are still falling short of making strict environmental laws due to which

the manufacturers fail to treat the industrial waste properly and then discharge it in to the environment (Fletcher, 2008; Dickson et al., 2009). Fabrics are passed through bleaching, dyeing, and printing and if needed that special treatment processes for certain kind of hand feel or functional objectives like fire retardant finishes etc. These processes use a lot of dyes and chemicals, alkaline and solvents which are then released and made harmful for the environment (U.S. EPA, 2002).

According to united nation seventy percent of the industrial waste is released in to the natural water bodies contaminating the municipalities' drinking water (United Nations, 2003). For example as a result of the industrial boom in China a lot of industrial waste water is becoming the reason for water contamination and 1 in every four Chinese has reached to that contaminated water a country of approx. 1.4 billion people, according to Wood hardly 10% of wasted dyes are treated and rest is discharged in to natural waters with its hazardous nature (Wood, 2009). Apparel wet processing is the most direct threat to environmental threat among others. Dyeing of fabrics extensively consumes water, requires a lot of energy and chemical inputs in order to complete the process. Dyes contain heavy metals, salts, toxic chemicals, reducing and oxidising agents and acids (Laursen et al., 2003).

In terms of wet processing manmade fibre also create a lot of hazardous discharge. Polyester for example has a different nature and poor absorbency due to which dispersed dyeing methods are used to colour the polyester fabrics. The process is very harmful for human health as it is done in very high pressure (Laursen et al., 2003). One of the consequences of disperse dyeing is allergy and dermatitis Chan & Burns, 2006; Laursen et al., 2007). Another harmful dye used in the process are Azo dyes, European union has also banned the import of Azo dyes coloured substances but despite that sometimes it is still found to be used (Laursen et al., 2007). According to estimates, sometimes almost 50% of the dyeing content is left in the dyeing bath unabsorbed by the fabric. The darker the shade of the dye is the more harmful impacts it will have and darker effluent will be released in to the industry.

#### **3.6.4 Excessive consumption of water and pollution due to textile manufacturing**

According to the report by the work bank, about 20% of total industrial pollution globally is created by the textile industry (Chan et al., 2011). Textile industry is also estimated to consume about approx. 380 billion litres of water every year (Clay, 2004). If look at the Figures of one of the biggest developing nation alone, in 2010 Chinese textile industry discharged about 2.5x10 billion litres of waste effluent. This is approx. 11.6% of all major industries water discharge in China (Institute of Public & Environmental Affairs, 2012). Colour amounts to the appearance of the apparels and it is the most important factors when it comes to the design of the fashion seasons by big fashion houses at it he the first thing to notice and get appealed by the customers. Therefore



the manufacturing of apparels will always hold the process of dyeing and printing. That's why textile dyeing is one of the major concerns for the environmental impacts of apparel production. Usage of large amount of water is creating scarcity of water and discharge of huge amount of ill-treated waste effluent is polluting the natural water bodies of the planet (Eckman, Damhorst, & Kadol, 1990; Fletcher & Grose, 2012).

According to estimates if a dying or processing house is run by inefficient and less expert hands it can consume up to 800 litres of water to treat or dye 1 kilograms of cotton fabric. On the other hand the same amount of cotton can consume only 60 litres of water if handled by the expert hands (Siegle, 2011).

### **3.6.5 Environmental impact induced by consumer usage**

Large amount of consumer related environmental pollution is due to the washing and laundering of the apparels by conventional consumers. Since world population is increasing dramatically therefore the usage and then maintenance or laundry of the apparels are also on the rise. It is in 90's when the seriousness of environmental impacts of consumer related textile and apparel was studied (Smith & Barker, 1995). For example according to a study a huge amount of energy used by the consumers in households is related to the laundering and drying of the clothing at raised temperatures. For example the energy used in the whole span of a conventional cotton T-shirt out of the total more than 60% goes to the post purchase laundering and drying by the consumers (Allwood et al., 2006).

On the other hand if we look at the research about the energy consumption of the manmade fibre like polyester and linen they consume about 80% of the total energy of their life cycle in the phase of consumer uses mainly in washing and ironing phases this also includes water consumption and co2 emissions (Pariset, 2008). On an average a conventional washing machine consumes 150 litres of water in each load and the yearly consumption of the electricity goes to 319 kwh/yr, the dryer uses 928 kwh/yr triple the amount of washing which is huge (Natural Resources Canada, 2010). In addition to energy and water consumption consumer laundering is also becoming a channel for the hazardous chemicals to enter the natural water bodies of the municipalities. The chemicals are belonged to the manufacturing phase of the apparel but since a huge amount of residues are left in the clothing they ultimately rinse during the consumer laundry phase and become part of the waste water released from the laundry and include in municipalities (Laursen et al., 2003; Allwood et al., 2006; Fletcher, 2008; Greenpeace, 2010; Siegle, 2011). Nonylphenol ethoxylates or in short NPEs are used in the apparel manufacturing industry tend to remain in the clothing. Consumer laundry processes release them in to the environment where they break into alkyl phenols and bio accumulate (Aps) which are potentially much more harmful than the NPEs because they are found to create infertilities in humans (Besieux, 2012; Laursen et al., 2003; Greenpeace, 2010).

Recently a study has been carried out by taking the samples of eighteen different sea shores around the globe and the presence of polyester and acrylic fibres of apparels confirms the pollution of natural waters due apparel production (Browne et al, 2011). These petro chemical based fibres found in the sea shores are considered to be a result of contaminated sewage water due to washing of the apparels during the consumer usage. With the increase in world population and apparel consumption, the contamination of the marine habitat is also on the rise as it is estimated that on an average a single apparel wash session erode approx. 1900 fibres per wash (Browne et al., 2011).

### **3.6.6 Solid waste production by apparel manufacturing:**

Manufacturing of apparel also produces a lot of solid waste. For example during weaving of fabric a lot fibre and yarn waste. During cutting and stitching of fabrics a lot of cut useless fabric pieces are produced as a solid waste. And when the apparel completes its life time and is disposed of, it also become a huge contribution to the landfills in case of cotton apparels they are organic and eventually biodegradable to become part of soil but manmade fibre such as polyester and nylon are not biodegradable and will add to the contamination (Allwood et al., 2006; Madsen et al., 2007; Fletcher, 2008). Another problem with the manmade fibre products is that they are synthetic petroleum based and never degrade completely. In the least developed world for example African countries, where there is a huge lack of waste management, these polyester apparels end up on streets and lands and act as an obstacle between water penetrations and makes the lands creating soil erosion. On the other hand the water that is not replenished in to the grounds stays a top of the surface, become stagnant and dirt pool which gives birth to mosquitoes, unnecessary insects and germs that eventually cause disease (Allwood et al., 2006).

The cycle of rapid apparel production and its disposal is also increasingly filling the land fills with textile waste at a fast pace. Due to fast fashion acquisition and disposal garments have a low quality level; they cannot become as popular in the second hand clothing markets as they can potentially be in order to reduce the burden on new production (Allwood et al., 2006; Hethorn & Ulasewicz, 2008). According to a survey conducted in Britain, British people as per rough estimate waste and throw away 30 kg of apparel a year which equals to almost one and half million tons a year (Minney, 2012). The apparel waste produced here becomes the cause for more than three million tons of carbon dioxide emissions a year (Siegle, 2011). According to another study done by Marks & Spencer, at least 10% people of their sample size admitted to have thrown 10% of their clothes as waste (YouGov, 2012). The reason for throwing away all apparels is mostly being bored by the old styles as there are fast changing market trends outside. In many cases there are people who have even thrown their garments after wearing them only for once (Holton, 2012; YouGov, 2012). Another study showed that

In Britain people spent more than seventy billion on clothing and approx. thirty percent of them accepted that they often buy more than necessary (Holton, 2012; YouGov, 2012).

Textile waste production is a worrisome issue but not much needed attention has been paid to deal with that. Due to aesthetical importance of fashion and styling a lot of fabric goes to waste during the process of making pattern on the fabrics to take out the garment shape cuttings to sew them in to apparels. According to a study, a particular style at least produces fifteen to thirty percent of textile waste during the process of cutting. This is huge amount for distress as in case of fabric waste from synthetic fibres, the decomposition never happens making them a reason for the contamination of soil and environment with residual left over of the chemicals and dyes especially for dark colours. In case of natural fibres cotton fabric waste for example converts in to methane gas in the process of decomposition (Allwood et al., 2006; Fletcher, 2008).

Another study in united states showed that in 2010 more than thirteen million tons of apparel waste was produced which totals more than 5% of the consumer waste however the what aggravates the situation is the slow pace of recycle or waste recovery attributed with apparel waste out of total amount discussed for 2010 on 15% or approx. two million tons was recovered (U.S. EPA, 2012).

### **3.6.7 Social impacts of apparel manufacturing**

In addition to environmental impacts there are also plenty of social issues that raise concerns during or because of apparel manufacturing processes. As apparel manufacturing is a labour intensive industry, most of the social issues created in the industry revolve around the people who are associated with the manufacturing of the apparel. In the early centuries after the industrialization era most of the concerns and issues related to the apparel industry were heard in the Britain or United States. But after the shift of industry and manufacturing from West to East (mostly to Asia) due to cheap labour availability in Asian countries and rising standard of living or wages of the European and US markets, the issues are now seen to be raised in Asia. In the early nineteenth century in United states most of the workers in textile and apparel manufacturing sector were subject to be hired at lower wages, people were forced to work for longer hours and the working environments and conditions were also not very friendly. These different kinds of human rights abuses forced the creation of labour unions and people started to protest for their rights by doing strikes and putting the work on cessation in order to make their employers recognize their rights (Von Drehle, 2003).

Due to the violation of labour rights like long working hours, physical abuse, psychological trauma, poor working conditions, health and safety issues and problems like discrimination, labour unions were formed to deal with the solutions with employers.

These unions did take strong holds with the passage of time but even decades after the conceptualization of unions still today people are facing issues of discrimination in few recent cases one of the example is of UNIQLO. It is a fast fashion Japanese brand that imports most of the apparels from China. Two of its suppliers from the Dongguan and Guangzhou were recently accused of abusing human rights of their workers by putting them in dangerous situations. Some researchers group from a Hong Kong based labour rights group (SACOM) in collaboration with labour action china (LCA) and human rights now (HRN) a Japanese non-profit organizations investigated and accused the two suppliers of paying their workers lower than average wages, forcing labour to work for excessive hours, provided them with very poor working conditions and gone far to punish them. UNIQLO is an international apparel brand which however took quick action against those suppliers and announced to carry out social compliance inspections of the suppliers themselves in order to make sure this doesn't happen again (Mayu Chang, 2015). Figure 3.1 shows how a typical outlet of the retailer looks like.



*Figure 3:1 UNIQLO retail store*

Cambodia which is known for treating their labour well also faced some violent issues in the face of labour protests to increase minimum wage in 2014. Apparel manufacturing industry of Cambodia brings in 5 billion US dollar a year which is huge therefore a slightest mistake can jeopardise everything related to the industry (Jim Murphy, 2014). In 2013 Bangladeshi apparel industry faced a catastrophe that will be marked in the history for ever. When on April 24, 2013, 8 storey apparel manufacturing factory collapsed due to the weak condition of the building killing at least 400 people working inside the factory. Much of the blame went to the factory owners and Bangladeshi government which only makes undeveloped attempts to force strict construction laws in order to avoid these incidents (Economist, 2013). Even the families of the victims of this incident have recently filed a case in Washington against big buyers such as Walmart, JC penny, children's place and Bangladeshi government accusing them of ignoring the situation and condition of the building the factories are running in order to get cheap

goods from the subcontracting technique of the big factories that get orders from the giant international buyers (Maria Halkias, 2015). Figure 3.2 shows the debris of the collapsed building of Bangladeshi garment unit Rana Plaza (Maria Halkias, 2015).



*Figure 3:2 Debris of collapsed garment factory Rana plaza garment factory (Halkias, 2015)*

The labour unions were formed in the 19<sup>th</sup> century to avoid these issues by fighting for the rights of the workers. Despite of that, the problems are still an issue in many parts of the world (Ross, 2004). However in developed world things were started to get in to main stream and get addressed properly in nineties. When poor working conditions in order to produce cheaper goods were brought to the lime light and factories in developed world got negative publicity which forced them to introduce the concept of “Corporate social responsibility” or (CSR) to drive code of conduct of apparel manufacturing or sourcing policies in case of offshore manufactured apparel sourcing (Hethorn and Ulasewicz, 2008; Abernathy et al. 1999; Klein 2000; Park and Lennon 2006; Shaw et al. 2006)

With the dawn of corporate social responsibility, it was realised that the production and retailing of apparel is a chain of very long list of operations of business from manufacturing to transportation and retailing, it engages many business units, combined which form a huge vertical and horizontal chain, a number of people and businesses associated with it. Therefore there are many stakeholders attached to the apparel manufacturing. Companies and higher management started to recognise stakeholders as a part of company’s managerial and social policies and the stakeholder business models of the organizations started becoming part of the key performance index of the organizations (Freeman, 1984; Donaldson and Preston, 1995). With beginning of fast fashion and apparel manufacturing, the awareness regarding stakeholders is also increasing. This rise has forced the fashion industry and apparel manufacturing sector to better deal with the

concerns of social impacts of apparel manufacturing and also its impacts on the environment. With the passage of time the seriousness of this issue will only increase with the increase in world population which will eventually increase the demand for more apparel products on the manufacturing which in turn will require more work force according to a report by Siegel in 2011, there were approx. 40 million textile workers globally (Chen and Burns, 2006; Madsen et al., 2007; Siegle, 2011).

### **3.7 Dawn of corporate social responsibility in apparel manufacturing**

In the following part of the research we will look at the rise of corporate social responsibility (CSR) in apparel manufacturing. How the CSR, code of ethical conduct and their implication took place in world of Fashion and Apparel. Since its dawn till today CSR has always been a victimized topic on the agreement of all participants in its true definition. As all the beneficiaries of apparel manufacturing whether they are producers or consumers end up with some benefits by the operations of this industry.

#### **3.7.1 Definition of CSR**

There are several names that are used to discuss this issue for example sustainable development, eco-friendly manufacturing, ethical business, green textiles or corporate citizenship etc. (McWilliams & Siegel, 2001; Van Marrewijk, 2002; Kakabadse, Rozuel, & Lee-Davies, 2005). But the social responsibility first came in to light after it was used by Howard Bowen in 1950 (Dickson et al., 2009). One way of seeing CSR is associating the responsibility of ethical conduct with all the people who are engaged in apparel business in one way or the other. In 1984 Freeman called it the approach of stakeholders. Stake holders can be manufacturers, consumers, citizens of the city or municipality, direct or indirect labour involved in making the apparel products, non-profit organizations working for environment or the rights of consumer. A more modern day approach is presented by the European commission is; the voluntary act of the companies or businesses of making environmental or social concerns and their address an integral part of their business (European Commission, 2010:6).

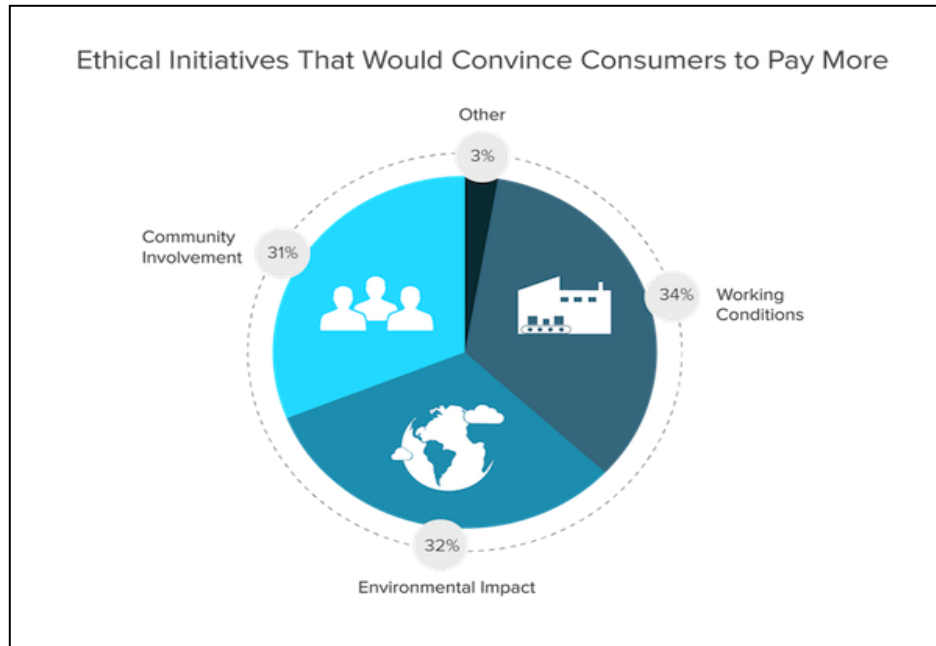
Since there are many businesses and manufacturing organizations whose scope and methods of development are different. Therefore apparel manufacturing alone cannot be categorised. This diversification of industries has also pushed for many different explanations of social responsibility and environmental impacts. In his research Dickson has come up with accumulating all stake holders in the supply chain of apparel manufacturing as responsible of corporate social responsibility. His idea starts from raw material, manufacturing, labour involved in manufacturing directly on floor or indirectly as managerial staff, apparel design departments, consumer their use and methods of disposal (Dickson et al., 2009). To ensure that apparel manufacturers and organizations incorporate corporate social responsibility in to their business policies an organization Business

for social responsibility (BSR) works with apparel manufacturers in order to ensure that business activity is done considering its impacts on the environment and social circle of the societies as well as the consumers (Business for Social Responsibility, 2012).

### **3.7.2 Corporate social responsibility and code of conduct**

The primary objective of the business is related to the financial returns of the activity around which all the policies and objectives of any organization used to revolve around in the past. Apparel manufacturing starts with designing in garment during which main considerations are the aesthetic or design of the garment according to the market trends and demands. Secondly the price which is decided to set for the garment and its acceptability by the consumers in the market, in this exercise environmental and social responsibility concerns are mostly left as marginal apprehension (Gwilt & Rissanen, 2011). On contrary to that since the modern day consumer as well as stakeholders at manufacturing side are getting social responsibility awareness of issues such as working conditions, use of harmful chemicals, raw material, environmental concerns and other social impacts that apparel and fashion industry can potentially have on the society, apparel manufacturers are bound to evaluate the code of conducting their businesses (Wong & Taylor, 2000; Dickson & Eckman, 2006; Birtwistle & Moore, 2007; Goworek, 2011).

Due to the rising cost of production of apparels in certain regions the method of outsourcing of apparel manufacturing operations off shore in diverse global locations have also changed the dynamics of supply chain of apparel manufacturing and their effects on the environment or societies. Due to offshore operations third parties or global watchdogs of environmental and social impacts of industries have also become more active to monitor the business practices of apparel brands worldwide. In order to get cheap and affordable productivity, the orders are outsourced from countries like china, Bangladesh or Vietnam, where environmental and social responsibility issues and methods addressing and taking of them are still at their immature stage. This awareness and pressure on apparel brands have created a path for the apparel manufacturing industries to focus on offering green textiles or eco-friendly apparel products to maintain the market share. Due to increasing consumer demand for ethical products in the markets, companies are feeling an obligation to make ethical products. Price control of products is also pressurised by the achieving economies of scale by ethical ways of increasing efficiency like better waste management and recycling where ever possible (Dickson et al., 2009).



*Figure 3:3 Ethical initiative to motivate consumers for paying more (Ghafary, 2014)*

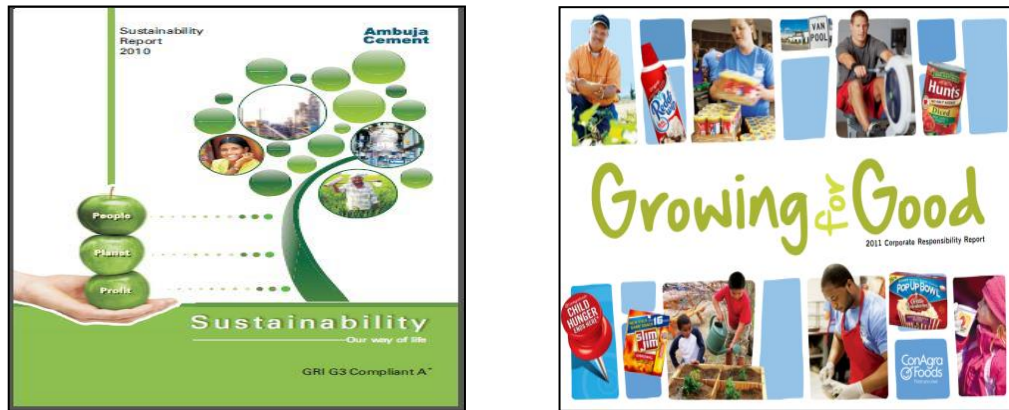
Another issue that raised concerns about the social responsibility and its accountability is divided evenly throughout the supply chain of the apparel manufacturing operations instead of just targeting a particular step and making it a trend for the industry to follow. In above a graph a study by Harvard and MIT students showed that 32 % consumers were ready to pay more for the environmental concerns in order to buy green product just as much equal as to the labour working conditions which was 34%, as seen in Figure 3.3 (Shirrin, 2014). For example, in the past there had been a huge industrial hike created to use the organic cotton in garment manufacturing or textile products. As soon as the matter hit popularity every apparel or textile brand seem to rush after organic cotton in order to brand their label or product as organic and other processes like dyeing printing of apparels or washing after sales or consumer purchase operations that involve harmful chemical use were neglected. It is also vital for the apparel manufacturing firms to develop a diversified ethical conduct policy where whole manufacturing operations, retail sales even financial operations are designed keeping in mind ethical code of conduct (Goworek, 2011; Searcy, 2011).

### **3.7.3 Communicating CSR**

After explaining the term CSR the emphasis moves on to the implementation and reporting of CSR activities and its proper accumulation in to the organizational long term strategies. As CSR is a questionable and accountable business activity there for its communication and presentation is pivotal to the apparel manufacturers. A good way to understand CSR is to understand the ability of fulfilling our present demands in way that it doesn't compromise the availability of resources to meet the demands of our fu-



ture generations (World Commission on Environment and Development, 1987). Since CSR is well understood now but apparel manufacturers or stake holders are still struggling to adapt and make CSR an integral part of their business policies. On other hand along with adaptability it is very important to communicate with society and stake holders what companies are doing in order to produce responsibly.



*Figure 3:4 Corporate social responsibility in pictures (covers of CSR annual reports) – (Joel, 2015)*

There are several ways in which apparel manufacturing companies communicate CSR. The purpose of the CSR reporting is to inform the stakeholders about business practices of the company. Since the CSR actions of any company are held accountable by external companies, stake holders or NGO's. It is very productive to report CSR as it bounds the companies to say what they do or do what they say. It is just like sharing financial statements publically with shareholders especially in order to keep them informed about the financial position of the companies where investors have their stakes in terms of share values (Sutantoputra, 2009). Communicating CSR practices also works in the favour of the companies as in many parts of the world the CSR regulations are still not stringent or effectively converted in to obligatory business laws in such environment reporting CSR makes the stake holder realize the good conduct of the company as it is a voluntary act (Sutantoputra, 2009).

There are many different ways in which companies can report their CSR activities and research data has shown to have difficulties for stake holders when making comparison of responsible activities between two different brands. As till date there is a lack of concrete resolution and agreement between the companies to define corporate social responsibility (Searcy, 2009). As an example there was a research conducted to compare the CSR activities and their reporting between two big foot wear brands Nike and Adidas and the results were very confusing as despite following the same pattern of corporate social responsibility and belonging to the same industry two brands came up with different extent to which they were complying with requirements which made it

quite challenging to agree which brand among both of them is doing it better (Sherman, 2009). Due to intense interest of the stakeholders it is very crucial for the companies to communicate the CSR in an understandable way to the people. With the advent of information companies are now relying less on lengthy reports and focusing more on the information they are providing on their corporate websites as it is also most easiest and convenient way for the consumer to inform themselves about the ethical business conduct of the employers (CSR Europe, 2009).

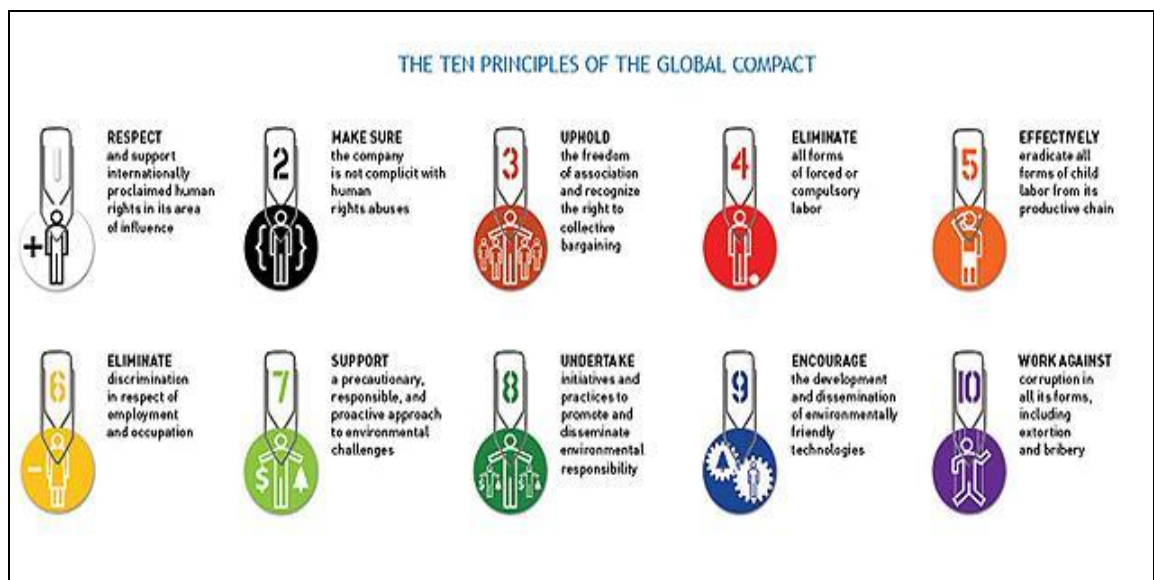
As CSR communication and reporting methods are voluntary and at the hands of companies to choose therefore it has been observed that mostly companies tend to communicate about the good practices and hide or fail to highlight the shortcomings of their businesses. Legality of the revelation of the information is often faced with criticism by the stake holders due to lack of information sharing about the methods and processes as to how companies are saving impacts of apparel manufacturing on environment or social circles of the society they are operating in (Sherman, 2009).

#### **3.7.4 Background of development of code of conduct**

In order to stream line the process of implementing corporate social responsibilities or integrating green or ethical manufacturing practices in to businesses code of conduct have been developed. Companies develop basic principles to address the labour rights and working condition in order to do business ethically (Fletcher, 2008). But due to globalized supply chain of apparel manufacturing and offshore manufacturing the scope of developing code of conduct has also been expanded and many non-profit organizations and international bodies have started to play their role in devising principle of ethical business conduct or minimum international standards to follow. Organizations like International Labour Organization (ILO), United Nations global compact (UNGC), as can be seen in Figure 3.5 the 10 principle of global compact and many NGO's are now official bodies to voice the concerns of apparel manufacturing workers (Elliot & Freeman, 2003). Increasing awareness of ethical business practices have also driven media attention towards this issue and due to the importance of brand image and its direct relation to the customer loyalty companies are bound to adopt ethical conduct and address labour rights to avoid media trial (Wong & Taylor, 2000; Taylor, 2003; Kaufman, Tiantubtim, Pussayapibul, & Davids, 2004; Fan & Lo, 2012). To exemplify this there was an incident where a Chinese firm was caught discharging waste water without treatment in to the waste waters. Upon testing the quantities were found to be approx. 20 tons more than the legal limit the report also found that the same supplier was delivering for big names like Nike, Adidas, Levis and Gap. Later it was admitted by Nike that the samples tested from the factory were voluntary sent by the factory and it could have been breached to change in secrecy (Institute of Public & Environmental Affairs, 2012). Nike also submitted a report in 2012 stating that at least 36% of its supplier con-

tracting factories is in China which is world's fastest developing nation but still struggling with the implementation of ethical business conduct (Nike Inc., 2012).

Despite the importance of codes of conduct the effect of implementing ethical conduct still needs to be thoroughly researched and explored by the industry in order to reduce the violation of labour rights and ensure occupational health and safety of the workers. In a study about twenty four ethical code of conducts from different organizations in united states by Adam it appeared that the conducts have lack of consistency, precision of details and working procedures to follow (Adams, 2009). Therefore along with internal policy making and procedure to monitor the adherence to those policies, it is mandatory to get those companies audited by the outside firms in order to ensure implementation and compliance to code of conduct (Dickson et al., 2009). In 2012 UNGC collaborated with Nordic Initiative Clean and Ethical (NICE) to unveil first sectorial code of conduct for apparel manufacturing industry (NICE, 2012).



*Figure 3:5 The ten principles of the global compact (Hower, 2013)*

Another major organization that is strongest in the apparel industry third party monitors of ethical conduct is Fair Labour Association (FLA). Because FLA also share the results of their audits of the apparel manufacturing firms on their website where people can access these reports which helps apparel manufacturing firms develop more credibility for the customers (Epstein, 2008). Currently there are many external organizations that have come to consensus to form code of conducts for ethical apparel production such as United Nations (UN) its human rights declaration, Rio declaration on environment and development and international labour organization (Dickson et al., 2009). Due to diversification of international bodies and development of many organizations for principles of ethical business conduct many apparel brands are coming at suppliers with their own

particular type of external audit for compliance. This frequent check and balance does create frustration and problems at the end of suppliers as it is challenging for the suppliers to meet the code of conduct of their customers specially when there is lack of consistency among the policies of different brands (Locke, Qin, & Brause, 2007). However this issue is also addressed to some extent by the joint initiatives taken by different bodies in order to unify the standards to follow for the apparel manufacturers for example UNGC-NICE code of conduct is a step towards solution of such problems.

On contrary to that the engagement of apparel brands are mostly restricted to the factories, dyeing houses or transportation companies but they hardly reach down to the root bottom of textile raw material production and the conduct they are following for example cotton growing regions in the world are vastly comprise of developing nations like Uzbekistan, Bangladesh, India and Pakistan. All of these countries have lack of ethical laws implementation and monitoring systems for human rights violation. For example Uzbekistan a major cotton producer in Asia is facing problems of child labour, as can be seen in Figure 3.6 a child picking cotton flower in a farm in uzbekitan, (Environmental Justice Foundation, 2012). According another research reports WHO (world health organization) has claimed at least 20,000 deaths in developing countries due to pollution and contamination created by use of the pesticides (Glin, Kuiseu, Thiam, Vodouhê, Dinham, & Ferrigno, 2010).



*Figure 3:6 Child labour working in Uzbek cotton farm (Chua, 2012)*

Due to the serious reputation damages big companies like Nike, Adidas and Gap faced because of getting products manufactured from the sweat shops, these brands are now the leading good practicing businesses among the world of fashion and apparel. The nature of monitoring and keeping track of the activities of the suppliers is a challenging task, as they have to comply with the multiple codes of conduct due to diversification of apparel customers but still ethically responsible brands are managing well in monitoring to ensure social responsibilities are met (Dickson et al., 2009). Suppliers' ethical code of conduct has been developed by numerous apparel manufacturing companies now as a principle resource to discourse the labour rights their health and safety issues and pri-

marily exclusion of the child labour from face of apparel manufacturing (Esbenshade, 2004).

### **3.8 Evolution of eco-friendly apparel and fashion**

After having half of a decade of historical review of apparel and fashion industry, its environmental and social impacts and the birth of corporate social responsibility which evolved into eco-friendly apparel and fashion. In the subsequent part of this research we will now move on to discuss the core of this research which is to analyse the consumers perception of eco-friendly textiles. How and as to why they adopt this behaviour and what are the barriers that still act as a barricade in acquiring a green life style.

We will also explore what factors are influencing the new generation apparel producers and consumers to avoid using hazardous apparel and switch to more ethical friendly choices. At the end of this research we will support our analyses by analysing consumer behaviour of acquiring eco-friendly apparel and try to explore their perception about eco-friendly apparel and its importance with the help of detailed survey questionnaire form. The results of the questionnaire will then be analysed with the help bar charts and graphical comparisons to develop an analyses of the studies.

## **4. CONSUMERS' PERCEPTION TOWARDS ECO-FRIENDLY FASHION & APPAREL**

In the first half of our review we build a back ground from the historical birth of apparel industry and how environmentally and socially responsible apparel production assimilated in the industry as crucial part that seemed to become an integral fragment of the fashion and apparel business. In the following half of historical review we will move forward towards the core of this research which is analysing the consumer perception about eco-friendly apparel and fashion and reviewing their responses towards it. Let's begin by looking at dawn of eco-friendly consumerism.

### **4.1 Environmental friendly consumerism**

The biggest proportion of today's consumers who are the drivers of the society and fast fashion and apparel consumerism are the young population that belong to the generation Y or are also called millennials by some researchers. Those are the people born in 80's and 90's are very interactive socially globally and grown up in the maturity level of ecological awareness of the planet when authorities are celebrating events like earth day for environmental cause and motion pictures are using media tools to create cartoons like captain planet which emphasize the importance of preserving and preventing planets earth's natural resources this generation takes their heritage trending and social influence very serious that affects their buying behaviours. These consumers are socially well connected and consider whole world as a united global community they are very well aware of the environmental conditions of the globe. Millennials are living through a transformation period which is very different from the pre-industrialised generations. Today it's a postmodern era where society and ecological values are given more importance than mere profit making (Anupama, 2010).



*Figure 4:1 Millennials (well informed consumers of 21st century) – (Millennials2020, 2015)*

The rapid growing awareness of consumers about environmental impact of industries is affecting their decision to purchase products. Consumers are getting more and more conscious about their authority to purchase in relevance to affects it will have on the society and the world as a whole (Hye-Shin Kim, 1995). As today's consumers are more aware about the environmental and social impacts of production therefore they are more critical in order to scrutinise how their apparel purchase decisions or spent money is contributing to the pollution or contamination of environmental and social echelons of society. For example they are keen to find out if there is product is damaging for the ozone layer, is the production of a particular product going to contaminate the community's water resources, what is the rate of waste disposal of their product in increasing the landfills of the earth, Is the product production using any toxic waste? etc. (Hye-Shin Kim, 1995). The increasing concern of the consumers over impending harmful effects on environment and human wellbeing is the key stimulus behind the drivers of eco-friendly consumerism; Figure 4.1 shows an image of millennials taken from vision 2020 a social interactive online group of consumers (millennials2020, 2015).

Harmful effects of environment and social circles of the society and concepts like greenhouse gases, co2 emissions, ozone layer depletion, contamination of sea water, waste disposal management etc. are not only crucial for the consumers but it also considered as an opportunity by the marketing firms and businesses to do business in.

Products and their positioning are done as eco-friendly and targeted at the consumers that more cautious of their marketing decisions and want environmental friendly products. With the growing trend this concept is even transforming from being a business opportunity into an integrated basic part of policies of the companies to produce environmental friendly goods and methods that support green movement (Hye-Shin Kim, 1995). Figure 4.2 shows demographic division of millennial consumers.

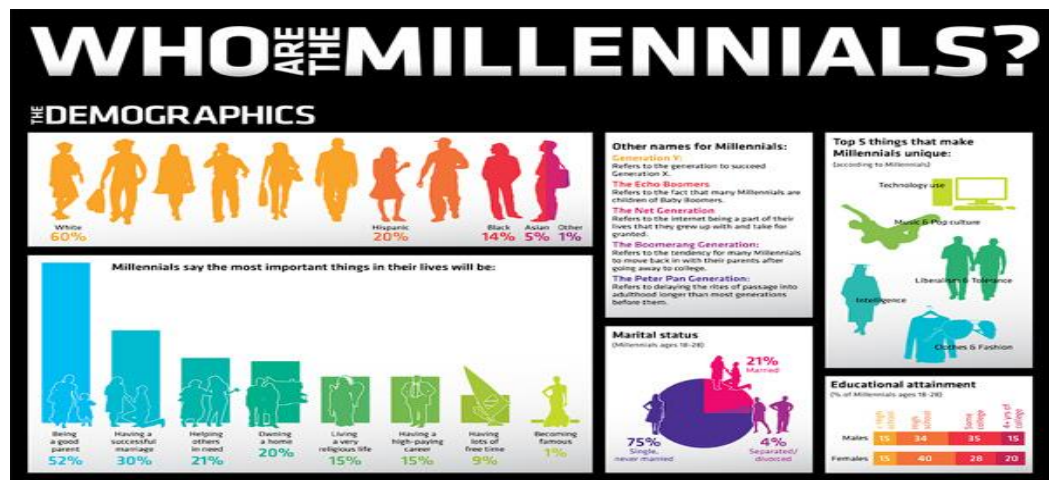


Figure 4:2 Demographic segregation of millennials (Govette, 2012)

In his research Hye Shin mentions the green marketing movement in a cyclical effect which started with the awareness of environmental effects of apparel production created by the non-profit third parties like NGO's and civil movements, those movement made the consumers aware of their products and purchase decisions and the post purchase affects it can have on the environment. In democratic societies these strong public opinion pushed governments to make laws and regulations to support sustainable development and human rights. Those government bodies pressurised businesses to comply with those laws and regulations which also dragged their suppliers on shore or off shore to meet the minimum standard requirements to prevent ecological damage. In the end retailers are the one that are directly related to the consumers according to H-Kim retailers are directly influence by the purchasing power of the consumers hence the it matters a lot for them which type of apparel product there shops are holding for their consumers, what are the packaging materials used for them and what affects it has on the environment (Hye-Shin Kim, 1995).

According to Adams in due to consumers interest and better response towards eco-friendly apparel brands, businesses are focusing more on not only environmental friendly business practices rather also manufacturing the environmental friendly products because retail is the direct point of contact for consumers and for companies to know their demands and replying to their responses (Ashley L & Adams, 2012). It is becoming crucial for the fashion businesses to include eco-friendly products in their portfolio as consumers are rapidly switching to economic friendly products. But the strategy to include eco-friendly apparels or products is not as simple as it may sound. Adams mentions that the buying behaviour and pattern of consumer purchases are not very easy for the companies to understand. There are no tools that can concretely define what choice consumer is going to make. The purchase decisions of the consumers are based on several internal and external issues. Along with self-satisfaction of choosing



the right environmental friendly product there are many other factors as well that may affect their decision to buy a product. For example it is not easy to analyse if a consumer would prefer particular eco-friendly apparel over the conventional garment that may be more appealing in design or appearance or more easily available or affordable in the market. For example it is quite dubious to find out if the consumer will not make an unfounded decision by superseding the personal values at certain point of purchase (Ashley L. Adams, 2012).

Adams also mentioned analysis of another study that suggests that it is quite difficult for the companies to make right product, decide right target market and place to sell the eco-friendly goods at right time. As it is quite questionable how much an individual is willing to let go his conventional purchase to buy an eco-friendly product. It is seen that purchasing of eco-friendly products are also declined if there is any kind of inconvenience involved in doing so in addition to that reinforced marketing campaigns are also very pivotal in order to keep the consumers reminded of the eco-friendly purchases (Ashley L. Adams, 2012). As seen in Figure 4.3 H&M did another good effort of introducing eco-friendly denim complete range for kids and male, female adults. Jeans are made up of organic and recycled cotton along with waste of production. Denim is seen as an everyday product which have all year long all season extensive usage and introducing eco-friendly denim is a good way to make mass market green apparel (fashionhurry, 2014).



*Figure 4:3 H&M eco-friendly denim collection (fashionhurry, 2014)*

Keeping in view these studies it is quite evident that despite of consumer literacy and awareness and quest for better purchasing decisions in order to keep the environment and social echelons of the society free from harmful effects of manufacturing it is still quite dependant on many factors that may influence the decision of a consumer to buy eco-friendly apparel. After briefly reviewing the eco-friendly consumerism let's move on to look in to the areas of factors that shape and affect the consumer buying behaviour of the apparel and fashion. Some of the factors may act as barriers to the purchase of eco-friendly apparel while some may become the drivers or motivating factors of economic friendly apparel.

## **4.2 Factors that influence consumer perception of eco-friendly apparel**

Since the dawn of humanity the initial basic requirements that humans have identified to fulfil are food, shelter and clothes to prevent itself from the environment and get warmth and ensure survival. But the human instinct of ever increasing quest for the betterment and improvement of its state has transformed the basic needs in to wants and desires. And now clothing has become a form of art and way of expressing one's individuality (Pauline G. Garrett, 1967). For an individual today clothing has become a desire to look different good. Now clothes are not considered only for warmth their desire is more than their functionality they have become a way to express our inner values and beliefs. Since the purpose of buying clothes has become a want instead of a need therefore the driving factors to purchase apparel has also diversified. Today reasons for buying can be a hobby or a motivational factor like liking a particular brand or outlet (Tatzel, 1982).

Keeping in view emotional aspects of purchasing apparel following can be the motivating factors behind consumer behaviour of purchasing eco-friendly apparel.

### **4.2.1 "Individualism" of Eco-friendly consumer**

Just when purchasing apparel turned into an emotional factor instead of only functional reasons a new bell of ecological textiles have raised and now apparel consumers are much more aware of responsible apparel consumption. Today consumer doesn't only considers the out let where he is buying the apparel from rather he is also judgemental about from where and how the apparels are being procured by that particular brand some people also consider purchasing eco-friendly apparel is an act that differentiates their identity and satisfies their self-esteem (Valor, 2007).

### **4.2.2 Purchasing Eco-friendly apparel for self satisfaction**

Buying an eco-friendly apparel or involving in to fair trade gives a sense of indulgence to the consumer and he feels like becoming a part of for example eliminating the sweat shop production and standing for the human rights. According to Okada the involve-

ment of consumer in purchasing hedonic goods gives them sense of indulgence which as a result increases their consumption of such goods (Okada, 2005). Purchases of hedonic goods is the pleasant feeling that consumer experiences as an outcome of the purchase. Consumer is dragged to the clothing outlet because of need of the apparel but it is the desire of that post purchase feeling that may push them to make actual purchase (Danziger, 2006).

However sometimes people also purchase apparel not because of need or desire instead they go for shopping because for them it is kind of a recreational activity. Spending for this pleasure however may bring sense of remorse as it may feel unnecessary spending but it is there when they switch to buy an eco-friendly merchandise which in the end make the shopping done for good cause and consumer considers the behaviour socially responsible. The sense of a role that the consumer is indirectly playing by buying eco-friendly apparel may give him a feeling of making others live better by the purchase for which consumer might go the extra mile of paying a higher price which might become the barrier to purchase in some cases (Danziger, 2006).

**It's not just our green dyes that won't harm the environment.**

Our policy on dyeing clothes is black and white. We've banned all our suppliers from using 56 chemicals in the production process that put either their employees or the environment at risk. We also insist that all remaining dyes are removed from effluents before releasing them back into the environment. To ensure they meet our stringent standards regular factory audits are conducted. So, it doesn't matter whether our dyes are blue, red or yellow, they're as kind to the planet as the green ones. [www.marksandspencer.com](http://www.marksandspencer.com)

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**YOUR M&S**  
look behind the label

Figure 4:4 Marks & Spencer promotional campaign “Look behind the label” (Schneider, 2014)

For example as shown in Figure 4.4, in 2006 M&S (Marks & Spencer) a UK based retailer launched a very successful campaign “Look behind the label” based on the marketing of eco-friendly products. It was one the most successful ethical marketing campaign for the retailer which turned its declining performance up once again and had given a great competition to challenging retailers like Asda, Tesco and Morrison (Susie Mesure, 2006). The sense of responsibility was taught to the customers by always looking at the product information which also played a great role in motivating customers playing their part in ecological transformation of consumer market specially apparels. In other words the consumers’ perception to be perceived as socially responsible con-

sumers in the eyes of strangers is also a motivational factor and sense of pleasure for the consumers let alone the real ecological or social benefits associated with that decision.

#### **4.2.3 Hedonic motivations**

Contrary to using apparel and fashion just for functionality or creating distinctive fashion identity, Hedonic shopping is very interestingly defined by Arnold as the aspect of shopping that is more related to the emotional and fantasy of individuals which may be because of some festive reason or just for fun (Arnold, 2003). Arnold have also further explained a research example presented by (Fischer & Arnold, 1990) one of the examples of hedonic shopping of a consumer is a self-explanation of a Christmas shopper who resembles himself as a kid in a candy store, where exhilaration and provocation are the main drivers of the shopping instead of want and desire (Arnold, 2003).

As fashion has become a tool to represent out distinct identity and inner values in the society as consumers we are also rapidly inclining towards the hedonic aspects of shopping. Shopping apparel is more of a quencher of our aesthetic desires. Therefore consumer preferences for buying eco-friendly apparel in my opinion can also be associated with hedonic shopping because making an eco-friendly purchase gives one a distinction and personal value from others, it also unwraps new reasons for the consumers for purchasing apparels.

#### **4.2.4 Apparel acquisitions as status symbol**

Humans are always been known for attracting towards aesthetics value and appeals of goods. Especially garments and apparel are considered as representative of one's inner beliefs and values therefore styling and appeal of apparel sometimes weighs more than other factors to buy any apparel even if a consumer goes for buying an eco-friendly apparel, his motivation behind doing so cannot be attributed only for ethical cause may be he is selecting a garment because of its better styling and fitting. According to Shaw consumers do give importance to buying of ethical apparels but their decision to do so do not outweighs their preference for aesthetics and appeal of the garment (Shaw, et al., 2006).

Shaw also mentioned in his research sometimes less attractive appeal of ethical apparels also acts as a barrier for the consumers to make choices to buy them. As sellers, the retailers must not forget to make fashionable apparels which are the most important emotional desire for the consumers to buy the apparel (Shepherd, 2010). Moreover aesthetic appeal of the apparels can be used as a tool to trigger the high fashion loving consumers to buy the eco-friendly apparels. For examples big brands which have larger consumer base can easily utilize their brand power to create strong trendy fashion apparel that can push the consumer to buy the apparel due to consumer loyalty or likeness of being associated with that particular brand (Scarpi, 2006). An eco-friendly apparel

consumer may find it as something very trendy and feel a more distinct place in the society. Figure 4.5 shows trendy and stylish eco-friendly apparel.



*Figure 4:5 Aesthetically stylish eco-friendly apparel (global eco-friendly, 2014).*

#### **4.2.5 Functional aspect of apparel purchase**

As we have conferred a lot in previous exploration how trends, fashion, demonstrative and celebratory reasons push a consumer to buy apparel but we cannot completely eliminate the concept of functional purpose of the apparels and the reasons to buy them because of their performance needs rather than just looking good. According to a research, functional reasons to buy an apparel is not just for leisure rather they are more concerned with necessity and purpose based requirement of the purchase, for example we wear clothes to prevent our bodies from external brutality of weather. Similarly buying eco-friendly fashion can also be associated with functional performance of the apparel as eco-friendly apparels are meant to prevent environment and society from harms of textile manufacturing (Scarpi, 2006).

#### **4.2.6 Advantage associated with eco-friendly apparel purchase**

As we studied the functional reasons of buying eco-friendly apparel and sense of participation and indulgence in a cause for betterment that consumer achieve while buying eco-friendly apparel. We also have to be mindful of not excluding the desire of benefit that always exists in any trade. One reason of buying eco-friendly apparel for the consumer can be the high quality and more comfortable feel of fabric which is generally associated with the eco-friendly and ethical apparels. A study done by French institute in 2006 also showed that the rapid ventures of apparel producers in to eco-friendly apparel manufacturing are also uplifting of ethical apparel quality for the consumers (Groves, 2006). Since the modern day consumer in big cities are faced with very fast

pace of life and are too busy moving in daily tasks because of which they prefer more comfortable clothing which let them breathe better and provide convenience of mobility with comfort (Groves, 2006).

Another aspect of buying eco-friendly clothing is the satisfaction of consumers about their apparel being free of many hazardous chemicals that are usually used during the production of conventional apparel. Normally for example a cotton crop is used with many chemicals to prevent it from damage and increase the yield, after that even in manufacturing it is treated with heavy chemicals and substances while dyeing and wet treatment. With ever increasing knowledge of the consumers about eco-friendly apparel and harmful processes and human right violation associated with mostly conventional cheap apparels available in the market they find the eco-friendly apparel more durable and better in terms of lifecycle and cause for betterment. According to a study about 25% of the world's total pesticides are used for cotton production poisoning the environment and putting the lives of millions in danger (Ransom, 2001). Despite the consumers of eco-friendly apparels have to pay a bit more for the high priced garment but the quality and product lifecycle as well as satisfaction that even the disposal won't cause any harms to the society out weights the prices to advantage of having a better quality garment with a cause for betterment of planet.

#### **4.2.7 Role of demographics in Eco-friendly apparel purchase**

When it comes to study the segmentation of any field of research demographics has always been a source of establishing plausible explanation of queries. It has been observed always that gender differences, age, education and income levels have always played their role in shaping up behaviour of certain group and their perception about certain concept. Especially when it comes to apparel and fashion clothing purchase the demographic segmentation plays a significant role. As we already know that in terms of apparel design, colour and appeal retailers have to design and prepare different offerings for different target markets. Let's look in to the research and find how much the same factors affect when it comes to the purchase of eco-friendly apparels.

According to a research, it shows that millennials, who were born in 80s and 90s, consider themselves different and give too much importance to creating their distinguishing identity. As eco-friendly apparel consumerism is considered a new trend in the world of fashion and apparel therefore both genders of millennial consumers are pulled towards this attractive wave of apparel and fashion due to the peer pressure young consumers of today find themselves exclusive and moving along with the fast fashion pace by purchasing eco-friendly apparels which a way to exhibit their unique identity which is also fuelled by less prevalent eco-friendly apparels in the market as compare to the conventional fashion and apparel (J. Halepete, Littrell, Mary, Park, Jihye, 2009). Moreover the rapid pulling force that can be seen in younger generation making eco-friendly purchas-

es is their informed decisions due to the advent of internet and social media the young generation is very well informed about the changes that are taking place in the society they follow the campaigns run by third parties to support and improve the ecologically responsible manufacturing which also produce interest to go for green apparels.



*Figure 4:6 Students protesting naked against sweat shops in Birmingham-UK (Hudges, 2010)*

According to studies it has been seen that income level doesn't have any significant effect on the purchase decisions of the eco-friendly consumer. People who can afford to buy eco-friendly apparel are willing to pay more for them in order to support a good cause that is associated with the production of green textiles and eco-friendly apparel and fashion that it not going to harm the planet and also purchasing green apparels is improving some one's life at the other end of the picture as it discourages sweat shop manufacturing, while for few it will be simply out of their range due to the hefty price tags green apparels have (Shaw, et al., 2006). Level of education also plays a pivotal role in the eco-friendly apparel purchases. For example student at university level are more engaged in eco-friendly initiatives as they have been educated about the environmental friendly initiatives and have more in-depth knowledge of the subject. As compare to them people who are not students or aren't engaged with a university or college are dependent on media and social networks and their direct connection with the information is not as strong as those of the university students.

According a report in 2001 in USA universities a large number of unofficial student campaigns were voluntarily going out against sweat shops (Ransom, 2001). Another protest of same nature also occurred in Birmingham when 40 students stripped naked holding banners against sweat shops in March 2010, as shown in Figure 4.6 (Anna Hughes, 2010).

#### **4.2.8 Sense of reward**

According to IPC (Incentive Performance centre) USA “Any kind of consumer can be motivated at any given time through incentives that encourages a certain behaviours”, same study suggest stats about USA where out of 80 billion dollars that businesses in US spend on promotional activities 30 billion are used for rewards and incentives for the consumers (IPC, 2008). Reward is a great stimulator of people’s actions. If the actions are known to bring some kind of reward it will trigger people towards certain kind of behaviour. Reward is a great motivator for humans. People are motivated to help others if they know they will be rewarded for their action; especially if they feel their action is making a difference. Perceived consumer effectiveness according to Ellen is a credence that ensures that a person’s act is going to make a positive change or contribute towards elucidation of a problem (Ellen, Wiener, & Cobb-Walgren, 1991). For apparel manufacturing, using of sweat shops for cheap fast fashion and apparel availability is considered an act against basic human rights and to avoid such goods to purchase alternate eco-friendly apparels is seen as an act of positive contribution to the society consumer wants to make sure that the purchase of eco-friendly apparel has made a difference.

#### **4.2.9 Environmental laws awareness**

Another factor that plays a pivotal role as a stimulator for the consumers to buy the eco-friendly apparel is the laws and regulations. Legalisations of standards formed by international watch dogs and there publication and online easily available information about their minimum standards have educated the consumers about the minimum basic standards any producer has to follow in order to conduct fair trade. Organizations such as WFTO (World Fair Trade Organization) are among the biggest in many others European and international organizations that monitors the compliance of producers with basic requirements. For example WFTO has devised an agenda of 10 principles that it seeks to be followed by the producers. For example improvement of economic well-being of the suppliers that are operating in relatively poor economic regions, companies are also expected to be honest and transparent regarding their activities. Companies are expected to maintain fair trade for example they must monitor the environmental and social impacts their product development can have at manufacturers end. Financial matters should be dealt with in timely manner in order to keep the flow of income moving for suppliers, doing appropriate product pricing being done where everyone is at the beneficial end. Ensuring human rights violation is not done neither child labour is used at suppliers factories, companies are also bound to ensure that gender equality is addressed and women also have equal opportunities to grow. Working conditions should be good and sweatshop manufacturing and poor and hazardous methods and technologies should be eliminated for the wellbeing of the workers, organizations are also expected to build their own as well as capabilities of their supplier through facilitating training and development. Both customers and sellers should be attentive of producing and manufacturing using as much sustainable raw material as possible and ensure that the production is



creating minimum possible damage to the suppliers (WFTO, 2013). These are the principles available on online resources and which have made the customer aware of the situation. This level of information and awareness also educates the eco-friendly consumers about the post purchase consequences of their purchasing decisions and trigger them to move more towards eco-friendly products.

According to ISO Eco-Friendly fashion stands for:

*“Identifying the general environmental performance of a product within a product group based on its whole life-cycle in order to contribute to improvements in key environmental measures and to support sustainable consumption patterns.”* (Source: Luz Claudio, 2007).

#### 4.2.10 Role of gender

It is crucial to know that with the evolution of modern civilisation and increasing equality among males and females have contributed a lot in empowering women to take decisions about their choices. More over with increasing population and increasing number of female work force they are now financially more independent, in control and capable of making their own decisions. According to a study females are now contributing more than eighty percent of consumer goods purchase (Krotz, n.d.). With increase in their population the number of women who are running the house is also increasing which has created a great deal of influence on purchasing decision (Pradeep, 2010).



Figure 4:7 Ethical fashion show Berlin 2013 (fashion compassion, 2013)

Women are now known to be more cautious and careful about the decisions they make and what impact they are going to make on environment. Women consider themselves part of larger globalized communal due to which their attitude towards environment is more careful as compared to males (Blocker & Eckberg, 1997). According to a study

women at young age are much more environment cautious as compared to their counterparts. Due to more socializing and peer pressure and their desire to be associated with the society they are more concerned for environmental laws, humans and animals rights (Blocker & Eckberg, 1997). Figure 4.7 shows promotional fashion exhibition presenting 97 brands eco-friendly collection in Berlin in 2013 (Fashion compassion, Na).

#### 4.2.11 Eco-friendly apparel and role of models

Media life is not very easy going, but even that doesn't stop some people to become the face of their values and inner believes (Huff Post, 2012). A few of them even move forward to take the responsibility and become voice and image of environmental concerns. For example Huff post mentions in an article about "Green Celebrities" how Alicia Silver stone guides her fans about eco-friendly merchandise and how to get them in her blogs, Figure 4.8 shows the cover picture used in the blog page. It also states how Gisele Bundchen world's top model and a beautiful fashion model spends considerable time of her busy life to advocate the environment (Huff Post, 2012), she was nominates as greenest celebrity in 2011, played the role of good will ambassador for environmental program of UN (United Nations), she also is seen as voice for Brazilian movement a drop of water (Huff Post, 2012).



*Figure 4:8 Kind life online blog run by famous actress & model Alicia Silver Stone (Kindlife, 2015)*

Big retailers also utilize the opportunity of influence that media and big events have on the people. For example in 2012 Nike came up with one of the best eco-friendly football T-Shirt for the national team of Netherland which was made up of 100% recycled bottles, as shown in Figure 4.9 (Alice Chan, 2012).



*Figure 4:9 Nike's debut recycled bottle T-shirts (Alice Chan, 2012)*

According to Haanpaa, celebrities and forerunners are the people who adopt environmental friendly attitudes and patterns of consumption, an act which expresses their values to the masses but also work as a catalyst and simulator for influencing the fans as a role model for green movement (Haanpaa, 2007). As seen in Figure 4.10 celebrity Olivia wilde wearing H&M conscious collection eco-friendly dress on the earth day celebration by the retailer (Broadwayworld, 2015).



*Figure 4:10 Celebrities with H&M conscious apparels on earth day celebration (broadway world, 2015)*

Another study shows that lifestyle pioneers are the people who are successful in maintaining unfailing eco-friendly attitude, they have attained eco-friendly life styles and they are undisputable about the sustainability and environmental friendly life (Degenhardt, 2002).

#### **4.2.12 Social influence of acquiring eco-friendly behaviour**

Human beings by nature love to live and get associated with the society thus their individual behaviours are largely influenced by the society they live in. Societies are historically the oldest school of human behaviour. An individual is brought up by his/her family therefore the behaviour he/she acquires are strongly crafted by the traditional and cultural norms of the family and at large by the society which shapes the preferences and coherent decision making of a person (Carolyn N. Kinder, n.d.).

Another study shows that in China the individual behaviour and shopping preferences are strongly advocated by the cultural influence which is highly shaped by Chinese Human-Nature relationship attribute. It is not ample to possess knowledge of the eco-friendly only thus allowing the cultural and social norms to affect the individual behaviour (Chan and Lau, 2000). In his research Shaw has given culture and societal pressure more credit in shaping environmental behaviour of the individual as compared to religion and other factors. Consumer's knowledge about ethical practices of the organizations from information spread through internet, news and media also influence the social influence that shapes the purchasing behaviour (Shaw, 1999).

#### **4.2.13 Aspiration for exclusivity**

One way of seeing acquiring eco-friendly fashion and apparel is through fashion cycle that usually travels from top to bottom in the society. Whenever a Fashion emerges in the society it is first adopted by the upper class and elites who are more concerned with their unique identity in the society. Once they adopt a fashion and move on to the new one, meanwhile there transition the middle class who always try to imitate the elites try to adopt the same fashion which is offered by the retailers in knocked out form to the masses. Keeping in view high prices and exclusivity generally associated with the eco-friendly apparels it follows the same societal norm discussed above. According to this view purchasing eco-friendly apparel seems more related to an individual desires to conform to the trends going on society and they are less chosen because of the cause for environmental betterment (Law, Zhang, Leung, 2004).

#### **4.2.14 History of green purchase**

Another factor found in the previous researches that influence the buying behaviour of an existing eco-friendly consumer is the historical experience he/ she has with the environmental friendly products. Usually consumer's decision to repeat purchase of any

merchandise is largely dependent on the holistic experience one had with the previous purchase. For example if a consumer who has found a previous eco-friendly apparel to be more comfortable, resilient and easy to care, launder as well as capable of retaining its shape throughout its life will likely to make that purchase again (Wakelyn, 2006). The historical purchases and his experience with the product also determine the brand loyalty consumers develop with a particular product.

#### **4.2.15 Availability of eco-friendly apparel**

Knowledge, desire and emotional concerns that trigger the consumer attraction towards eco-friendly apparels are not productive until the consumers have an easy access of the products themselves. Increasing numbers of consumers want to buy more and more ethical fashion products but the problem is difficult accessibility (Bart King, 2012). In same report Bart mentions that in 2011 in USA seven out of ten people at least considered to buy eco-friendly once in their shopping spree. For a consumer cost of apparel is always the first attribute to impact the purchase decision after design and appearance yet many also claimed that they couldn't buy eco-friendly goods because they couldn't find it. According his report around 30% and 28% people didn't buy regular eco-friendly because it was not available where they shop and or they did not know where they are available respectively. On contrary to that people who do buy eco-friendly were largely became aware by the hang tag information of the product, second to them were those who were educated by in store information and people who used internet to find and search information were the fewer left (Bart King, 2012).

This report indeed exhibits a great potential for apparel businesses to improve or escalate the situation by making the availability of eco-friendly apparels more convenient for the buyers. Bart also discusses one good way of doing so by making store with in store that carries only eco-friendly apparels as consumers did show interest in buying eco-friendly apparel if there preferred retailers work better on advertisement and create more enjoyable point of sale experience (Bart King, 2012).

## 5. ANALYSES (STUDY OF QUESTIONNAIRE SURVEY)

The purpose of conducting this research was to report on analysis of consumers' perception regarding eco-friendly apparel. Research has been aimed at making noteworthy contribution towards existing literature since the area analysis of consumers perception regarding eco-friendly apparel has been seldom touched upon. The research was aimed at targeting and conducting questionnaire survey of 100 plus participants which are also consumers of apparel and fashion. The sample was selected on the basis of participants' locality (that is Europe mostly) and their interest in ethical consumerism. Since Europe comprises of one the most literate and eco-friendly businesses and consumers among all continents. Thus, the research is mostly Europe based. Hence, this study tends to identify the perceptions of consumers in western countries about eco-friendly apparel consumption as the ethical replacement of conventional apparel and fashion consumerism.

To get consumer responses on questionnaire survey we have utilised the information technology and sent and got the feedback from the participants on the internet. There are many benefits of doing a web based survey including the speed of process which is quite fast and when data is collected online, secondly it is more convenient as forms can reach to participant living far away from the origin of the research work place along with the ease of lesser or no administrative requirements when done online (Dommeyer, C.J., P., Baum, K. Chapman, and R.W. Hanna, 2002).

A further explanation of the survey results and analyses of the consumer responses will be done in this chapter. We will also try to re discuss the research done in the previous chapters and will review the comparisons of the actual outcome of the questionnaire survey. Later on this statistical analysis based on graphical illustration will also help us to drive a conclusion regarding what consumers actually perceive about eco-friendly apparel. Apparently the results of the questionnaire survey on analysing consumers' perception regarding eco-friendly apparel and fashion consumption, there seem to be very indifferent responses by the participants, some of which are in line with the previous research along with some other maintaining contradictory aspect of it.

It has been observed that consumer's intentions to purchase eco-friendly apparel are mostly motivation driven. The impact of their purchase decision regarding apparel and fashion and its impacts on the environmental and social aspects of the society as studied earlier are the primary push factors behind the eco-friendly consumerism in apparel and fashion industry. However lack of in depth knowledge of what eco-friendly or ethical

apparel and fashion actually means and what the processes at the back end are running the whole industry does react as a barricade to the consumption. But these motivational factors and barriers and much more will be discussed in detail further in this chapter with the support of graphical analyses formed with help of data collected through survey questionnaires.

In the following chapter we will move our research direction towards analysing the consumer responses based on the data collected with the help of survey questionnaires. The responses will be analysed and concluded upon with the help of graphical presentation in order to support the arguments and their relation to the previous research material that has been reviewed in the initial parts of this research paper. The empirical information in this section will help us to make comparisons between the theories of previous researchers as compared to what consumer's actual reactions are when questioned directly regarding their perception about eco-friendly textiles, apparel and fashion and their buying preferences. As we have also seen that very limited research has been conducted in the past in order to analyse the consumers perception therefore the expectation from this work is to help the future literature, decision makers and stake holders like manufacturers and retailers as well as marketing research firms on environmental friendly apparel and fashion to dig out the causes that act as barriers to the environmental friendly purchases and resolving the issues in order to enhance consumer confidence.

In order to analyse the data we will first explore the domain of consumer preferences while making apparel purchases. We will analyse this area with the help of our first research questions which was broken down in to further fragments in order to have more number of questions asked from the consumers in an effort to get detailed insight.

## **5.1 Research Question #1**

### **What are the consumers' preferences while making apparel purchases?**

- What are the main criteria when you buy clothes
- Ever considered Eco-friendly Apparel alternate?
- What is the frequency of eco-friendly purchases?
- What are the major expectations from Eco-Friendly apparel industry?
- Are Consumers more inclined toward Quality vs. Wellbeing?

#### **5.1.1 Consumers' Buying Criteria**

To analyse the consumer criteria for buying eco-friendly apparel and fashion we tried to give consumer options as what do they perceive are the most important criteria they consider while purchasing apparel. To analyse the answer we tried to put the options

such as affordability and price, quality, material, **eco-friendly**, convenience or easy availability, fashion or brand value, sizing or fit or any other option that they can think of might be more important than what we have asked from them. And out of those choices we asked them to highlight 3 main criteria's that they consider are most important for them in order to purchase apparel. The results can be seen in the following graph which has been formed based on the numeric data inferred from the questionnaire response.

### Q# What are the 3 main criteria when you buy clothes?

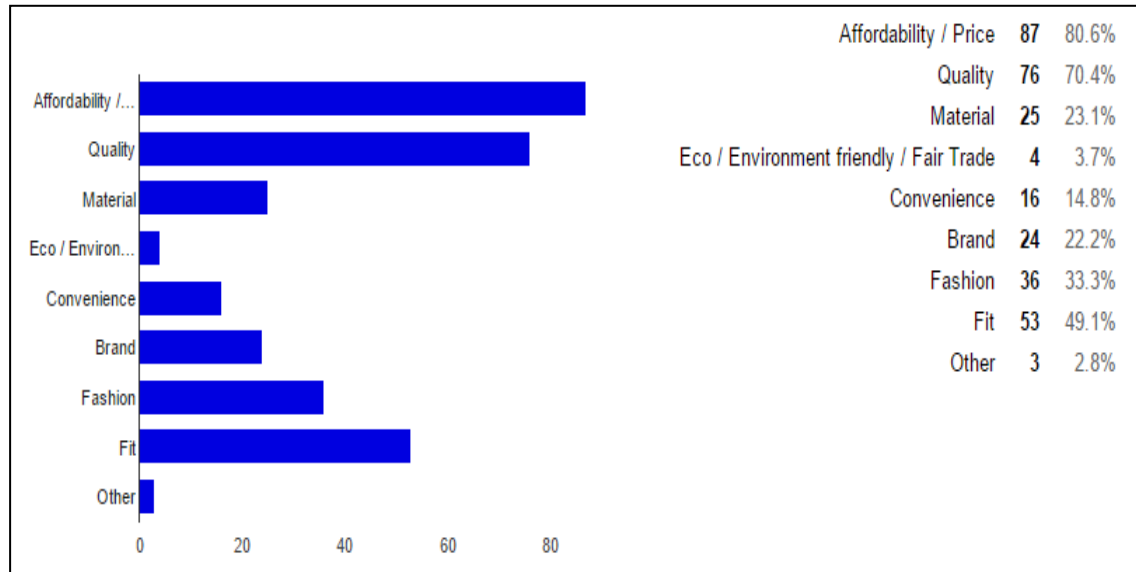


Figure 5:1 Shows 80.6 population choosing affordability as most important factor.

The results that we incurred as a response to this question were quite surprising. Our survey included 100 people both male and female genders divided equally. As shown in Figure 5.1, the preferences turned out to be **80.6%** of the population putting **affordability and price** as the first most important factor that they consider before buying any apparel. **70.4%** people among the population advised **quality** as the second most considerate factor that influence them. And for the third important factor **49.1%** people regarded **product fit or size** another aesthetic value that won over the factor of product being eco-friendly. Product material, fashion, brand and convenience were the runner up choices and to my disappointment on **3.7%** people put **eco-friendly product** as a criterion that can influence their buying decision.

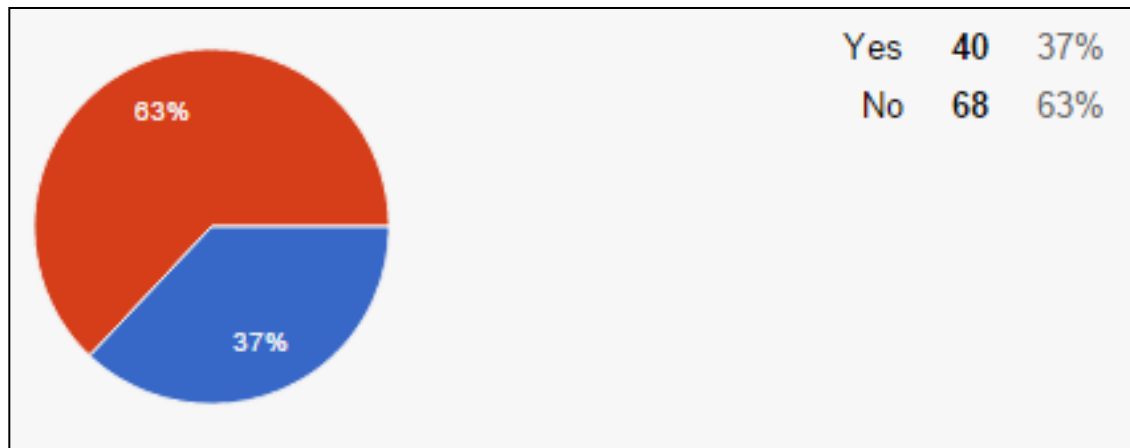
#### 5.1.2 Consideration given to Eco-Friendly Alternates:

After asking about consumer preferences regarding actually buying eco-friendly apparel or fabric, we asked the sample population to advice if they ever or never bought any eco-friendly fabric. And the answers were quite expected after analysing the results of the previous question 63% of the population accepted to never make any eco-friendly



purchase which was not surprising but might be disappointing for the manufacturers and retailers of the eco-friendly apparel and fashion and a good point to ponder for those entrepreneurs who are thinking to tap in to the business of green textiles as what should be their do's and don'ts in order to turn the results in their favour. Below is the Figure 5.2 showing 37% eco-friendly consumers in the smaller blue zone.

**Q# Have you ever bought Eco-friendly fabric?**



*Figure 5:2 37% people bought eco-friendly apparel at some point*

**5.1.3 Frequency of Apparel Purchases:**



*Figure 5:3 Approx. 45.4% of the people rarely buy eco-friendly apparel.*

On asking about the frequency of buying eco-friendly products, 45.4% admitted to buy them rarely. Approx. 27% advised that they never buy them at all. 25% were among the people who buy them some times and only 2% to 3% people said they always buy them which is not very significantly important, as shown in Figure 5.3.

**5.1.4 Expectations of Eco-friendly Textile Industry:**

It has been reviewed in the previous research that there is always some kind of motivation existing behind the consumer's decision to make any purchase. For example according to Arnold, 2003 sometimes people make purchases because it somehow related to their emotional concern or fantasy, for example shopping related to festive seasons such as Christmas. Danziger, 2006 however defines the motivation behind the shopping of some people as part of fulfilling self-satisfaction factor. It happens when people buy a eco-friendly garment and think that their purchase is going to play some positive role in making some one's life better.

Some people might do it for earning a status symbol that they might associate with accumulating certain brand or line of products. As according to Shaw, 2006 some people might buy eco-friendly apparels because they are more appealing in terms of aesthetic values as fashion is intensely associated and defined to represent one's inner believe therefore the decision to buy an eco-friendly apparel can never outweighs the importance of appearance, design or style of the garment. On the other hand according to Scarpi, 2006, some people might do it keeping in mind the functional aspect of the garments for example humans at very first place chose to wear apparel and garments in order to prevent themselves from the brutality of the weather, which is a core functional expectations they expected from the garment which is to prevent them. Similarly for some people buying Eco-friendly apparel might be considered as it is supposed to be very less harmful for the planet. No matter what are the reasons and motivation factors behind the consumer's behaviour to buy an apparel garment it has been seen in past research that there is always some kind of expectation involved in the process. To analyse what the consumers expect from the apparel and the garment we moved on to another part of our first research question in which the participants of the survey were asked to rate their expectations from the garments and the replies helped us to conclude following series of graphical representation to analyse the consent of the sample population.

- **Ethical working conditions & Fair-trade labour:**

When asked about whether the consumers think that by purchasing ethical apparel and fashion merchandise they are actually helping someone on the other side of the supply chain usually people associated with the manufacturing of the garment by providing them better working conditions (or) the consumers are actually helping the work force in getting their fair trade share by getting the deserved compensation, as the consumers are also usually paying higher prices for the environmental friendly garments.

Ratings were set as 1 to 5 where 1 stands for most important and 5 stands for least important. As we can observe the results in below graph, it was great to see that approx. 63.8% people rated at 1 and 2 (most important) and showed that it is very important for them that the money they are spending on the fair trade apparel is actually playing a constructive role in making some one's life better, however hardly 4% people were of the view that it will not change anything as shown in Figure 5.4.

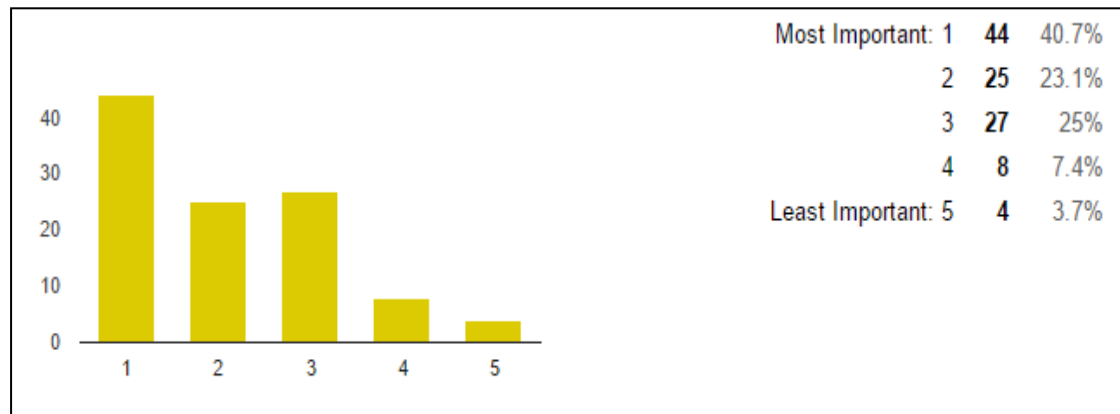


Figure 5:4 shows 65 (64%) respondents' making the importance of Fairtrade intense.

- **Quality products:**

It has been seen when asked about three main criteria for purchasing apparel the second highest priority was given to the aspect of quality by the consumers. Here when asked if the consumers think that eco-friendly apparel are premium quality product the results in below graph doesn't seem to be vigorously in favour of the highest rating. Again the response was expected from 1 to 5 rating scale. Where 1 meant yes consumer think the eco-friendly garments are of highest quality and 5 rate was supporting they are not.

Results in below Figure 5.5 can be found interesting as approx. 39% people think yes they are of high quality. Approx. 30% are close to the intense favour by rating it as 2 but it is the approx. 21% people lying in the rate of 3 is what makes the responses a bit vague because considerable amount of the sample population was also lying in the middle of the rating which means we can't say that the consent of eco-friendly apparel being highly regarded as quality products is not unanimously true there are concerns which left the 20% people in the middle. This dispersion of the data also supports the very first part of consumer preference where people have put the quality aspect as the second most important factor that influence their purchase decision.

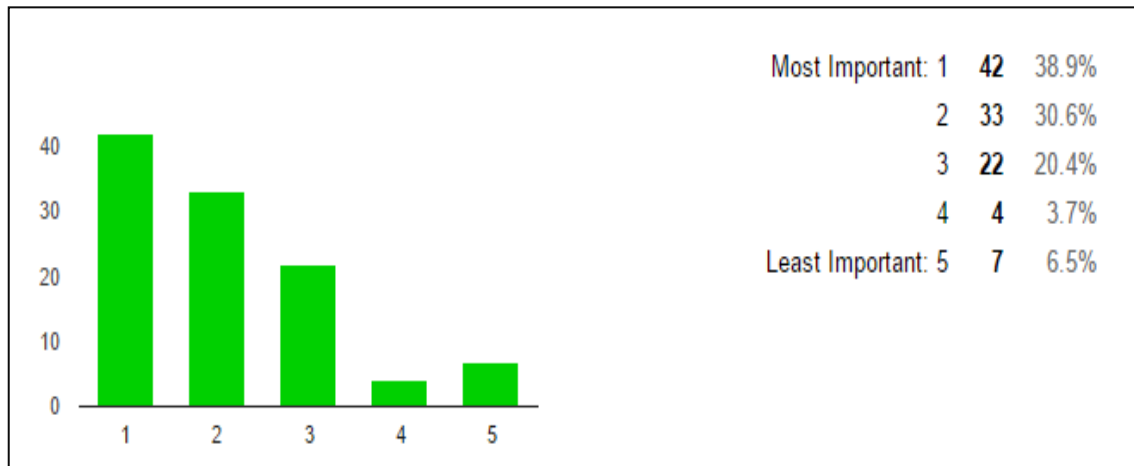


Figure 5:5 Approx. 39% people think they are of high quality. 90% population is lying in the rating scale of high to medium.

- **Better waste management:**

Thirdly consumers were asked if they think that manufacturing eco-friendly textiles and maintaining socially responsible business practices actually help in better waste treatment or better waste management. As conventional textile production produces a lot of hazardous waste which also goes ill-treated and becomes harmful for the environment as we have seen in the Past researches. As according to Alwood, 2006, manmade fibre waste material such as polyester and nylon are not biodegradable hence they increase soil erosion and contamination which is harmful for natural ecological environment.

Again we have used a rating criterion from 1 to 5, where 1 is the most favourable response as opposed to 5 which is least favourable. As shown in Figure 5.6, here again about 70 % of the respondents replied in favour of the notion that producing eco-friendly textile actually in turn help the manufactures to better manage the waste product of the apparel and textile manufacturing which in turn lessens the burden of textile manufacturing and its harmful effects on the environment. Out of the total population only 4% were against it which strongly establishes the fact that environment, waste management which is also the loudest and visible foot prints of industrial world, and now these issues are also the highest concerns for the people when making purchases which they are going to contribute to the betterment of the planet.

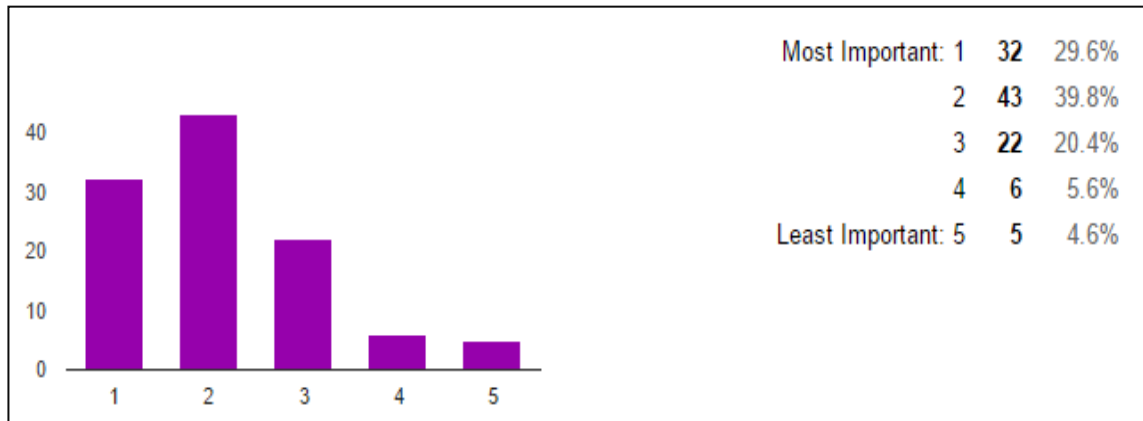


Figure 5:6 70% people think eco-friendly apparel manufacturing does support the better waste management

- **Lesser Pollution:**

According to the graph formulated on the pattern of the scaling method in Figure 5.7, same as the previous ones, when asked if the eco-friendly apparel manufacturing is helping to reduce the pollution that spreads due to conventional textile manufacturing methods. Approx. 40% chose the most important scale and another 33% were at level 2 which again makes up approx. 70% of the population which is in high favour of the notion that eco-friendly apparel manufacturing does helping the modern industry to reduce the impact of textile manufacturing on environment.

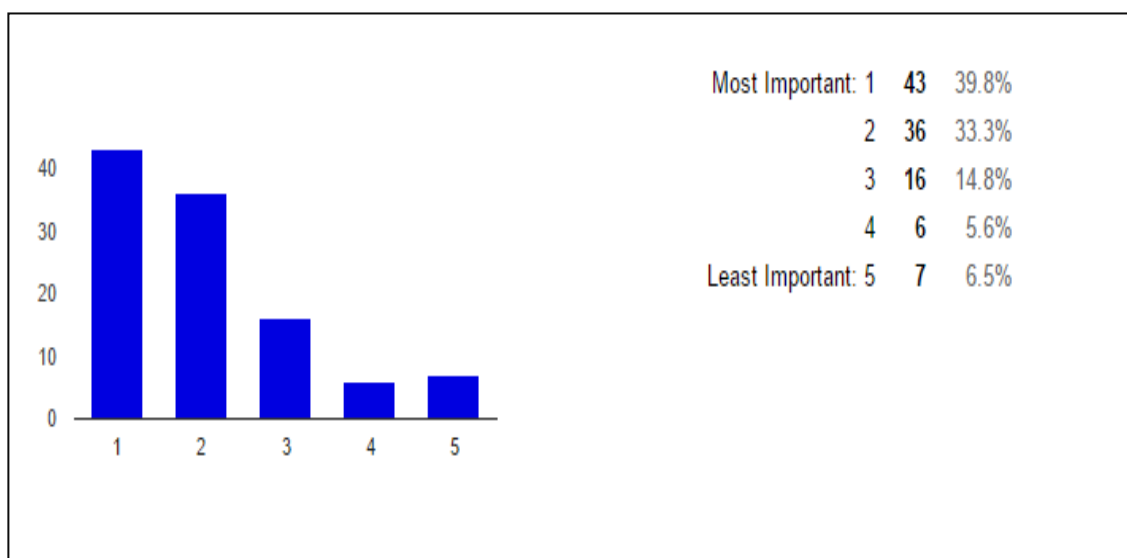


Figure 5:7 70% people think that eco-friendly apparel positively impacting environment by lessening the pollution.

As we have seen while reviewing the literature that according to Chan, 2011; a World Bank report reveals that about 20% of the world industrial pollution is created by the textile manufacturing. Which shows that the contribution of the textile manufacturing in creating pollution is significantly high and therefore it justifies the amount of time that past researchers has spent to trace the impact of conventional textile manufacturing on the environment. And it also explains why 70% of my sample population also regards the positive impact of eco-friendly apparel on the environment as highly favourable in the survey response.

- **Organic & natural material:**

Since we have already studied in the previous chapters the problems that are associated with the use of manmade fibres such as petro chemical based fibres like polyester and nylon, the importance of the hazardous nature of these fibres during the production and also after production and post-sales and usage disposals are sometimes crucially harmful for the environment. For example in the introductory literature of this research paper we learned that petro chemical based fibres like polyester and nylon do not decay till centuries, natural fibre like wool become the cause of methane production if the garments are just thrown to landfills and not properly degraded which erupts the quality of soil (Braddock and O'Mahony, 1998). This also develops the consumer perception that eco-friendly apparel and fashion merchandise do not behave in the same manner especially when they are disposed of as they are biodegradable.

For example while getting acquainted with the terminologies of the environmental friendly apparel and textile we learnt that term organic is used for the products that 100% or at least 70% made up of the natural fibre and in addition to that if the company also ensures to imply water treatment plant in the manufacturing premises in order to also release properly treated waste industrial effluent that is least harmful for the environment. This entitles the manufacturing company to earn GOTS certificate that is the highest qualification of producing and selling organic goods (GOTS, updated. 2012).

With all of this research done in this area, we tried to ask if the consumers also think parallel to the claims of these qualifying authorities and manufacturing companies' of green textiles claims. The results in the following graph seemed to be highly in the favour of the notion that the consumers do agree that eco-friendly apparels are made up of organic or natural raw material. In Figure 5.8 again 70% of the sample population chose to regard the belief with highest level 1 which shows their strong agreement with the claim.

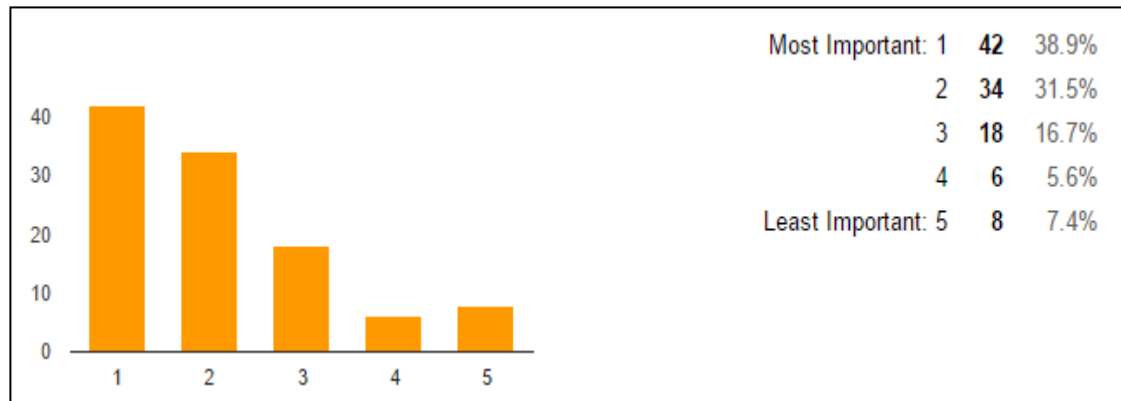


Figure 5:8 69% think that eco-friendly apparels are made of organic & natural fibres

- **Recyclable:**

The participants were also asked if they believe that eco-friendly apparel and fashion materials are recyclable. The results in Figure 5.9 were 60% in high favour of their belief that eco-friendly products are recyclable. 25 % were in the middle of the agreement and 13 % were least agreed with the notion. As we have learned in earlier parts of the research that recyclable clothing can be again degraded to form pulp which can be used to produce filling materials of home textiles and stuff toys, they can also be degraded to make new fabric and garments (Gail Mayers, 2014).

We have also reviewed example of retailers in literature review who are trying to play their roles to make some difference for example big retailers such as Zara, H&M, Levis etc. are trying to incorporate using organic cotton, recycled polyester in their product manufacturing in order to leave green foot prints on the environment. As eco-friendly garments and fashion material can also be regarded as the products which can be reused and recycled hence they contribute with reduced waste management and pose lesser burden on the society (Joergens, 2006; Connell, 2011).

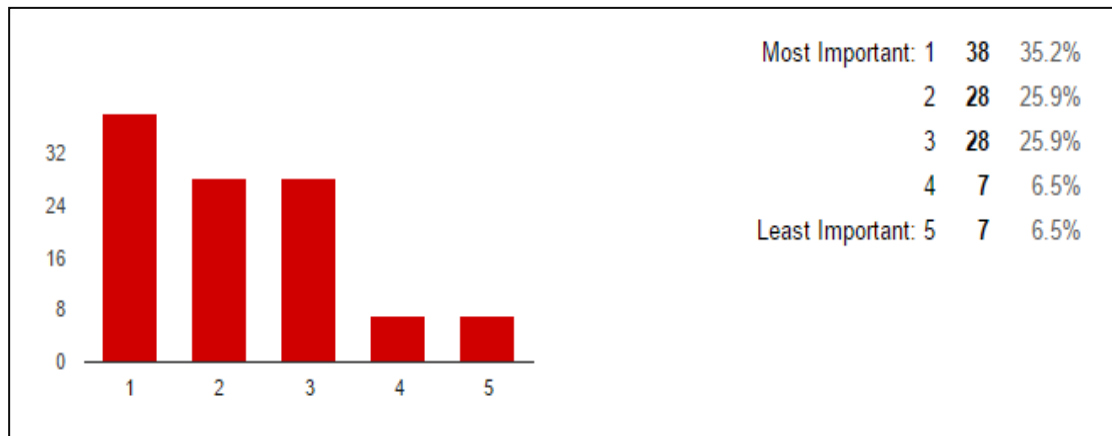


Figure 5:9 Approx. 61% people expects eco-friendly products to be recyclable.

- **Efficient use of energy:**

As we have reviewed in the introductory parts of the research in which Fletcher, 1999 mentioned that according to a study done on the blouse made of polyester fibres showed that it consumed about 80% of the total energy consumption during whole product lifecycle from manufacturing to retail and consumer usage during the washing and drying processes. Both processes are mostly associated with the post purchase treatment of the garments. Another example of the energy used in the whole span of a conventional cotton T-shirt out of the total more than 60% goes to the post purchase laundering and drying by the consumers (Allwood et al., 2006). Therefore the Figures resulted in the survey of the below Figure 5.10 does warrant the consent of 61% participants who highly expect that eco-friendly garments does contribute to energy conservation and negligible number of 5.6% again are least expecting it.

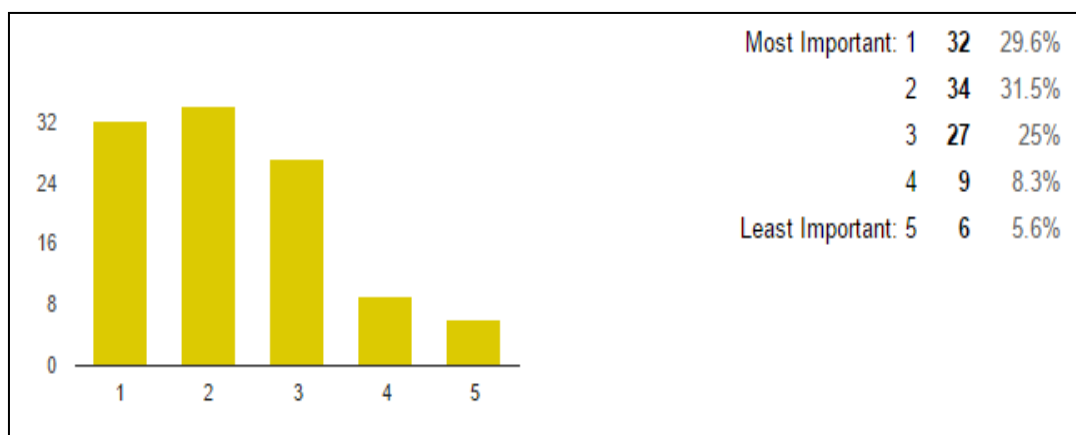


Figure 5:10 61% of the participants expect eco-friendly apparels to be energy efficient



- *Natural resources exploitation:*

Eco-friendly apparel and fashion products are supposed to be handled in a way that ensures least amount of depletion of natural resources to maintain the balance so that the resources can be benefited for a longer time to come. As we have reviewed in the literature that from the mid-19<sup>th</sup> century till date cotton is the most heavily used natural fibre among all others. We also found two greater problems associated with the production and usage of cotton. First cotton cultivation requires huge amount of pesticides to prevent it from insects and other harmful bacteria but those pesticides are very harmful for the contamination of the soil (Ferrigno, 2012).

Secondly the cotton fibre need tremendously large volumes of water to cultivate and also through the manufacturing of the cotton fibre based fabrics or garments it consume huge volumes of water which also a burden on the natural resource of the planet. It is estimated that conventional 250 grams cotton t-shirt seemingly a very small apparel consumes about 3000 liters of water and needs 0.15 kgs of pesticides (Ridoutt & Pfister, 2010; Organic Trade Association (OTA), 2011). To produce 1000 kgs of cotton, the producers consume about 7 to 9 million liters of water (IHE Delft, 2003; Mekonnen & Hoekstra, 2010).

In addition to that of the fibre we have also reviewed the wet processing and volumes of water consumption associated with it. Wet processing or dyeing, printing, washing and finishing of the textile fabrics that are to be used for manufacturing of the garments is most vulnerable process of all in apparel manufacturing. Here fabrics are washed, dyed or printed and then finished using different chemicals. The problem with this process is at first it consumes a lot of water which pushes burden on the water resources of the society and secondly after the processes are done. They release huge amount of hazardous waste water (containing harmful dyeing, finishing and other chemicals used during the wet processing of apparels) making the rest of the natural resources useless and polluted. Along with that, this whole manufacturing puts pressure on the natural resources like fossil fuel and produces a lot of solid waste (DEPA, 2003; Allwood et al., 2006; Fletcher, 2010).

When asked from the survey participants what do they expect regarding eco-friendly textiles or apparels, If they think that eco-friendly apparels tend to reduce the consumption of natural resources unlike the conventional garments and apparel does. The replies in Figure 5.11 were predictable as almost 65% people had a high expectation from the eco-friendly garments regarding their nature of causing less damage to the environment.

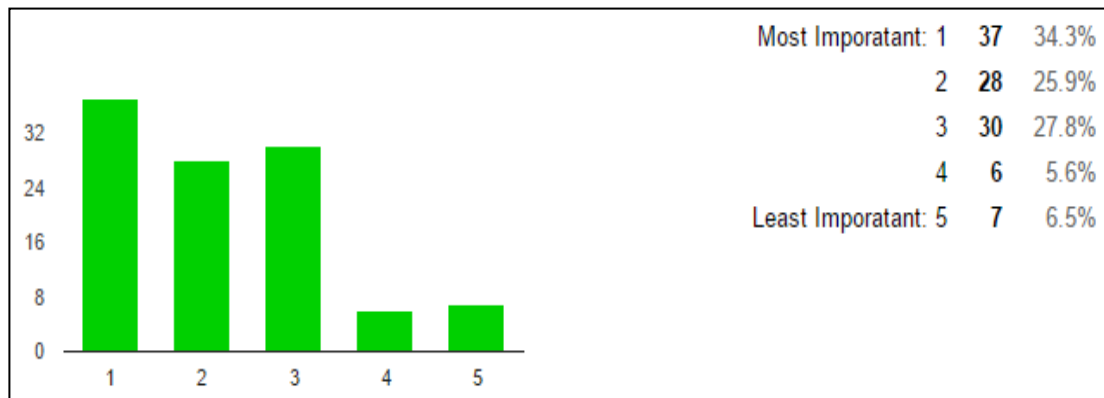


Figure 5:11 Majority of the population have high expectations from eco-friendly apparel.

- **Prices & Affordability:**

When asked about how much the participants think that eco-friendly apparel should be more affordable, the results were not surprising, approx. 64.8% of the sample population was expecting the eco-friendly garments and apparel should be more price competitive. As we have seen in the introductory literature review of this thesis that usually high street low price fashion ware like H&M is also selling both conventional and eco-friendly apparel and fashion merchandise. But there conventional apparel business and product line are inarguably much larger that the environment friendly apparel.

In addition to that we have also observed the prices of women dresses on online store of H&M. where it was found that two aesthetically very similar kind of long dresses for females one under the product line of conventional apparel and the other was under the umbrella of eco-friendly apparel were very different in terms of price tags. the one with eco-friendly tag was 5 to 10 times more expensive as compare to the other conventional garment (www-Doc, H&M, 2015). therefore it can be understood that the conventional apparel customer of H&M wants to switch to the environmental friendly clothing of the retailer might not be able to do that, because of the huge difference in the prices of the garments which might also act as a barrier to the purchase. if look at the Figure 5.12 than 48% regarded them as most important, 22% were at level 2 and another 22% at level three which accumulates about 92% of the population perceiving that eco-friendly apparel should me more affordable.

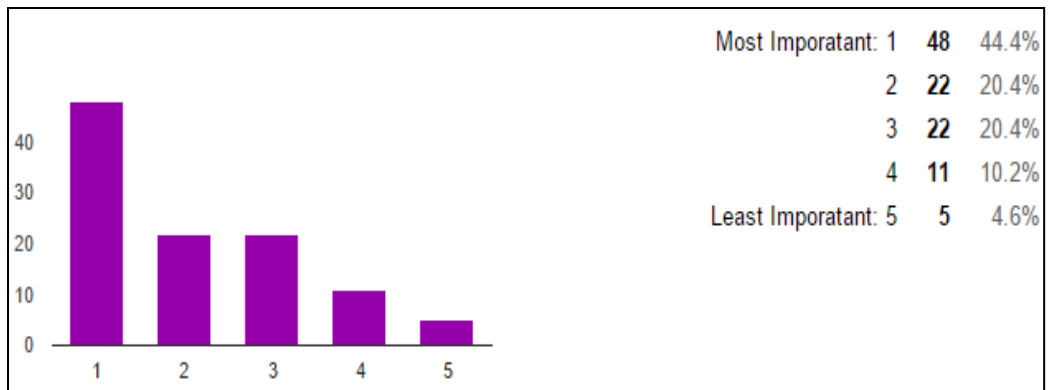


Figure 5:12 92% opinions lie from 1 to 3 level which shows the strong desire for affordability.

- **Fair payment for All:**

Another concern that turned out to be very important for the participants of the survey is fair trade. In Figure 5.13 almost 67% of the population deemed it very important for them that all parties involved in the manufacturing of the eco-friendly or fair trade based fashion and apparel should reap equal benefits from the trade. As we have seen in literature that according to Okada, 2005, purchasing an eco-friendly apparel or involving in to fair trade gives a sense of indulgence to the consumer and he or she feels like becoming a part of for example eliminating the sweat shop production and standing for the human rights. According to Okada the involvement of consumer in purchasing environmental friendly goods gives them sense of indulgence which as a result increases their consumption of such goods (Okada, 2005).

Fairtrade working practices are not only associated with the labours getting minimum state declared legal wage rate. It also means the use of fibres, chemicals and other harmful substances is also evaded during manufacturing of the garment. And becoming a part of such a good movement by purchasing Fairtrade clothes gives self-satisfaction to the consumer, as we can see through the expectations graph in below Figure.

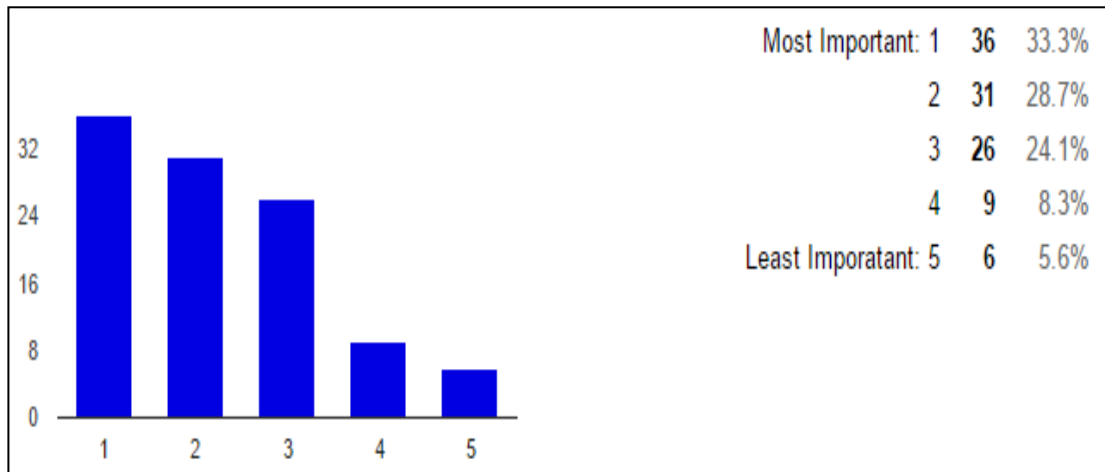


Figure 5:13 90% people expecting the eco-friendly apparel purchase as part of a good cause.

### 5.1.5 Quality vs. Wellbeing:

Participants were also repeated asked about a different attribute which can influence their buying decision and as seen in Figure 5.14 almost 85% people agreed that yes quality remains most important factor, as it was seen from the replies received against the question of buying criteria where quality was the second highest preference of the people.



Figure 5:14 Quality remains the most important factor to make purchase decision.

After reviewing the factors which influence the choices that consumer make now let's move on to analyse the data related to the factors that are or that can potentially act as the barriers for the consume to make eco-friendly choices.

## 5.2 Research Question # 2

### Do consumers think of any barriers impacting the use of Eco-friendly apparel alternatives?

- How easily eco-friendly products are available in the market?
- What is the true motive of eco-friendly apparel manufacturers (CSR or profitability)?
- What are the barriers affecting the popularity of Eco-friendly textiles?

#### 5.2.1 Availability:

As we have seen in the literature review that most of the people who couldn't buy eco-friendly apparel blame the lack of availability of the eco-friendly apparels. People have claimed that they couldn't buy eco-friendly because they couldn't find them in the places which they mostly visit for their shopping. Those people mostly collect the information regarding eco-friendly apparel from the hang tag information or from the company websites (Bart King, 2012).

As we can also observe in Figure 5.15 the same in our survey questionnaire responses that approx. 60% of the population claimed that it is difficult for them to buy eco-friendly apparel because they can't figure out which shops are selling them. Another 24% claimed that they never saw them in the local stores where they mostly shop. Only 15% were of the view that they know where to shop these goods and the very low 3% of the population claimed that they are as easily available as others.

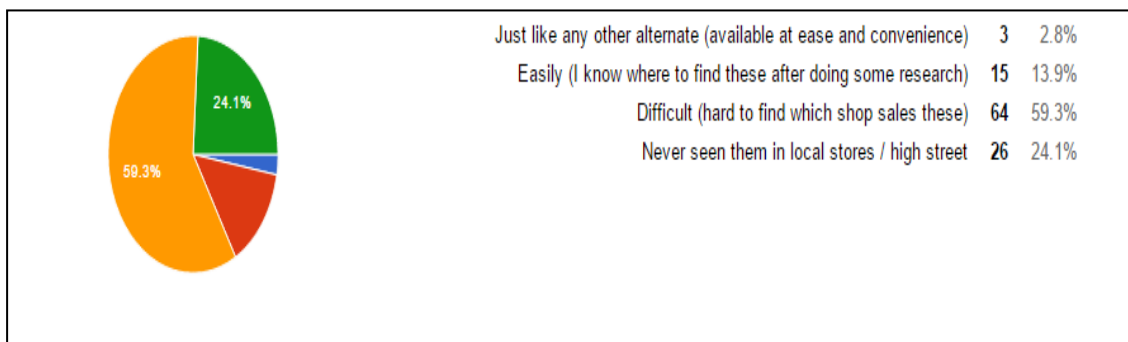


Figure 5:15 Majority of the population cannot find the eco-friendly apparel easily

#### 5.2.2 True motive (Corporate Social Responsibility / Profitability)

Another barrier that might cause alarming bells for the consumers is their believe that selling eco-friendly textile can just be marketing technique to sell more highly priced products in order to gain more profits and the true motive behind the notion of selling eco-friendly is not purely social responsibility. For example in the wake of fast fashion and making fast turn outs companies often run after the suppliers of China, Vietnam and

Bangladesh, countries which are considered as the cheapest producers of the garment. but cheaper sourcing does not come without any price as we have also mentioned in the early parts of this research the sad events like garment factory collapse in Bangladesh. That kind of events have jolted big retailers and Gap, H&M and Walmart like big retailers are compelled to design strategies and take initiative to improve the conditions (Jessica Marati, 2013).

Despite of all that there is one retailer that is still getting criticised in the news journals but is not keen to change the course of its operation is fast retailing which is considered among the largest retailers of the world is not participating in any initiative regarding the environment friendly or social responsible manufacturing and business models. The company is not yet the member of FLA and doesn't even participate in SAC (sustainable apparel coalition) (Jessica Marati, 2013).

If we look at the survey responses that the results are quite agreeable to the notion we have just discussed above. In below Figure 5.16, about 39% of the population has agreed with the notion with regard to the statement level 1 and 2 agreement. 40% are in the middle and only around 12% have disagreed with level 4 and 5 with only 2% remaining at the highest level of disagreement which shows that consumer do have a perception in mind that eco-friendly apparel and textile is just another out let of making profit for the big companies.

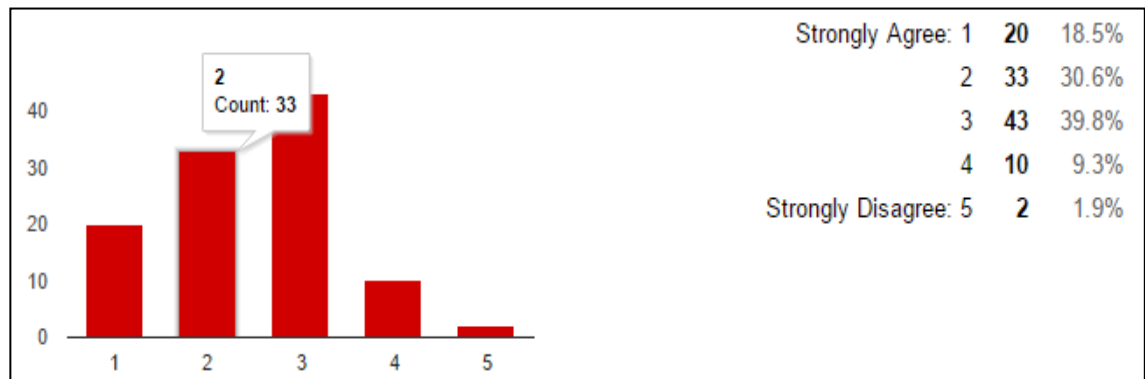


Figure 5:16 Approx. 39% agree that green marketing is another profit making technique.

### 5.2.3 Major Barrier:

There are certain factors which are acting as barriers for the consumers to buy eco-friendly apparels. As we have seen in the literature review one of the most significant barrier might be the high cost or price of the eco-friendly apparels and fashion goods.

Consumer sometimes do pay the high price to purchase the eco-friendly apparel as it may give them a self-satisfaction by thinking that their money is also spent for some greater good. But the high prices of eco-friendly apparel might also act as a barrier in some cases (Danziger, 2006).

In another research we have seen that sometimes aesthetic value associated with the fashion and textile goods also act as barrier to purchase them. Fashion apparel is bought keeping the design and appearance as the first thing amount the minds of the consumer. According to Shaw 2010 he also mentioned in his research sometimes less attractive appeal of ethical apparels also acts as a barrier for the consumers to make choices to buy them. As sellers the retailers must not forget to make fashionable apparels which are the most important emotional desire for the consumers to buy the apparel (Shepherd, 2010).

Similarly in the below Figure 5.17 consumers were given a few choices and were asked to advise in their opinion what are the major barriers or hurdles that may stop them from buying eco-friendly apparel. For which approx. 64% rated higher prices of the eco-friendly apparel as the most common barrier that impedes them from buying eco-friendly apparel. second choice was a tie between 2 choices, for approx. 53% people availability of the environmental friendly apparel which they thought was limited and in addition to that the true benefits with the purchase of eco-friendly apparel most of the consumers were also had second thoughts or were lacking with the details benefits that can be reaped out by purchasing eco-friendly apparel.

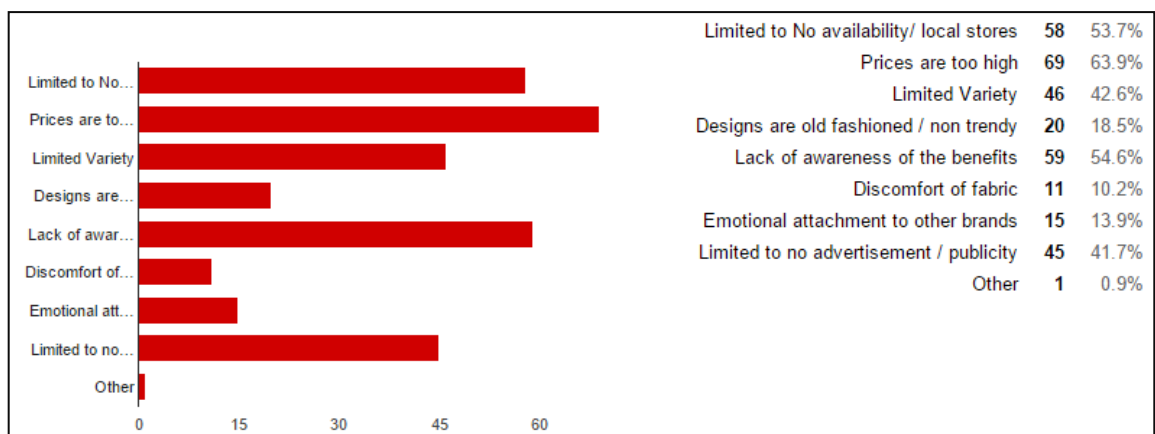


Figure 5:17 Approx. 43% people complained about limited variety.

### 5.3 Research Question # 3

**What is the consumers' perception of Eco-friendly apparel & merchandise?**

- Are eco-friendly apparel new generation status symbol?

- What is your perception about eco friendly apparel consumer?
- Do you think retailers or manufacturers are insisting eco-friendly change?
- How companies should put across message of eco-friendly apparel for awareness?
- Is buying eco-friendly food same as buying eco-friendly clothing?
- Do you think eco-friendly apparel to be more attractive for young people only?
- Is eco-friendly clothing healthier than conventional?
- Can celebrities & role models influence eco-friendly apparel purchase?

### 5.3.1 Eco-Friendly Apparel - New Status Symbol:

When asked about the consumers perception about eco-friendly apparel and fashion merchandise being considered as a new generation status symbol as seen in Figure 5.18 approx. 14% of the population strongly agreed another 34% were also close to perceiving the eco-friendly apparel as status symbol adopted by the young generation to classify and associate with them with a certain class. However approx. 16% did not agree with the notion and about 36% lied in the middle which neither strongly agree nor disagree which let the people who strongly agree remain under 50%.

As we have also seen in the literature review that garments and apparels and their aesthetic values are considered as the representative of the persons inner believes. By purchasing branded goods and choosing high fashion and stylist products the consumers also satisfy their desire to acquire a distinct place in the society. Scarpi, 2006 also mentioned that big brands which have larger consumer base can easily utilize their brand power to create strong trendy fashion apparel that can push the consumer to buy the apparel due to consumer loyalty or likeness of being associated with that particular brand.

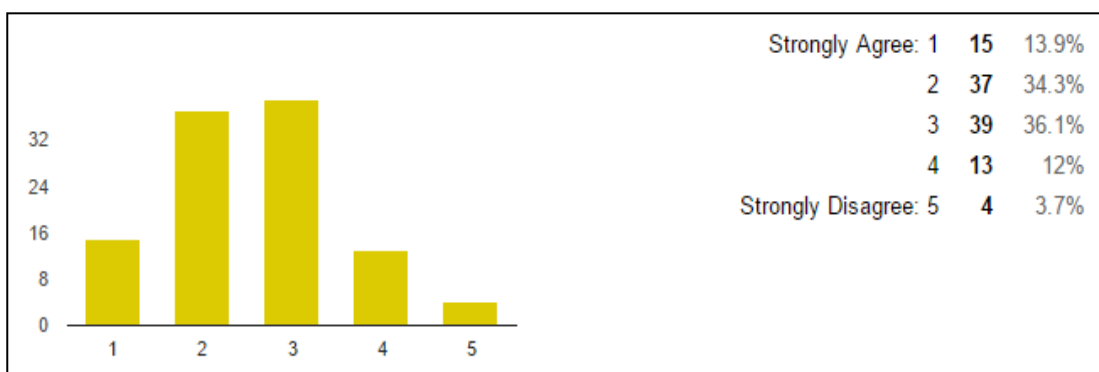


Figure 5:18 Approx. 48% Population agree that eco-friendly apparels are status symbol.

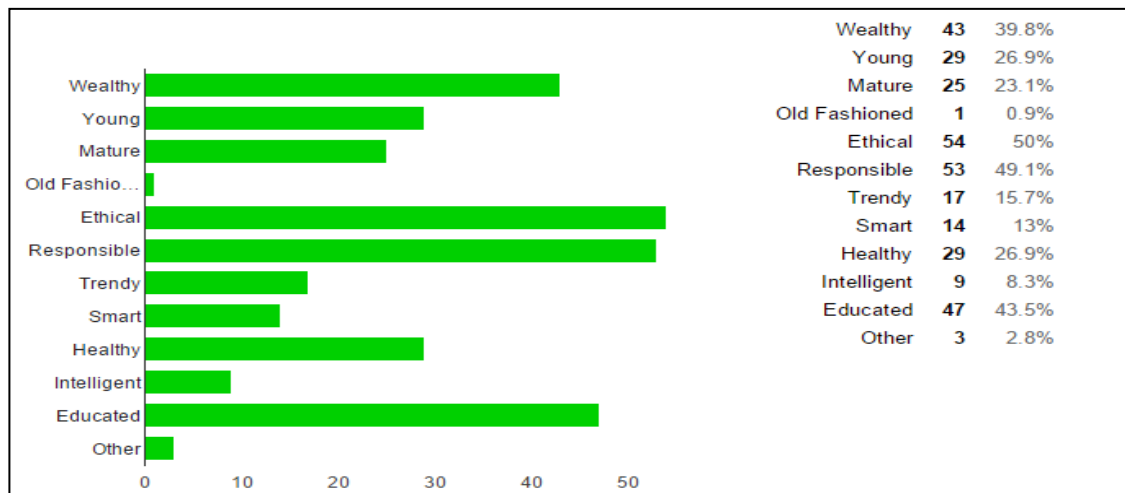
### 5.3.2 Perception of Eco friendly apparel:

Clothing, apparel and fashion is all about the values and culture of the society and how the people of any given society would like to express themselves. When it comes to the



apparel industry a lot of consumer decisions and buying is dependent on the comparisons that people make between them and their social circle. Or mostly people are also looking up and following the upper classes of their society in order to associate themselves with a specific class.

Due to this nature of comparisons and following we asked the participants about what do they perceive about the people who are actually the consumers of eco-friendly apparels and fashion or whom they know of buying the products very frequently. And the responses were very interesting which has shaped the following graph.



*Figure 5:19 Majority consider eco-friendly consumers as Ethical, responsible & educated.*

We asked the consumers to select any three choices out of given 12 choices that comes to their mind about the people who they know are regular environmental friendly apparel consumers. Majority of the sample population made following choices which are aligned in order from greatest votes to the minimums. As shown in Figure 5.19:

**Ethical, Responsible and Educated** 50% / 49% / 43.5% (respectively) of people considered those consumers as ethical & responsible respectively). This outcome support the fact we have seen in past research, how emergence consumers awareness about the consequences of the conventional textile production has pushed the organizations to make corporate social responsibility an integral part of their business policies. As we have seen in literature review a huge proportion of modern consumers are the drivers of society, fast fashion & apparel consumerism. These are youth that belong to the generation Y or are also called millennials by some researchers. Those are the people born in 80's and 90's were very active socially on a global level. These people grow up in the maturity level of ecological awareness of the planet. It is when authorities are celebrating events like earth day for environmental cause & television or media are using media tools to create cartoons like captain planet which emphasize the importance of preserving & preventing planet earth's natural resources this generation takes their heritage

trending & social influence very serious that affects their buying behaviours (Anupama, 2010). These consumers are rightly considered as ethically responsible in the survey.

Around 26% of the responses also dwindle around mature, young and healthy which also confirms to the previous researchers' claims about the young generation specially millennials as the most eco-friendly conscious consumer.

**Wealthy (40% approx.)** another interesting fact which attracted about 40% responses was that eco-friendly apparel consumers are seen as the wealthy class of the society. We have discussed this in while reviewing aspiration for exclusivity in our literature review. Where according to Law, Zhang, Leung, 2004; described that one way of understanding the fashion consumerism in the society is a general norm in which high fashion is first adopted by the elites of the society and once it is knocked out and switched over by them it travels down to the masses who are always in pursuit of following or imitating elites mostly. This top down motion can also work for eco-friendly consumerism as the products are also considered pricey in general due to which most people considered it as a thing for the wealthier people.

### **5.3.3 Role of retailers & manufacturers:**

Consumers responded very interestingly to this question about 59% said yes companies are doing something. Because they think that there is a need and pressure for it and they also suggested that much more should be done to spread the awareness also. On the other hand a considerable amount of 36% people also said no. they think not enough has been done to spread awareness of the eco-friendly apparel. One respondent went too far to say that he/she never ever seen a single ad or campaign related to the promotion of eco friendly apparel.

Few respondents think that there needs to be a change in people's mentality first, not a change in the range of options available. Their point was that consumers should be convinced to realize the need of Eco-friendly products in their daily life. Awareness and affordability of the product can certainly increase the demand. The high consumer demand will pressurize the manufacturers and create a competitive market situation for Eco-friendly products.

Which ponders us to say that there might be some gaps in the way marketing companies and eco-friendly retailers are communicating about their fair trade business for example as we have seen in the literature review that in London Olympics whole team of Netherland players were wearing Nike sports T-Shirts that were made up of 100% recycled bottles material. Olympics however is a very famous event and which has a following of millions of people around the world but still it seemed the promotion doesn't hit

the expected numbers. in addition to that we have also seen campaigns run by big global retailers like H&M which is running a whole parallel organisation solely for the purpose of handling companies socially responsible business activities for example H&M campaign of strengthening women worldwide or clean water initiative etc. another renown British retailer also ran a very successful campaign “look behind the label” which was based on the marketing of eco-friendly products. This shows that companies are working for the promotion of the eco-friendly merchandise but the concept has still not taken place as a main stream agenda.

### 5.3.4 Promotion Strategies:

As shown in Figure 5.20, when asked about their perception how the companies should put across their message, the majority of 82% people suggested the companies should do advertisement and publicity which means that are still far too much gap in between whatever media campaigns companies are running because 80% of the population is a big number among the sample respondents who must think not enough is going on regarding eco-friendly apparel promotion on the media.

Another 70% chose compatible and affordable price that companies can use as a tool to attract larger pool of consumers to buy the eco-friendly products. However pricing is not a marketing or advertisement tool specifically but it was deliberately put among other options and as expected majority did pick it up. This strongly suggests that there is a serious barrier of affordability which is holding down the potential consumers to buy the eco-friendly apparel as if they even know the benefits associated with the purchase of Fairtrade goods they can't do much because it is out of their affordability.

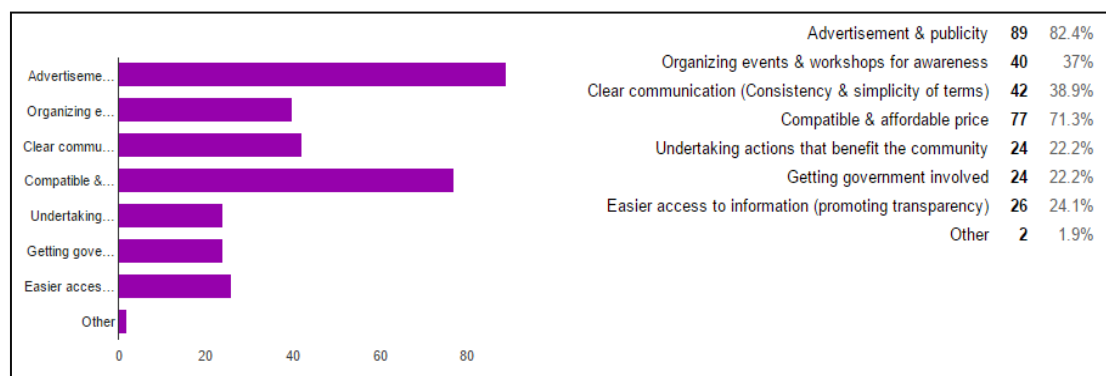


Figure 5:20 82% respondents favoured advertisement & publicity while 39% said communication should be clear.

The third interesting response that came up as a result of this question was the 39% participants who suggested that the communication should be more clear and consistent with simplicity so that it is understood by the consumers. this response suggest that whatever ongoing campaigns already exist in the market are yet running short as the message is not quite easily understandable but the targeted audience that prevents them

from going to shop the eco-friendly goods. Adjacent to the same was the number of participants which are approx. 37% who chose that companies should arrange social events and workshops to spread awareness of their eco-friendly product line.

This is because it will give consumers a chance to physical interact with the companies and their products may be they can see and feel the available samples in these kind of events and workshops which might answer a lot of concerns of consumers about the design, feel, appearance and affordability of the garments which can potentially prevent them from shopping eco-friendly apparels.

### 5.3.5 Food vs. Cloths:

It is seen that food and eatables are something that is directly associated to the health and wellbeing of a person therefore we tried to ask this question to analyse what people think and is there a relationship between people who are buying eco-friendly food might also buy eco-friendly apparel. Or they might do the opposite as they already spend considerable part of their income on buying eco-friendly apparel or are people even aware of the fact between any similarity and difference between the two actions.

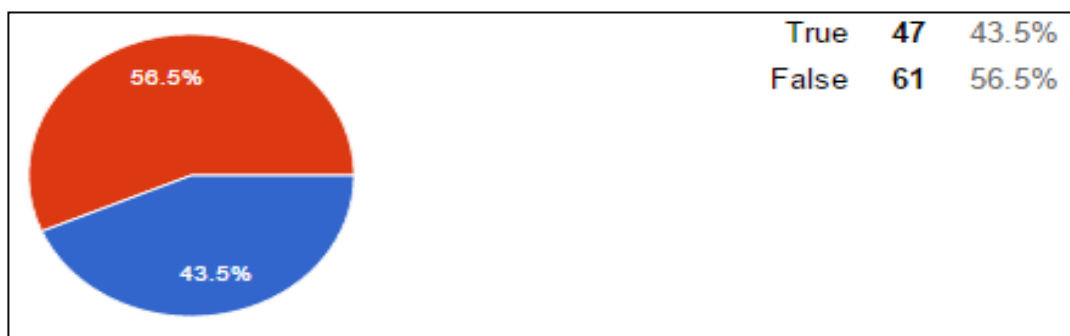


Figure 5:21 Majority of the people think eco-friendly clothing or food purchase as not same.

The responses are quite confusing as the difference between this notion being considered as true or false is not that big. as shown in Figure 5.21, 56.5% people think no it is not same to buy eco-friendly food and clothes while the other 43.5% people do consider it same. With 43.5% true reply one explanation could be the post retail beneficiaries of both product lines. Here we can say that consumers are thinking about the big picture and as they know that money spent on the fair trade products no matter food or cloth is eventually going to bring some improvement in the lives of the people who are manufacturing these products who mostly belong to the developing or under developed countries because of the cheap labour. From this perspective it seems to be a good response as it shows that consumer still has some degree of trust in the company's claim of doing fair trade or environmental friendly products businesses. On the other hand if we attempt to infer the 56.5% people response who consider it is not as same, it is quite diffi-

cult as to what basis this considerable number of people have differentiated between the two. Can it be reason due to health concern as eco-friendly and green food products are also good for the health of the consumer and since personal health should be the primary concern for every one therefore it is more important may be to buy eco-friendly food products as compare to buying the apparel?

Another reason is more critical and might be associated to the consumer experience may be consumers who have tried both eco-friendly products found some satisfactory or unsatisfactory gains from both products. For example a person who has bought the eco-friendly organically grown wheat flour may found the claim to be true but he might have a questionable experience with organic cotton made t shirt or something similar.

In any case it is also realised that it would be much better if this question would have been asked more specifically instead of leaving it as an open ended query. Because just true or false response from the participants is not very easy tool to analyse and conclude a concrete plausible answer to the question. There can be many possibilities coming out from these responses but it not possible to keep discussing vague analogies.

### 5.3.6 Eco-Friendly apparel – Youthful:

As in our previous research we have seen while discussing gender role in the influencing factors researchers, Blocker & Eckberg, 1997 claimed that women are more careful than man. Due to increased population they also think themselves as part of the larger global commune, which make them more cautious about the decisions they make. Even among women the researchers women at young age are much more environment cautious as compared to their counterparts. Due to more socializing and peer pressure and their desire to be associated with the society they are more concerned for environmental laws, humans and animals rights (Blocker & Eckberg, 1997).

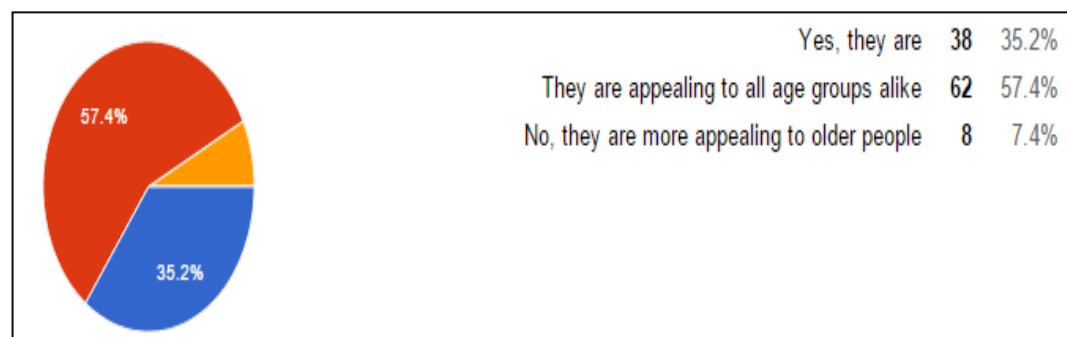


Figure 5:22 57% think eco-friendly is appealing to all ages

Upon asking the age related question majority of the population in Figure 5.22, 57.4% advised that choosing to go for environmental friendly products is not age related and is appealing to all ages. however a considerable number of 35.2% people think that it does attract the young generation more than the older ones. About 80% of the respondents were among the age group of 18 to 35 years and the 35% response also goes with the claims we reviewed in the literature by the previous researchers.

### 5.3.7 Impact on health

In order to know the consumer perception about eco-friendly apparel and its relationship to the health benefits, participants were asked if they think that eco-friendly apparel are healthier to wear as compared to the conventional fabrics. in response to the question consumer were given following choices:

1. Yes they are.
2. May be for those who have allergy or skin disease.
3. Don't know.
4. not at all (they are all same)

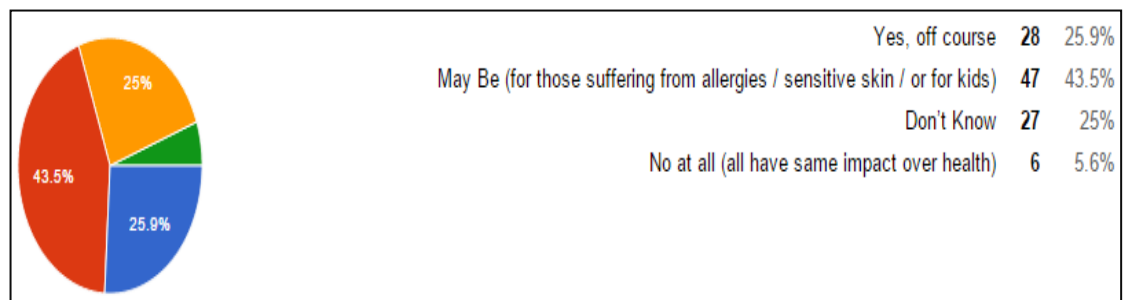


Figure 5:23 26% people think they are healthier

As it can be seen in the Figure 5.23, about 26% people think they are healthier, but majority of the people that is 43.5% are of the view that such clothing is only beneficial for those suffering from some kind of allergy or skin disease. Considerably 25% are not aware if it is better or not as they have limited knowledge of eco-friendly textiles and clothing & rare 5.6% think them all the same. As we have seen in the previous research that production of cotton undergoes treatment with various pesticides & other toxic chemicals that can also be dangerous to human health but there is still considerable amount of people who are unaware of these facts (DEPA, 2003), (Allwood et al., 2006).

Although majority of participants in my survey were related to education institutions & academics but despite being associated closely with the sources of knowledge they are

not fully aware of the facts. As it is also mentioned in the literature review that polyester fabrics are dyed using a method called dispersed dyeing due to its poor absorbency.

One of the consequences of disperse dyeing is allergy and dermatitis (Chan & Burns, 2006; Laursen et al., 2007). Another harmful dye used in the apparel and textile dyeing process are Azo dyes, European union has also banned the import of Azo dyes coloured substances but despite that sometimes it is still found to be used (Laursen et al., 2007).



*Figure 5:24 Sporting clothes that players sweat in can be harmful for health (Westervelt, 2015)*

In Europe especially authorities are getting more and more concerned regarding the use of harmful chemicals in the processing of the apparel and textiles. This is case especially with usage of sorts wear. It is found that sports apparel is subject to more friction, abrasion and undergoes sweating which multiplies the chances of toxic chemicals getting absorbed by the skin and cause development of birth issues or even cancer in worst cases in the long run, Figure 5.24 shows an example of a player wearing and wiping of sweat the sports T-Shirt (Amy Westervelt, 2015).

### **5.3.8 Influence of celebrities and role models:**

As we all know that celebrity and media people are always one of the biggest sources of life style influence on the consumers. Renowned celebrities having huge fan following act like an engine to pull the whole train behind them because people want to follow them. Look like them and associated with them. Due to which it is important for them to acquire the lifestyle or at least imitate the life style of their favourite celebrities or brand which are the role models for the consumers.

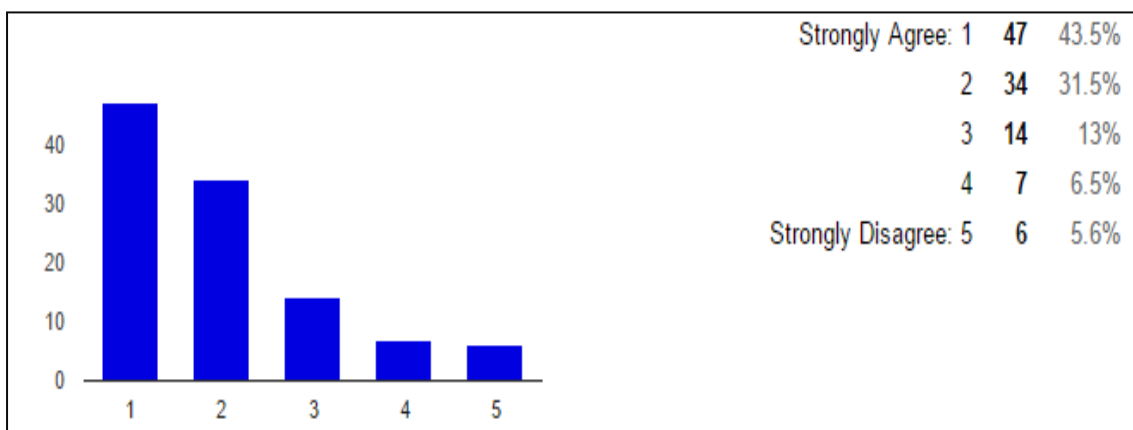
As we have seen in the previous literature how Alicia Silverstone is educating her fans and guiding her about the eco-friendly way of life through her online blog and website

following. in another case we had also observed how world's most expensive super model Gisele Bundchen spends the considerable time of her life for green cause and has been also nominated for as greenest celebrity in 2011 (Huff Post, 2012).

Big retailers also utilize the opportunity of influence that media and big events have on the people. For example in 2012 Nike came up with one of the best eco-friendly football T-Shirt for the national team of Netherland which was made up of 100% recycled bottles (Alice Chan, 2012).

Haanpaa, 2007 also mentions that celebrity and forerunners are the people who first adopt different and new more echo friendly life style to represent their values, which is then followed by the masses and act as a catalyst for adopting the change. When we asked the same question to the consumers if they agree that celebrity and role models have any influence on the purchase decisions to buy echo friendly apparel, as seen in Figure 5.25, approx. 43.5% agreed to the highest level and 31.5% were second to them which comprises about 75% of the total population which agree that yes celebrity and role models do influence or can influence their purchase decisions. 13% were in the middle and only 12% were not agreeing to the notion.

This positive result shows that fan following of role models and celebrity as well as famous sports person are still one of the most powerful promotional and awareness tool that can be utilized as a strong stimulator of demand for the echo friendly apparel in market by the fashion and apparel giants that are operating in the business of echo friendly apparel and fashion.



*Figure 5:25 75% people agree with the impact role models & celebrities can have on the eco friendly apparel buying decision.*



## 5.4 Research Question #4

### How much consumers know about the eco-friendly apparel?

- Do consumers read hang tag / label info & understand what eco-friendly means?
- What the eco-friendly textile is?
- Do they understand Eco – friendly textiles related terminologies?
- How often do they consider the impact (on environment) of their buying decision?

#### 5.4.1 Hang tag / Label info & consumers' understanding:

For many consumers hang tag information or details mentioned on the label are very crucial and they also consider them while buying the apparel but for few these might get ignored as well. As we have already seen in the literature review that a big UK based retailer Marks & Spencer ran a campaign called “look behind the label” in order to persuade the consumers to look at the available information so they might make informed decision.

We have also seen while discussing the availability of eco-friendly apparel that many consumers could not buy the environmental friendly apparel because they don't know where to buy them or it was not available in the places where they usually shop. According to Bart King, 2012 many of the consumers who do find eco-friendly apparel did it by reading the hang tag information during exploring the apparels in the store.



Figure 5:26 only 17.6% read the labels always.

But when we asked the same question to the participants of the survey the results were quite worrisome as seen in Figure 5.26 approx. 46.3% of the sample population told they never look into labels while buying the products, second highest were the number of people who look the labels occasionally about 36.1%. And only approx. 18% were the people who always look in to the labels while buying the apparel. Majority of the people say they never look in to the label

### 5.4.2 Knowing Eco- Friendly Apparel

Keeping in view we added the question to know if the consumer actually know what eco-friendly apparels are and it can be observed in Figure 5.27 that 76% agreed that they exactly know what they are which goes in line with the literature, where we learned the awareness level of post-industrial consumers and stake holders especially the millennials. Majority of the sample population claimed they know what exactly eco-friendly apparels are.

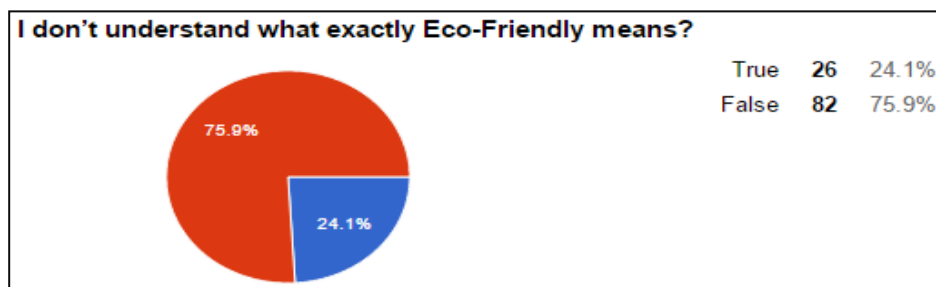


Figure 5:27 Majority of the population is aware of the eco-friendly apparel.

### 5.4.3 Eco-friendly Apparel Terminologies

In order to further analyse the level of understanding and awareness of the sample population we gave them some choices of the environmental friendly terminologies that are revolving around and asked them which one of those they think are related to the eco-friendly apparel and textile. or what label or apparel information would encourage them to buy eco-friendly apparel. The results can be seen in below graphical illustration.

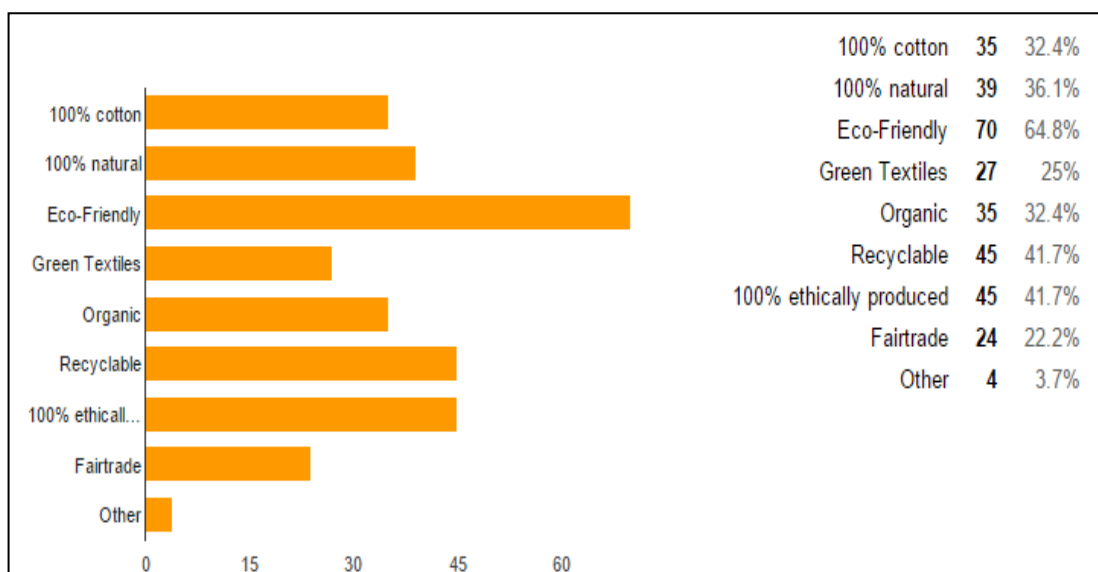
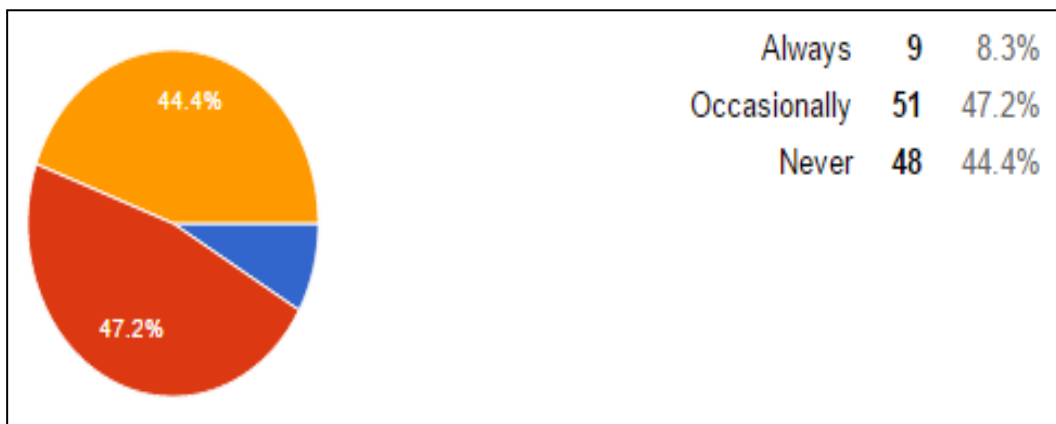


Figure 5:28 Eco-friendly is the most important label term for consumers

In above Figure 5.28 we have seen that majority 65% of the population has chosen the exact word eco-friendly that can stimulate them to buy the apparel. Second to that 42% were recycle able or 100% ethically produced and the third 36% was 100% natural, all non-industrial terminologies landed with the highest number of chosen options. And terms like 100% cotton, organic or Fairtrade gained less votes which confirm that organizations interested in manufacturing and selling eco-friendly apparel must start using basic or easily understandable terminologies.

#### 5.4.4 Impact of buying decisions:



*Figure 5:29 Majority consumers occasionally or never think about the impact of buying decision over environment.*

When asked do the consumers consider about the impact of their buying decision on the environment or the people associated with the manufacturing of the apparel. The results in the below Figure 5.29 are quiet unpleasant as only 8.3% people confirmed that they always consider it. For 47.2% majority thinking about the impact of their purchase happens occasionally and very closely 44.4% people admitted that they never consider about the impact of their buying decision.

However it is very important for the consumers to think about the impact their purchase decision is going to make and it is also the duty of the retailers and manufacturing concerns to let their loyal consumers know about the contribution of their spending is good for the environmental cause. According to Ransom, 2001; a study shows that about 25% of the world's total pesticides are used for cotton production poisoning the environment and putting the lives of millions in danger.

Just to inquire about if the consumer knows the difference of impact between eco-friendly textile and conventional textile. We asked the consumers in their opinion which of the following statement do they think is more relevant to the eco-friendly textiles.

- a) Not at all harmful to environment.
- b) Less harmful to the environment as compare to other alternates.
- c) As harmful as other alternates, makes no difference.

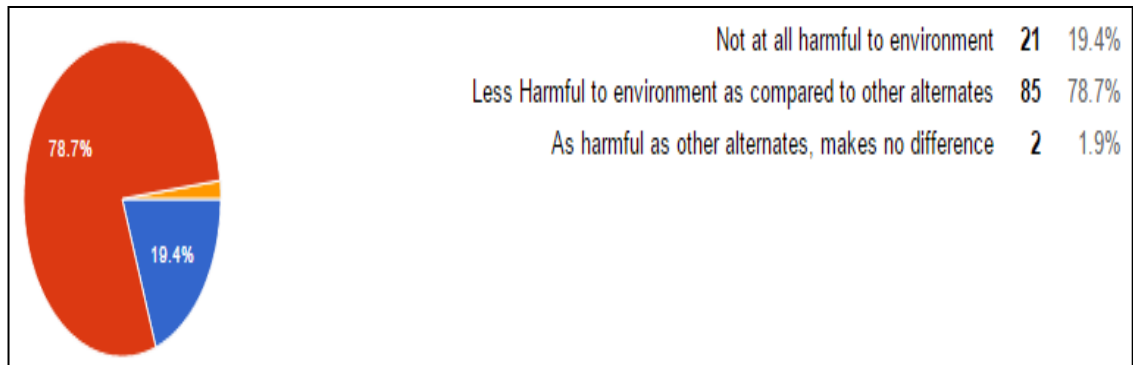


Figure 5:30 79% people think eco-friendly is better than the conventional apparel

Majority of the participants as shown in Figure 5.30 approx. 79% chose option (b) which says they are less harmful to the environment as compare to the conventional. About 19% thought they are not at all harmful and went for option (a). Only 1 % was of the view they both are the same in terms of environmental impact.

## 5.5 Research Question # 5

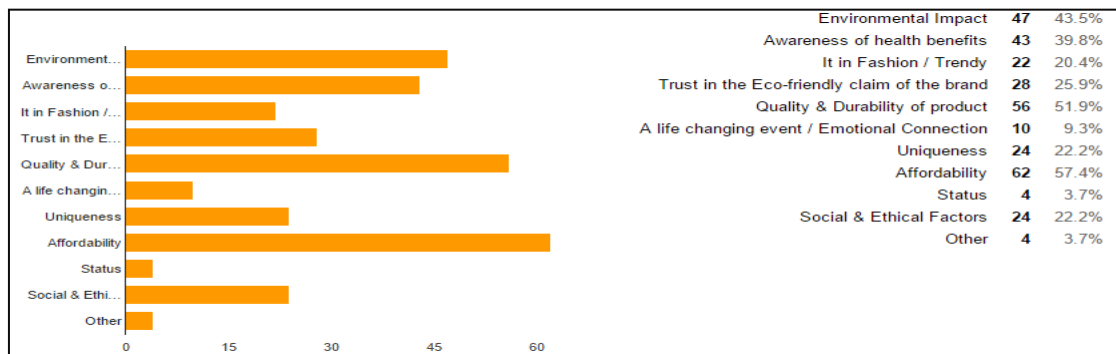
### What are the consumer's motivations to purchase eco-friendly apparel?

- What encourages consumer to buy eco-friendly apparel?
- Would they ever consider switching to eco-friendly textiles?
- Will they be interested in organizations offering Eco-Friendly awareness workshops?
- How much more consumers are willing to pay for eco-friendly apparel?

#### 5.5.1 Factors encouraging consumers

To analyse consumers' motivation we asked what would encourage them to buy eco-friendly apparel. This question was included to explore the intentions of the sample population whenever they opt for buying eco-friendly apparel which factor can motivate them to go for it. Majority of the population that is approx. 57.4% regarded affordability as most important encouraging factor which testifies the findings we had in previous parts of this paper that price remains the most important decisive factor for the consumers to make eco-friendly buying decision.

As seen previously again second most important factors happens to be quality and durability as seen in Figure 5.31 selected by approx.. 52% of the sample population along with which at approx. 44% environmental impact came at third which clearly shows that even if a consumer is going to buy an eco-friendly apparel he still considers the price and quality first and if the criteria meet the expectation than the third motive of environmental impact is going to work and the consumer will eventually buy the eco-friendly apparel.



*Figure 5:31 Affordability, quality & environmental impacts are important for the consumers.*

Other important factors that were able to accumulate about 25 to 40% of the votes were awareness of health benefits, brand loyalty and social or ethical factors. As we have also seen while analysing the consumer preferences that price and affordability and quality are the most important criteria for consumers to buy any eco-friendly apparel. The pattern goes the same even if consumers were asked specifically about the purchase of eco-friendly apparel, unlike the conventional apparel buying choices. Price, quality and durability are the factors that consumers are still looking up to in the eco-friendly apparel market. This seems to be a very significant barrier that is preventing consumers to completely switch towards eco-friendly apparel for the betterment of the planetary resources and human lives as well.

### 5.5.2 Willingness to switch

We also asked consumers if they are willing to switch to the eco-friendly apparel. As seen in Figure 5.32 the results were affirmed by 62% of the population as may be they will, with 34.3% saying yes definitely which shows that there is a strong potential for the people to buy eco-friendly apparel but there are few barriers like price, affordability, quality and above all availability of the apparel that might be causing troubles for them to switch. Only 4% were not willing to switch which shows that the industry has huge immature demand that may pop up at some point when the barriers are removed or have taken care by the companies involved in the business.

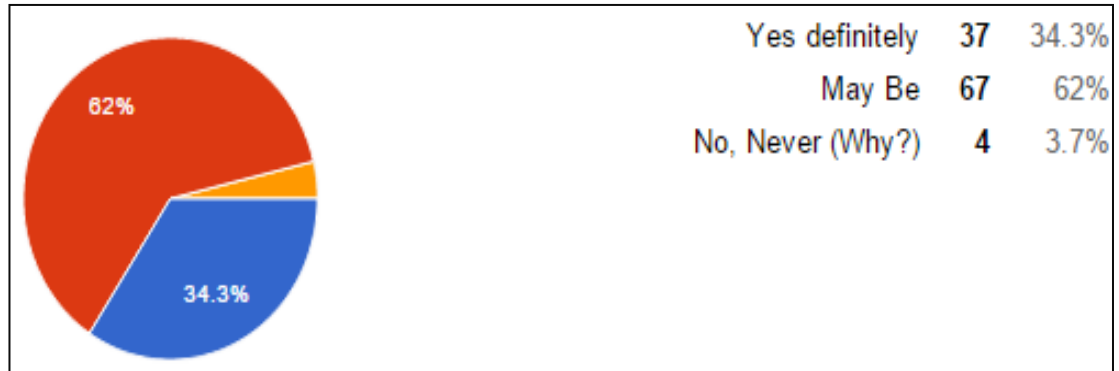


Figure 5:32 62% of the population think they might switch to eco-friendly apparel purchase.

### 5.5.3 Role of Eco-Friendly awareness workshops / campaigns

We also asked the consumers if they would like to expand their motives to their families and friends and also encourage them to participate in events and workshops related to eco-friendly apparel so that they also get awareness and eventually become potential consumers of the eco-friendly apparel and textiles.

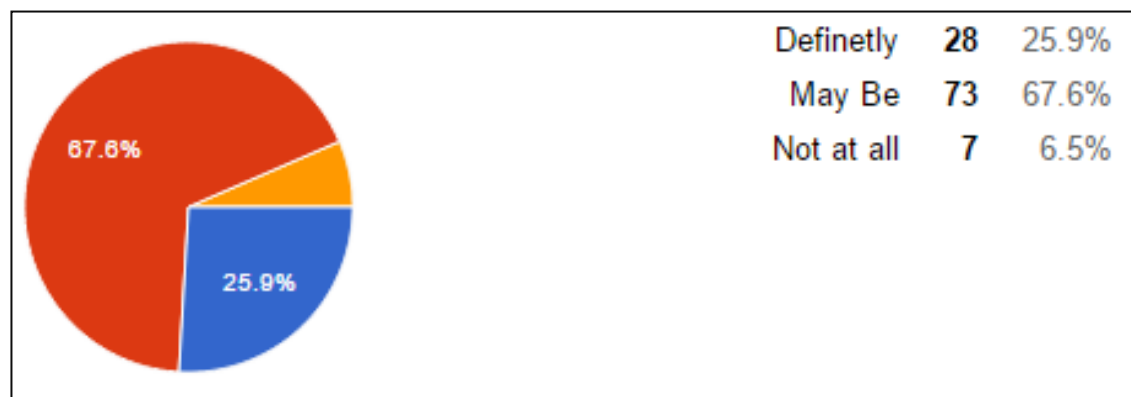


Figure 5:33 Only 26% are willing to get their friends or relatives acquainted with eco-friendly.

Response was not very promising may be due to their own reservations they are not very sure if they should or can recommend their social circle to join them may be they are not confident with the price and affordability of the apparels. As seen in Figure 5.33 only approx. 26% were sure that they will refer their family and friends. Approx. 68% said may be they will which goes along the question of switching to eco-friendly apparel themselves where majority was not sure they will do that because of the barriers preventing them from going for that.

### 5.5.4 Willingness to pay more

In order to affirm the above two questions we also asked the consumers directly if they think they are willing to pay more for the eco-friendly apparel and textiles. As seen in Figure 5.34, the results are very interesting that the majority approx. 42% of the people think that they can pay between 1 to 10% more to purchase eco-friendly apparel. 23% were willing to pay 20 to 30% more. And to my surprise another 18% are willing to pay even 20% to 50% more. Only 13% of the sample population was not willing to pay more. Which shows that there is even more potential in the potential consumers to pay more at least majority does agree to pay 10% more which show that if quality and availability and strong advertisement and promotion is done properly there are very bright chances of eco-friendly apparel market to become mass market like conventional apparel in the future.

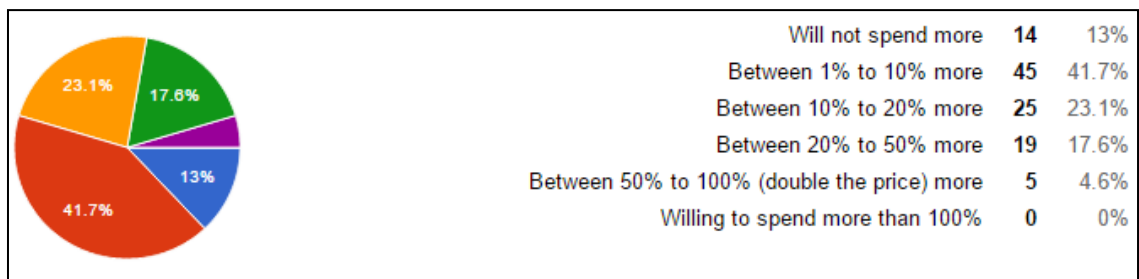


Figure 5:34 Majority of population is willing to spend more on the eco-friendly apparel.

## 6. CONCLUSION

Textile industry is one of the world's biggest trade sectors. According to an estimate in a WTO report world exports of textiles in 2013 stood at 766 billion US\$ which is a humongous amount. As we know that apparel and fashion products have a very short product life cycle therefore despite the decreasing economic indicators around the globe we are still observing considerable growth in apparel and fashion trade. This growth factor is an indication of continuous demand and supply with rising levels of growth will always be there as clothing stands among the basic needs which people cannot forgo or trade-off with any other in order to overcome the tightening income levels due global economic down turns.

This huge level of demand and availability of fast fashion and cheaper clothing brands with very short shelf life of products like H&M and Primark which persuade people to acquire and discard fashion with a fast pace will always put pressure on the manufacturing side to produce more and more goods at cheaper prices. It is quite questionable that in the wake of this huge demand and fast fashion world will it be possible for the companies to produce the goods ethically or ensure fair trade, for example paying the fair share to manufacturing labours, keeping in view their working conditions. On the other hand another question is also raised that the fast and increasing manufacturing needs also put huge pressure on the natural resources for example as discussed how production of cotton needs huge amount of natural water consumption and how man made petro chemical based fibres like polyester and Nylon have the tendency to pollute the environment in the form of hazardous waste.

To counter the issues related to the fair trade policies of the manufacturing companies and impacts of the textile manufacturing on the environment. Government bodies at large, think tanks, non-profit organizations, scientist and general public came forward to raise the voice for corporate social responsibility and environmental friendly production which also pushed the manufacturing concerns to take what is necessary in order to produce and promote eco-friendly apparel and fashion. like many other campaigns the media tools for promotion used by the companies to promote the eco-friendly products like advertisement, promotional movies, documentaries and using role models and famous public figure to inspire the masses towards environmental friendly apparel purchase resulted in keen interest of the masses in order to purchase eco-friendly apparel.



From the evolution of the corporate social responsibility and dawn of environmental friendly consumption awareness; governments, NGO's, private companies, manufacturers and retailers of the eco-friendly apparel have invested huge amounts of money to promote and raise the voice for the environmental and social concerns and the negative impacts businesses are having on them. We have seen that for past almost 50 years now the issues like, global warming, carbon footprints, hazardous waste production, labour laws and fair trade like phenomenon have been induced on the masses to get concerned about the consequences of human activities on the nature in order to make the cycle of producing and consuming products and resources sustainable so that it can be benefited from for the future generations. This effort of making concerns for the future of apparel and fashion industry has been established by spending billions of dollars of money. It has been seen that a lot has been done already to create the awareness as well as eco-friendly apparels and in today's world modern consumers are also adequately aware of the harmful effects of conventional apparel production and benefits of eco-friendly apparel consumption.

This research report was an effort to find out that with all the efforts of environmental impacts of industries and establishment of consumer awareness about the environmental friendly consumerism which a billion dollar industry what is the actual perception of the consumers about eco-friendly apparels and are they adopting the changed life style of wearing eco-friendly apparel? If they are switching to the green apparels than what is motivating them to do so. On the other hand if something is preventing them from doing so than what might be those barriers which are needed to be taken care of by the manufacturers and retailers of eco-friendly apparel.

During the exploration of this research area after observing the literature and getting feedback from hundred plus survey participants we can establish a conclusion that yes there are many people who are motivated and who desire to buy the eco-friendly apparel because of the reasons like social impacts of their purchase decisions. Where they think their purchase is going to bring a positive change in the lives of the people on the other side of the picture. They also do it for self-satisfaction of being associated with special or elite class of the society who are always early adopters of the change. People also adopt to acquire eco-friendly apparels because of the celebrities or sports figure they love are doing the same and they want to imitate those figures in order to look good, earn some appreciation or be like them. Sometimes they also start using the eco-friendly apparel because of the brand they love started some campaign and promotion of eco-friendly or fair trade apparel and due their loyalty to the brand they want to try and become part of the positive movement.

Along with previous motives to switch towards eco-friendly apparel there are many more that show that yes all the efforts and money spent on the promotion of the eco-friendly apparel does have a productive output and people are willing to switch towards

the eco-friendly apparel but most of the times they are unable to do so because there are some barriers existing which are preventing them to buy the products. It has been seen as price and affordability along with design and quality are the foremost important factors that consumers consider while buying the apparel now this goes same for both eco-friendly and conventional purchases as affirmed by the survey results where almost 70 percent of the population gave these criteria highest ranks among the factors which they consider before buying apparel. It has also been seen that in general eco-friendly apparels are sold at a very high price by even mass retailers like H&M. This is one good point for the retailers to ponder and work upon to make the eco-friendly apparel more affordable.

After affordability the most important factor that was acting as a resistance for the consumers to buy eco-friendly apparel is the availability of the goods. It has been seen that no matter what the product is, how cheap it is and how much beneficial it can be upon usage if it is not easily available that all other efforts go in vain. This is the main reason why big retailers spend billions of dollars on display and merchandising aspect of their retail outlets, their design and decorum and most importantly the location of the store so it is easily reachable by the masses. The story of eco-friendly apparel does not end at production and supplying at cheaper price at the store. But if the stores are unable to invite or educate the consumers to try and buy the new arrivals if the consumers cannot locate or exit uninformed about the new eco-friendly apparel collection due to lack of store presentation, management and communication, then there are very high chances that potential consumers will miss them, it has been found in the survey that people are concerned about the availability of the eco-friendly apparel and a good majority always find them difficult to find.

It has been seen that the consumers' perception is positive about the eco-friendly apparel and the betterment it can bring in the lives of some people or the environment but there are few barriers that hold them from acquiring and making eco-friendly apparel a consistent part of their clothing shopping list. It has been also seen that people have concerns about the clarity of the communication that companies put across for the promotion of the eco-friendly apparels and fashion products. As a considerable amount of people have said that they do not get the proper news about when and where to buy the eco-friendly apparel, the advertisement and promotional campaigns are mostly not as strong or frequent as compared to the conventional fashion and apparel. However the survey results also showed that people are well aware of the eco-friendly apparel and the benefits associated with them but still they occasionally buy the products because of the barriers we just discussed.

It is also expected that this research and its analysis will also open many new areas for future researches which can be researched on in order to find the solutions for the problems that are needed to be eliminated in the eco-friendly apparel businesses.

- Study can be conducted out on finding out more productive and efficient ways of manufacturing eco-friendly apparel in order to reduce the cost of production which can ultimately help to reduce high prices associated with the garments.
- Studies can be carried out in making eco-friendly apparels and material used to produce them more appealing and outstanding in terms of design, comfort, durability and variety.
- Manufacturers and retailers can also research on finding out more innovative and interesting ways of advertising and promotion in order to promote their products.
- Studies can be carried out in finding out more user friendly terminologies and information in order to help consumers get educated and interested in the products.
- In future studies can be carried out to help the developing world which is now the major manufacturer of the apparel and textile industry in how to transform the benefits of eco-friendly apparel business from consumers, retailers and manufacturers down to the poor labour which is actually making these garments. How to make their lives better and ensure that benefit at one side of the picture is not resulting because of the sacrifices made at the other side.

## REFERENCES

Abernathy, F. H., Dunlop, J. T., Hammond, J. H. & Weil, D. (1999), *A stitch in time*, New York, NY: Oxford University Press.

Abernathy, F.H., Dunlop, J.T., Hammond, J.H. & Weil, D. (1999) *A Stitch in Time: Lean Retailing and the Transformation of Manufacturing – Lessons from the Apparel and Textile Industry*, New York, NY: Oxford University Press

Age-of-the-Sage (2011) *Otzi the Iceman discovery pictures* [Online] Available from: [http://www.age-of-the-sage.org/archaeology/otzi\\_the\\_iceman.html](http://www.age-of-the-sage.org/archaeology/otzi_the_iceman.html) [Accessed: 15<sup>th</sup> May 2015]

Agins, T. (2000) *The end of fashion: How marketing changed the clothing business forever*. New York, NY: William Morrow Paperbacks.

Allwood, J. M., Laursen, S. E., Malvido de Rodríguez, C. & Bocken, N. M. (2006) *Well dressed? The present and future sustainability of clothing and textiles in the United Kingdom* Cambridge, UK: University of Cambridge Institute for Manufacturing

Armstrong, C. M., & LeHew, M. L. (2011) Sustainable apparel product development: In search of a new dominant social paradigm for the field using sustainable approaches. *Fashion Practice*, 3 (1), 29-62.

Arnold, M.J. & Reynolds, K.E. (2003) Hedonic shopping motivations, *Journal of Retailing*, Vol. 79, pp. 77-95.

Ballard, J. (2014) “Green” Textiles [Online] Available from: <http://www.virginialiving.com/blogs/virginia-living-blog/green-textiles/> [Accessed: 5<sup>th</sup> May 2015]

Barthes, R. (2006), *The language of fashion*, Oxford, UK: Berg Publishers.

Bell, Q. (1976) *On Human Finery*. New York, NY: Shocken Books.

Berck, P. (2015) *About H&M Conscious Foundation* [Online] Available From: <http://Makeadifference.Hm.Com/About-Hm-Conscious-Foundation/> [Accessed: 04th June 2015]

Braddock, S.E. and O’Mahony, M (1998), *Techno Textiles*, Thames & Hudson, London

Breward, C. (1995) *The culture of fashion*. Manchester, UK: Manchester University Press.

Broadway World (2015) *H&M Celebrates Earth Day with Sustainable Fashion* [Online] Available from <http://www.broadwayworld.com/bwwfashion/article/HM-Celebrates-Earth-Day-with-Sustainable-Fashion-20150421> [Accessed: 04<sup>th</sup> May 2015]

Calefato, P. (2004), *The clothed body*, New York, NY: Berg Publishers.

Chan, A. (2012) *Nike Debuts Olympic Jerseys Made From Recycled Plastic Bottles* [Online] Available from: <http://www.psfk.com/2012/03/nike-plastic-bottles-jerseys.html#articles-pane-close> [Accessed: 04<sup>th</sup> May 2015]

Change, M. (2015) *UNIQLO, Japanese Fast Fashion Label, Accused of Labor Violations* [Online] Available from: <http://www.corpwatch.org/article.php?id=16018>. [Accessed: 01<sup>st</sup> May 2015]

Chua, J. M (2010) *Are 3D-Printed Fabrics the Future of Sustainable Textiles?* [Online] Available from: <http://www.ecouterre.com/are-3d-printed-fabrics-the-future-of-sustainable-textiles/> [Accessed: 12<sup>th</sup> June 2015]

Chua, J. M. (2012) *Child Laborers Picking Cotton in Uzbekistan* [Online] Available from <http://www.ecouterre.com/disturbing-video-reveals-child-laborers-picking-cotton-in-uzbekistan/> [Accessed: 30<sup>th</sup> May 2015]

Fashion Compassion (2013) *FC Edit* [Online] Available from <http://www.fashioncompassion.co.uk/blog/tag/socially-conscious/> [Accessed: 11<sup>th</sup> June 2015]

Fashionhurry (2014) *FASHION HURRY* [Online] Available from: <http://www.fashionhurry.com/post/99615129827/h-m-new-conscious-denim-collection-is-eco-friendly> [Accessed: 30<sup>th</sup> May 2015]

Claudio, L (2007) *Waste Couture: Environmental Impact of the Clothing Industry* [Online] Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1964887/> [Accessed: 15<sup>th</sup> May 2015]

Claudio, L. (2007) *Waste Couture: Environmental Impact of the Clothing Industry* [Online] Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1964887/> [Accessed: 15<sup>th</sup> May 2015]

Coddington, W. (1993) *Environmental marketing*, New York, NY: MacGraw-Hill.

Danziger, P. N. (2006) *Shopping*. Chicago: Kaplan Publishing.

De Sole, R. (2011), *Build Your Own Eco Wardrobe: Step One, the Knit*. [Online] Available from: <http://www.vogue.com/vogue-daily/article/build-your-own-eco-wardrobe-step-one-theknit/> [Accessed: 12<sup>th</sup> May 2015]

Drexhage, J. and Murphy D. (September 2010) 'Sustainable Development: *From Brundtland to Rio 2012*'. International Institute for Sustainable Development (IISD), New York.

Elliot, K. & Freeman, R. (2003) *Can labour standards improve under globalization?* Washington, DC: Institute for International Economics.

Ghafary, S. (2014) *For an Ethical Supply Chain, Transparency Matters*. [Online] Available from: <http://blog.elementum.com/for-an-ethical-supply-chain-transparency-matters> [Accessed: 15<sup>th</sup> May 2015]

Global Eco Friendly (2014) *Eco Friendly Clothing* [Online] Available from <http://globalecofriendly.com/eco-friendly-clothing/> [Accessed: 20<sup>th</sup> May 2015]

GOTS (2012) *Global Organic Textile Standard, Ecology & Social Responsibility* [Online] Available from: <http://www.global-standard.org/the-standard.html> [Accessed: 5<sup>th</sup> May 2015]

Govette, J. (2012) *Millennials and Healthcare: What is your Engagement Strategy on Social Media* [Online] Available from [rhttps://getreferralmd.com/2014/12/medical-practices-social-media-content/](https://getreferralmd.com/2014/12/medical-practices-social-media-content/) [Accessed: 04<sup>th</sup> June 2015]

Gummesson, E. (1993) *Case Study Research in Management: Methods for Generating Qualitative Data*, Preliminary Script, Department of Business Administration, Stockholm University, Stockholm.

Gwilt, A. & Rissanen, T. (2011) *Shaping sustainable fashion: Changing the way we make and use clothes*, London, UK: Earthscan.

H&M Conscious Foundation (2015) *Together We're Making A Difference* [Online] Available from <http://makeadifference.hm.com/> [Accessed: 04<sup>th</sup> June 2015]

Halkias, M. (2015) *Wal-Mart, J.C. Penney and Children's Place sued by victims of 2013 Bangladesh factory collapse* [Online] Available from: <http://bizbeatblog.dallasnews.com/2015/04/wal-mart-j-c-penney-and-childrens-place-sued-by-victims-of-2013-bangladesh-factory-collapse.html/> [Accessed: 15<sup>th</sup> May 2015]

Hart, C. (1998) *Doing a Literature Review: Releasing the Social Science Research Imagination*, London: Sage Publications

Hart, C. (1998) *Doing a literature review: Releasing the social science research imagination*, London: Sage Publications.

Hathaway, R. S. (1995). Assumptions underlying quantitative and qualitative re-search: Implications for Institutional Research, *Research in Higher Education* 36 (5) p.535–562.

Hower, M. (2013) *UN Global Compact Launches Stock Index* [Online] Available from [http://www.sustainablebrands.com/news\\_and\\_views/communications/un-global-compact-launches-stock-index](http://www.sustainablebrands.com/news_and_views/communications/un-global-compact-launches-stock-index) [Accessed: 06<sup>th</sup> May 2015]

Huff Post (2012) *Green Celebrities: Eco-Friendly Actors And Actresses* [Online] Available from: [http://www.huffingtonpost.com/2012/06/22/green-celebrities-actors\\_n\\_1613338.html](http://www.huffingtonpost.com/2012/06/22/green-celebrities-actors_n_1613338.html) [Accessed: 04<sup>th</sup> May 2015]

Hughes, A (2010) *Students get naked in protest against sweatshop labour* [Online] Available from Source: <http://www.redbrick.me/news/students-get-naked-in-protest-against-sweatshop-labour/> [Accessed: 06<sup>th</sup> June 2015]

Hughes C (2014) *Qualitative and Quantitative Approaches*, [Online] Available from: <http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/hughes/researchprocess> [Accessed: 12<sup>th</sup> May 2015]

IPC (2008) *Consumers: Incentive Overview* [Online] Available from: [http://www.incentivecentral.org/consumers/incentive\\_overview.1844.html](http://www.incentivecentral.org/consumers/incentive_overview.1844.html) [Accessed: 11<sup>th</sup> May 2015]

Israel Rosen, E. (2002) *Making sweatshops: The globalization of the U.S. apparel industry*. Berkeley, CA: University of California Press.

James P. Key (1997), *Research Design in Occupational Education*, [Online] Available from: <http://www.okstate.edu/ag/agedcm4h/academic/aged5980a/5980/newpage110.htm> [Accessed: 10<sup>th</sup> May 2015]

Joel, B. (2015) *Anti CSR-A Critical Look at Corporate Social Responsibility - CSR Pictures* [Online] Available from <http://anticsr.com/csr-pictures/> [Accessed: 04<sup>th</sup> June 2015]

Kaiser, S. (2008) Mixing metaphors in the fibre, textile, and apparel complex: Moving toward a more sustainable fashion system. In: J. Hethorn, & C. Ulasewicz, *Sustainable fashion: Why now?* New York, NY: Fairchild Books, pp. 139-163.

Kewalramani, D. & Sobelsohn, R. J. (2012) "Greenwashing": Deceptive Business Claims of "Eco-Friendliness" [Online] Available from: <http://www.forbes.com/sites/realspin/2012/03/20/greenwashing-deceptive-business-claims-of-eco-friendliness/> [Accessed: 2<sup>th</sup> May 2015]

Kinder, C. N. (2015) *The Effects of Institutions on Human Behavior* [Online] Available from: <http://www.yale.edu/ynhti/curriculum/units/1987/5/87.05.03.x.html> [Accessed: 09<sup>th</sup> May 2015]

Kindlife (2015) *The Kind Life with Alicia Silverstone* [Online] Available from <http://thekindlife.com/blog/category/kind-101/> [Accessed: 15<sup>th</sup> May 2015]

King, B (2012) Consumers Want More Eco-Friendly Apparel [Online] Available from: [http://www.sustainablebrands.com/news\\_and\\_views/articles/consumers-want-more-eco-friendly-apparel](http://www.sustainablebrands.com/news_and_views/articles/consumers-want-more-eco-friendly-apparel) [Accessed: 12<sup>th</sup> May 2015]

Langener, L. (1959) *The importance of wearing clothes*. New York, NY: Hastings House.

Machi, L. A., & McEvoy, B. T. (2009) *The literature review: Six steps to success*. Thousand Oaks, CA: Corwin Press.

Mesure, S. (2006) Ethical shopping campaign 'is most successful in M&S history'. [Online] Available from: <http://www.independent.co.uk/news/business/news/ethical-shopping-campaign-is-most-successful-in-mamps-history-412899.html> [Accessed: 15<sup>th</sup> May 2015]

Millennials2020 (2015) *Vision 2020 Millennials* [Online] Available from: <http://www.millennial2020.com/> [Accessed: 17<sup>th</sup> May 2015]

Murphy, J. (2014) *Cambodian garment workers' battle for labour rights deserves our support* [Online] Available from: <http://www.theguardian.com/global-development/poverty-matters/2014/jan/21/cambodia-bangladesh-garment-workers-labour-rights>. [Accessed: 02<sup>st</sup> May 2015]



Myers, G. J. (2014) Designing and Selling Recycled Fashion: Acceptance of Upcycled Second hand Clothes By Female Consumers, Age 25 to 65, [Online] Available from: [http://library.ndsu.edu/tools/dspace/load/?file=/repository/bitstream/handle/10365/23189/Meyers\\_Designing%20and%20Selling%20Recycled%20Fashion.pdf?sequence=1](http://library.ndsu.edu/tools/dspace/load/?file=/repository/bitstream/handle/10365/23189/Meyers_Designing%20and%20Selling%20Recycled%20Fashion.pdf?sequence=1) [Accessed: 5<sup>th</sup> May 2015]

Okada, E. M. (2005) Justification Effects on Consumer Choice of Hedonic and Utilitarian Goods, *Journal of Marketing Research (JMR)*, 42(1), 43-53.

Pantsios, A (2014) Top 10 Greenest Countries in the World [Online] Available from: <http://ecowatch.com/2014/10/21/top-greenest-countries-in-world/> [Accessed: 1<sup>st</sup> May 2015]

Pauline G. Garrett, E. J. M. (1967) *You are a Consumer of Clothing*, Boston: Ginn and Company

Plunt, T. (2011) *Convict-Constructed Clothing* [Online] Available from: <http://www.trendhunter.com/trends/heavy-eco-prison-fashion> [Accessed: 21<sup>th</sup> May 2015]

Ross, R. (2004) *Slaves to fashion: Poverty and abuse in the new sweatshops*. Ann Arbor, MI: University of Michigan Press.

Ross, R. (2008) *Clothing: A Global History: or, the Imperialists' New Clothes*, Cambridge, UK: Polity Press, pp. viii, 221

Saunders M., Lewis P. & Thornhill A. (2009) *Research for business students*, fifth edition, Pearson Education Limited, England, pp 2-526

Schneider, L (2014) *Marks & Spencer: Look behind the label campaign* [Online] Available from <http://source.ethicalfashionforum.com/article/mainstreaming-sustainable-fashion-define-> [Accessed: 10<sup>th</sup> May 2015]

Simmel, G. (2003) The philosophy of fashion. In D. B. Clarke, M. A. Doel & K. M. L. Housiaux (eds.), *The Consumption Reader*. New York, NY: Routledge. pp. 238-245.

Tatzel, M. (1982) Skill and Motivation in cloths shopping: Fashion-conscious, Independent, Anxious, and Apathetic Consumers, *Journal of Retailing*, 58(4), 90-96

Valor, C. (2007) The influence of information about labour abuses on consumer choice of clothes: A Grounded Theory Approach. *Journal of Marketing Management*, 23(7/8), 675-695

Veblen, T. (1899/2009) *The theory of the leisure class*. New York, NY: Oxford University Press.

Walsh, M. (1979) The democratization of fashion: The emergence of the women's dress pattern industry. *The Journal of American History*, 66 (2), 299-313.

Weizsacker, E.U., Lovins, A.B. & Lovins, L.H. (1997), *Factor Four: doubling wealth, halving resource use*, Earthscan, London

Welters, L. (2008) The fashion of Sustainability. In: J. Hethorn, & C. Ulasewicz (eds.). *Sustainable fashion, why now?* New York, NY: Fairchild Books, pp. 3-29.

Westervelt, A (2015) *Sweat it out: could your sportswear be toxic?* [Online] Available from <http://www.theguardian.com/lifeandstyle/2015/jun/02/toxics-apparel-nike-adidas-reach> [Accessed: 19<sup>th</sup> May 2015]

Wilson, K. (1979) *A history of Textiles*, Westview Press, Boulder, CO

Winakor, G. (1969) The process of clothing consumption. *Journal of Home Economics*, 61 (8), 629-634.

Wolfendale, J. & Kennett, J. (2011) Introduction: Who cares about fashion? In J. Wolfendale, & J. Kennett, *Fashion: Philosophy for everyone* (pp. 1-13). Chichester, UK: Wiley-Blackwell.

## APPENDIX

### Consumers Perception of Eco- Friendly Textiles

\* Required

#### 1. Please tell us about yourself \*

Name:

\*

Country:

\*

Highest Level of Education

- Doctorate
- Masters
- Bachelors
- High School
- Other:

\*

City / Town:

#### 2. Gender? \*

- Male
- Female

\*

Occupation:

#### 3. Age bracket? \*

- 18 and under
- 19 - 25
- 26 - 35
- 36 – 45
- 46 and over

#### 4. What are the 3 main criteria when you buy clothes? \*

- Affordability / Price

- Quality
- Material
- Eco / Environment friendly / Fair Trade
- Convenience
- Brand
- Fashion
- Fit
- Other:

**5. Are you aware of any Eco-friendly alternates of garments currently available in the market? \***

- Yes
- No

**6. Have you ever bought Eco-friendly fabric? \***

- Yes
- No

**7. How often do you buy Eco-friendly products (non-food)? (Clothes, shoes, bed-sheets etc.) \***

- Always
- Sometimes
- Rarely
- Never

**8. What would encourage you to buy Eco-friendly garments? (choose any 3) \***

- Environmental Impact
- Awareness of health benefits
- It in Fashion / Trendy
- Trust in the Eco-friendly claim of the brand
- Quality & Durability of product
- A life changing event / Emotional Connection
- Uniqueness
- Affordability
- Status
- Social & Ethical Factors
- Other:

**9. When buying your fabric range, how often do you think of the impact it can have on environmental? \***

- Always
- Occasionally
- Never

**10. What do you think could be the barriers in the popularity of Eco-friendly textiles? Why would you not consider buying these? (Select any 3) \***

- Limited to No availability/ local stores
- Prices are too high
- Limited Variety
- Designs are old fashioned / non trendy
- Lack of awareness of the benefits
- Discomfort of fabric
- Emotional attachment to other brands
- Limited to no advertisement / publicity
- Other:

**11. Rate your major expectations of Eco-friendly products industry? \***

a) Ethical working conditions / Fair labour practices

|                |                       |                       |                       |                       |                       |                 |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
|                | 1                     | 2                     | 3                     | 4                     | 5                     |                 |
| Most Important | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Least Important |

\*

b) Quality products

|                |                       |                       |                       |                       |                       |                 |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
|                | 1                     | 2                     | 3                     | 4                     | 5                     |                 |
| Most Important | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Least Important |

\*

c) Better waste management

|                |                       |                       |                       |                       |                       |                 |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
|                | 1                     | 2                     | 3                     | 4                     | 5                     |                 |
| Most Important | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Least Important |

\*

d) Lesser pollution

|                |                       |                       |                       |                       |                       |                 |
|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
|                | 1                     | 2                     | 3                     | 4                     | 5                     |                 |
| Most Important | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Least Important |

\*

e) Use of organic / natural material

1 2 3 4 5

Most Important      Least Important

\*

f) Contents are recyclable

1 2 3 4 5

Most Important      Least Important

\*

g) Energy efficiency

1 2 3 4 5

Most Important      Least Important

\*

h) Conserving natural resources

1 2 3 4 5

Most Important      Least Important

\*

i) Competitive prices affordable to anyone

1 2 3 4 5

Most Important      Least Important

\*

j) All agents involved getting the fair payment (labour, supplier, dealer etc)

1 2 3 4 5

Most Important      Least Important

k) Option not listed above?

**12. Which of the following do you agree the most? Eco Friendly textiles is \***

- Not at all harmful to environment
- Less Harmful to environment as compared to other alternates
- As harmful as other alternates, makes no difference

**13. How often do you read labels when you buy clothes to determine whether they are Eco-friendly, as people do when they buy food products? \***

- Always

- Occasionally
- Never

**14. Which term would you want to see on labels / would make most sense to you while buying Eco-friendly apparel? (choose any 3) \***

- 100% cotton
- 100% natural
- Eco-Friendly
- Green Textiles
- Organic
- Recyclable
- 100% ethically produced
- Fairtrade
- Other:

**15. To what extent do you agree that the true motive behind Eco-friendly cloths marketing by big companies is profitability not social responsibility? \***

1    2    3    4    5

Strongly Agree      Strongly Disagree

**16. To what extent do you agree that Eco-friendly textiles are a new generation status symbol, as they are more expensive? They are targeted to niche market and not for everybody, as they are the ultimate luxury? \***

1    2    3    4    5

Strongly Agree      Strongly Disagree

**17. How do you perceive Eco-friendly textiles consumer? (select any 3) \***

- Wealthy
- Young
- Mature
- Old Fashioned
- Ethical
- Responsible
- Trendy
- Smart
- Healthy
- Intelligent

- Educated
- Other:

**18. How easily do you think Eco-friendly clothes are available in the market? \***

- Just like any other alternate (available at ease and convenience)
- Easily (I know where to find these after doing some research)
- Difficult (hard to find which shop sales these)
- Never seen them in local stores / high street

**19. Would you or your friends / family be interested in the organisations offering workshops on eco-friendly awareness? \***

- Definetly
- May Be
- Not at all

**20. How much more would you be willing to spend on an Eco-friendly clothing product compared to the same but non Eco-friendly alternate? \***

- Will not spend more
- Between 1% to 10% more
- Between 10% to 20% more
- Between 20% to 50% more
- Between 50% to 100% (double the price) more
- Willing to spend more than 100%

**21. Do you think that clothing manufacturers are insistent of Eco-friendly change? Do you feel there is a need, pressure and increasing demand for it? \***

**22. In your opinion,how do you think Eco-friendly textile companies can put their ethical message across to wider population more effectively? (Select any 3) \***

- Advertisement & publicity
- Organizing events & workshops for awareness
- Clear communication (Consistency & simplicity of terms)
- Compatible & affordable price
- Undertaking actions that benefit the community
- Getting government involved
- Easier access to information (promoting transparency)
- Other:



