

# Sustainable Consumption and Production Patterns in Fashion



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**Abstract** Fashion calls for constant change which urges consumers to indulge in purchasing garments to keep track with the latest trends. These practices result in large consumption patterns of clothing while the nonuse of fashion apparels is hidden truth. Clothes that are purchased with intense interest lie idle either in the wardrobe or in the landfill. The textile and apparel industry invest huge resources for the manufacture of garments to meet the demand of the consumers. Labels of top brands, retail houses, marketing divisions and advertising sectors add glamor to fashion to draw the attention of the consumer and manufacturers involved in fabric production and apparel development work towards high targets at the cost of environmental and social implications. The fashion industry is the backbone of textile and apparel production as all endeavors start with the design phase. Designers today have a different motto, and they work for long-lasting sustainable designs which in turn will promote sustainable consumption and production patterns among end users. This chapter will analyze the role of sustainable design development, the awareness of slow fashion and change in mind-set of the consumer to attain the 12th goal (Responsible Consumption and Production) of the UN Sustainable Development Goals.

## 1 Introduction

The world we see may look to have plenty of resources for every human being, but these resources are not endless for everyone to live how they feel and how they like. Mankind has used these resources for a long time, and there seems to be some constraints and limits to growth and development due to the large disparity in the distribution of resources. Serious injustice to natural ecosystems, water, and quality of air due to industrialization and exploitation has caused several impacts on the environment. Confusion may result due to theories like ‘every action has an equal

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and opposite reaction'. Many people believe if one part of the globe is exploited, the other regions will become bountiful and generous in resources. However, 'endangered species' and 'vanishing indigenous cultures' are the signs of the depletion of resources due to the lack of concern for the environment.

Human beings have a great role to play with regard to Mother Earth, and there are many responsibilities that are existent in terms of our relation to every living phenomena and the environment around us. The root cause of the current environmental and social challenges can be rested on the dominant patterns of thought and emotional longings that move toward unsustainable contemporary lifestyles. A shift in mind and heart with care and respect for the living creatures can create a society which will flourish to become sustainable. Once this trend surges there will exist a consciousness that will engulf all to work toward a better future where people use natural resources minimally to save them for the future generations.

## **2 Predictions on Sustainability and Fashion for the Near Future**

### ***2.1 Transformation of Mass Market and Fast Fashion to Custom Made and Classics***

The global apparel industry had been working tirelessly to change the fashion in retail stores in a fast manner (once in 15 days) leading to consumers making constant purchases to keep up with the latest trends. Wardrobes were overflowing and fresh new garments, not even worn once, may land up in waste bins as it was not in vogue. People have now become tired of mass made similar looking styles and are seeking new opportunities which have brought back the concept of tailor/custom made and bespoke clothing. Advertising and promotional activities have been spreading this message, e.g., Raymonds advertisement in Indian Television. The term 'Fashion on demand' [22] entails the customer to choose from an array of pre-designed options, styles, fabrics, colors, size and fit, etc., to cocreate the design using mix-and-match theory. The design output is also viewed by the customer and the choice is made. The order takes three weeks by which time the customer gets into an emotional bonding with the specially made outfit that makes him use it for a longer period when compared to the other outfits. This method removes the risk of overproduction, need for storage and warehousing, waste minimization, landfills and incineration, required use of virgin materials.

## ***2.2 Closing the Loop with Circular Fashion***

Circular fashion is popular among fashion conscious people. This movement is crossing all borders worldwide from America and Europe to Africa and Southeast Asia. A redesigning process is taking place in the overall business of retailers and brands and a change is creeping in from visions, strategies, procedures, and processes across the supply chain. Sustainable fibers and raw materials are being selected, testing is carried out to eliminate harmful substances, new collaborations are initiated, and special service packages are offered to the customers. Many programs have been initiated to spread the awareness of circular economy like Circular Textiles Program (2014) by Circular Economy, Fashion Positive Program [19] by Cradle to Cradle Product Innovation Institute, Textile Environment Design TED, a project at Chelsea College, University of Arts, London, 'Design for Redesign' by the Swedish School of Textiles, Sweden, doctoral dissertation by Dr. Kirsi Niinimäki on 'From Disposable to Sustainable', 'Close the Loop' a joint project of Plan C & Flanders Fashion Institute [10, 19, 50]. In 2017, Green Strategy has released the 'Circular Fashion Framework to discuss three basic principles—the meaning and definition of circular fashion, key principles to circular fashion, categories (8) of products and services of circular fashion.

## ***2.3 Compassionate Fashion—The Fashion Feel***

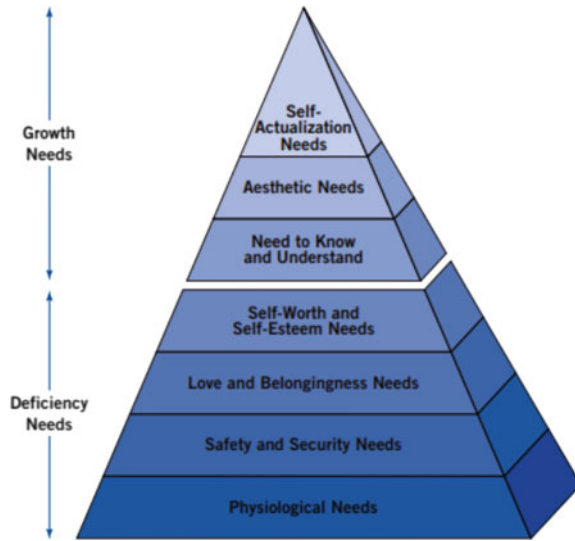
The most interesting concept emerging as a fashion trend is 'compassionate fashion'. The ethical and socially responsible aspect of the fashion movement is to respect, workers, animals and natural environment; the current change is the shift in attitude where the fashion industry is becoming compassionate about the impact of the industry across the supply chain. There seems to be a transition from consciousness to feeling real compassion for people, animals, and ecosystems. Slogans like 'Fur free Friday', 'I can't bear to see you in that fur', Cruelty of the Down Industry, Cool cruelty free over the knee Boots, Liberation from cruelty free culture, let them be free emphasize the change to compassion [45].

# **3 Fashion and Consumer Psychology**

## ***3.1 Consumer Needs***

Design in the field of fashion is governed by attitudes, time and place considering customer needs and desires. Fashion is a code/ a tool/ a gizmo to read and understand society. The silhouette, form, and shape keep changing, but the function remains constant. The media help in showcasing and announcing the fashion statement. In the UK,

**Fig. 1** Maslow's hierarchy of needs [36]



Vogue the fashion magazine sold 71,649 copies in the first half of the year 2018 while the Cosmopolitan sold 1,84,566 copies during the same time frame [49, 53]. Socio-logical and demographic factors like family, peers, neighbors, culture, social class, informal, and non-commercial sources influence consumers' choice of clothing.

Motivation encourages a consumer to choose and buy fashion products, and once the fulfillment is considerably high, the consecutive motivation will make them repeat the purchase [36]. According to Maslow, all needs are grouped as deficiency needs and growth needs as shown in Fig. 1. The deficiency needs can be easily fulfilled, but the growth needs are insatiable and they ask for more once one segment is satisfied. In the case of physiological and safety needs, function is the most important, e.g., purchase of a winter coat in the winter season; inflammability finish for children's nightwear [30, 36, 37]. After the physiological and safety needs come the love and belongingness needs where the consumer is impacted by family, peers, roles, and status, e.g., need of T-shirt by a teenager. From street fashion to haute couture, the whole fashion spectrum is affected by esteem needs and need for self-actualization. Esteem needs include the acceptance of the consumer by the others, maybe it can be coined as 'prestige' or 'social acceptance'. In the case of self-actualization [23, 54], the consumer moves to another stage and wants to showcase his creativity and individuality to stand apart from the others yet receive the awestruck acceptance of his social environment. Here the consumer maintains social uniqueness and image enhancement. These needs of the individual or consumer play an important role in the decision making and purchase pattern of the consumer.

### 3.2 *Adoption of Fashion by Consumer*

Fashion has become an integral part of one's life as it states his/her personality, culture confidence, and position in society. Conscious people cannot extricate themselves from fashion as clothes are communication devices. The adoption of fashion is based on frequency of purchase, magazines, and catalogues, readership, and online connectivity. The 'trickle across' theory is more apt for styles that gain adoption over time and across socioeconomic groups. Leaders and celebrities play an important role in the adoption of fashion. International stars like Madonna, Beyonce, and Sara Jessica Parker and influential role models for many customers and the styles offered and popularized in the market have a bearing on the promotional activities and the campaigns [24]. Brand awareness, fashion image, new trendsetting, and unique niche creativity are the functions of these shows and launches.

Peer pressure is an important stimulus to fashion purchase. According to Freud's theory of personality, outside awareness has a great influence on the purchasing behavior of the consumer. The influence on the choice of fashion is Personality which has been structured into three types. '**The id**' is unconscious impulsive nature which seeks fulfillment without any fashion consciousness. '**The superego**' is the individuals' context of the moral code of conduct. Here social consciousness is great and the need to satisfy a socially acceptable fashion is important. '**The ego**' controls the mind of the consumer in three levels—conscious, preconscious, and unconscious mind. According to this personality theory, consumers are driven by unconsciousness and are unaware of the reasons for buying fashion products. A special mention should be made on mass media for the contribution and control they have in shaping the minds of the consumers and for creating fashion awareness.

### 3.3 *Changing Mind-Set of the Consumer*

In the UK, between the years 1995 and 2005, the fashion consumption increased by one-third through the amount spent on clothing was 12% of the total household income when compared to 30% in the 1950s [3, 32, 40, 41]. This trend was noticed in all the Western countries and is attributed to cheap clothing, low prices, short life spans, and higher disposable income. Further, the study also highlighted the fact that almost half the garments shopped had not been used during the last one year, the estimate being 2.4 billion items [8] and these unused clothes are owned by young consumers (25–34 years). Another study in the Netherlands revealed that consumers kept their clothing for an average of 3 years 5 months of which the average times, it was worn is 44 days [20, 34]. Along with this trend rose another totally different tendency as seen in the denim jean which never faded from the minds of the consumers. People from all walks of life felt denim jeans were comfortable, durable, softening with age with the color acquiring a uniqueness that was different for different consumers. The indigo dye found on the top of the thread weared away as

time passed causing the fabric to fade making it into a classic. Denim jeans also known as second skin, has a body affection, emotes romance, high spiritedness, dynamism, rebellion, character, carefree, hardworking, feeling of desperado, villainess.... the list goes on and in a nutshell; it reflects the lives of people [27, 46]. This illustrates that the same consumers can have different attitudes toward different apparels.

The present-day trend calls for sustainable consumption where durability and longer life of garment are the need made with artistically aging materials, exquisite design, and enduring style. Services for garments can include value additions like print over basic prints, redyeing, designing with dyes (batik, tie and dye) surface ornamentation (kantha work), repair, and upgrading that promote emotional bonding. In India, the traditional sarees are handed over to the next generation with great reverence and may be upcycled for the new user. Sustainable design should also include servicing, refurbishing, renovation, and transformation to increase the longevity and use of the product. Slowing down of consumption and introducing special unique features unlike mass production will add value to the goods fetching the price and profit. What the consumers need to do is purchase fewer, meaningful durable garments made from eco-friendly materials and processes bestowing longevity fueled by repair and restoration. Consumers experience a strong emotion when they are involved in consumption and purchasing situations; recreating different alternatives that can bring in such experiences and satisfaction in terms of sustainability rather than buying new fashion items.

Sustainability means different to different consumers. In a study conducted in Denmark about the attitudes of consumers on sustainable fashion, there seemed to be interesting results. About 30 participants were selected from online sources by theoretical sampling. The results gave insight into a lot of contradictions [9].

- The respondents felt that sustainable fashion cannot be coined together as they have associated sustainability with 'long term, slow, conscious, being stable about future' while fashion is all about 'speed, change, fast consumption'.
- These two have been used together for commercial interests and has a flavor of greenwashing.
- Secondly, sustainability was holistic and consistent and required attention on the entire life span of the garments. Environmental and social considerations are also to be taken while taking sustainable fashion but manufacturers and retailers talk about eco-friendly products without taking the entire sections, e.g., H & M have launched 'Conscious Collection', but they are facing serious litigations on the labor side. Some of the abuses include Abuse of workers in H & M and Gap factories, failure to ensure fair wages for factory workers, violation of labor rights in Uzbekistan and Bangladesh, female workers in Asian factories face sexual harassment, Myanmar factories employ workers under 14 years of age [5, 12, 18, 25, 26, 29].
- A lot of complex confusion and mistrust exist on these terms and consumers have become aware while shopping. This has led to different understanding of sustainable concept in fashion by different consumers.
- Respondents felt that sustainability is all about good intentions, but in the case of manufacturers, there was an overall sense of the concept without delving deep

into the same. They could not link profits and sales growth with sustainability as this would make all efforts futile.

- Consumption is the opposite of sustainability, as fashion is a fast model associated with cheap prices and overconsumption. Manufacturers project themselves to be sustainable, but they do not adopt it into their system. For example, H & M's Conscious Collection is almost 1% of their total turnover, and yet they call themselves a sustainable manufacturer/retailer. The current levels of purchasing are close to overconsumption. Most respondents felt that cheap prices and ever-changing assortments are the cause for thoughtless purchase which are stacked away or enter landfills as throwaways.
- Sustainable consumption brought about a feeling of satisfaction and well-being as they had contributed to the environment development by avoiding unnecessary buying. This helped them to accept their body image and enjoy a sense of freedom and relief from the thought of comparing to the idealized body image promoted by the fashion industry.

## 4 Sustainable Production Patterns

About 10% of the global CO<sub>2</sub> emissions, 20% of global wastewater, 24% insecticides and 11% pesticide use are caused by the production of fashion products. Efforts are being taken on a war footing to reinvent the industry, e.g., No Carbon dioxide initiative (No CO<sub>2</sub>) for addressing the social and environmental footprint, eBay's Giving works, and Walmart Miracle Balloon Campaign. eBay's Giving works collects donations from buyers and sellers and extends its arms to new enrollment to broaden the support. Celebrities have been used in advertising, and this program has fetched around \$521,000,000—since 2003. Similarly, Walmart and Sams Club Miracle Balloon campaign has fetched donations of \$380,000 [1, 16, 17, 51], indicating that people are willing to pay for a great cause. In the case of the No CO<sub>2</sub> program, diesel power used by factories will be replaced with clean energy, and the savings from this venture will be diverted to the factory workers. To create a circular economy reuse of fibers, living wages, organic cotton, and regenerative agriculture are essential, and people can be made to buy these products for longevity and sustainable consumption. So to attain sustainability in the fashion industries, support and cooperation from consumers will be extended and they will be willing to pay more for the same.

While choosing ethical clothing, the main criteria will be the minimal/ no use of toxic chemicals, lower use of land and water and reduction in GHGs. This cannot be achieved is the design of the product is not sustainable. Sustainable Production is based on sustainable design thinking and proto sampling should give priority to sustainable development in all phases of the life cycle of the product. In some cases, the industries have adopted measures to reduce and recycle materials by undertaking new technology and production processes. The raw material growth requires farming and cropping that reduces soil erosion by improved irrigation methods, reduced

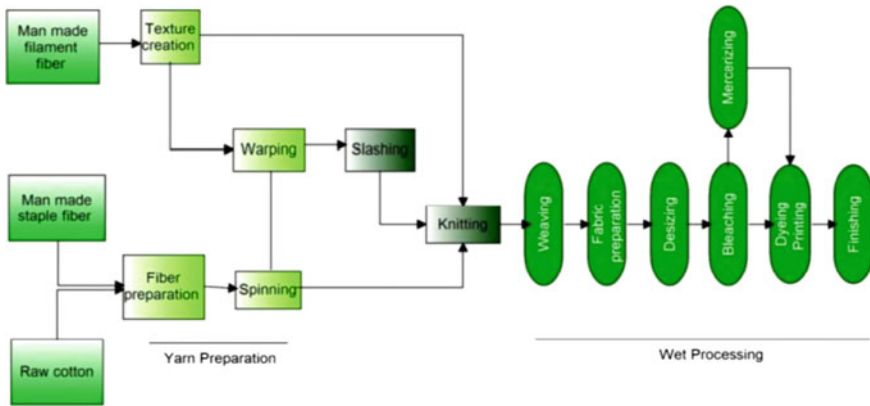


Fig. 2 Stages of Yarn preparation [4]

pesticides, and toxic chemicals, e.g., GMO cotton. It has been reported that the farming of cotton for one T-shirt requires (151.33 gms) one-third of a pound of toxic chemicals which includes pesticides, fertilizer, and defoliation chemicals [33].

Cotton is considered to be a natural fiber but needs a lot of processing. The flowchart Fig. 2 shows the different stages of production from fiber to processing. The Environmental Protection Agency states that of the 15 pesticides used in cotton cultivation around seven are carcinogenic in nature and the US Agricultural Department states that in the year 2000 about 84 million pounds (38,101,759.08 kgs) of pesticides and 2 billion pounds (907,184,740 kgs) have been spread around 14.4 million acres (58,274.73 km<sup>2</sup>) of farm land to produce cotton [4]. The Aral Sea in Central Asia, the Indus River in Pakistan, and the Murray Darling Basin in Australia are most affected by cotton cultivation. About 97% of the water from the Indus River goes for the cultivation of cotton leaving the river high and dry as seen in Fig. 3 [55]. Soil erosion and degradation, water contamination of lakes, rivers, wetlands, and other sources of water also tend to affect the biodiversity in and around the downstream areas.

Fabric has to be pretreated for proper absorption and fixation of the dyes or finishes. Dye penetration is hindered by starches and contaminants, so in the preparatory stage they are removed which accounts for 50% of the BOD in the effluent [6, 31]. The composition of the effluent is given in Table 1.

Starch, sodium chlorite, sodium bromite, and dilute mineral acids are retrieved from the pretreatment wastewater. Dyeing and finishing are important stages of textile manufacture which produces waste water. Dyeing effluent composition is given in Table 1. In the dyeing of fabrics, handling of toxic chemicals is required; acids like sulfuric and nitric acids are used for nitration with toluene and benzene [31]. The workers involved in the dyeing process are either directly or indirectly involved like skin burns in direct contact and respiratory problems (bronchitis and pulmonary edema) by nitric oxide or nitrous fumes due to indirect contact [15]. Denim is an





**Fig. 3** River Indus [55]

**Table 1** Average composition of textile dyeing waste water [55]

S. No.	Substances	Values
	pH	9.8–11.8
	Alkalinity	17–22 mg/l as CaCO <sub>3</sub>
	BOD	760–900 mg/l
	COD	1400–1700 mg/l
	Total solids	6000–7000 mg/l
	Total chromium	10–13 mg/l

all-time favorite for many consumers, and there has been an array of finishes worked on denim—stone wash, acid wash, moon wash, monkey wash, frosted wash, mud wash, distressed wash, etc. The Levis Strauss published the life cycle assessment of its classic Levi’s 501s style which reported that 920 gallons [3482.58 L] of water, 400 Mj of energy and 32 kgs of CO<sub>2</sub> was the requirement for manufacture of one pair of jeans. To make things easy to understand, this requirement was equivalent to using a garden hose for 106 min/ driving 78 miles/power for working 556 h with a computer as specified by Levis [2].

## 5 Design Strategies for Sustainable Products

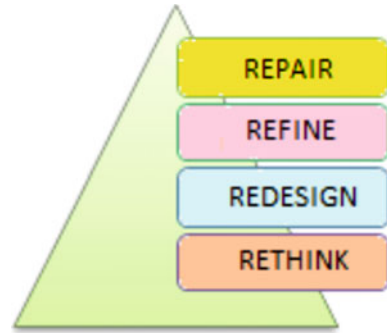
Many studies and reports have shown that consumers are aware of the problems related to fast fashion and are looking out for sustainable products. Sustainable design formulation calls for assurance of a long-term product which satisfies the need of the customer. The *function or use value* of the product is of importance rather than the exchange value. In the case of textiles and apparels, it is very difficult for consumers to estimate the life of the garments; hence, manufacturers can provide additional

information on the life span of the garment, the number of washes the garment will take and yet look good, the environmental benefits of the products. This will help the consumer to evaluate the connections between price, quality, and utility. A fashion product that aims for long life and deep satisfaction can be termed as *slow design or slow fashion*. This product will be characterized by high quality, ethical values, and classic colors produced from ‘age well’ materials [20, 42]. When the customer has a deep sense of attachment with the product, the probability of using the product for a long time is inevitable. The designer must understand the longtime needs of the consumer and create products in tune with the consumer’s needs—*co-creation* [22]. This requires a new and innovative mind-set and new manufacturing strategies in all aspects of the manufacture of the product.

*Mass customization* is the production of tailor-made or custom-made products based on the individual needs of the customer at prices quoted by mass-produced products. This system integrates technologies like computerization, modularization, Internet, and lean production and creates an environment where every customer can have a product to his or her choice [11, 35, 44]. Customization helps the consumer to create personalized products which create a bonding between product and consumer. As online businesses address the fragmented markets across the globe in a personalized way, this innovation tends to satisfy both the manufacturer and individual user. Concept of *half-way products* provides a wide range of combinations based on the creativity of the individual. Products are available as kits and designed for disassembly giving the user the choice of new creations with the same materials, thereby adding a personal touch and memories to the individual, e.g., convertible clothing that has many parts which can be assembled to create the ensemble. Kit-based products help the user to develop new items and also get trained to repair the same. The next design strategy is the *modular structures* [20, 43] which help quick disassembly and reassembly of modules. The consumer can select details and trims as he/she wishes in terms of colors, materials, shapes, and silhouettes. Garments can be designed with certain functions in mind, e.g., collar and cuff alone can be detached and laundered as and when required [13].

In this design strategy *co-design*, the end users are actively involved in the design process. When the stakeholder gets involved in the development process, there is a deep sense of satisfaction and develops an insight to understand and learn problems and solutions to develop a design. There is a sense of fulfillment when the end users complete the design with active involvement in the design process. *Open-source fashion* is a methodology where the designers market their design skills by supplying patterns and construction techniques as information to the consumer who implements the design information into a product. It is similar to the DIY information seen on the Internet resulting in immense satisfaction to the customer for the involvement taken to develop the product. *Product service systems* [13, 38, 47, 48] help to lower the environmental degradation as a set of products are used innumerable times and returned to the servicing organization. When customers invest in services and purchase functions, procuring new products, the use of virgin material and developing exercise for new product development will be reduced when compared to the traditional methods. This will facilitate the ‘Zero-emission Society’ where all

**Fig. 4** Sustainable design strategies [52]



materials will be continuously returned to the producer after the use phase resulting in great environmental significance. Waste streams are avoided and the satisfaction of the customer is the key to services. Services also provide multiple options for the consumer to pick and choose offering a flexible product utilization which is not offered by real ownership of product.

**Services for high and extensive utilization** Consumers often think that it is better to buy a product when they see it as it may be handy one day, as it may be useful when guests arrive, as it may decorate the home which we will build one day, as it may serve to be part of a huge collection. Products often purchased lie idle in wardrobes and in India most of them are passed on to somebody in the family whether they need it or not. Intensive utilization of products is achieved by renting or leasing, replacement of goods and services, shared use of goods, online garment exchange stocks, nonprofit networks for lending and sharing. Some accessories for ensembles like bows, ties, belts, umbrellas, waistcoats, blazers, coats, hats, and scarves are not used frequently but can become rigorously utilized if they are shared with others through a renting system. These concepts highlight that an elemental change is essential for all business models to benefit the consumers. To have long-term use products should have classic designs, high quality, durability, and adjustable fit for more opportunities. Supplementary services will enable the extension of the life of the product by upgrading, updating, repairing, partial modification of the product or modular replacements. This creates a joy in using the product and also avoids the missed feeling that the customer experience once the product is no longer useable.

Sustainable design strategies, Fig. 4, include the 4 R's which help in reducing the environmental impact of products. The emphasis today is on *repair* of used products to extend their life by means of services made available to the consumers, e.g., if the size of a used apparel is not fitting a consumer, alterations can be made in the apparel by extending the seams and making use of the allowances given. Under the *refine* approach changes to existing products are made at the operational level to increase the eco-efficiency of the existing products. For example, a fabric may be dyed with reactive dye using caustic soda as auxiliary, this can be replaced by eco alkali [52] or bifunctional reactive dyes [14] can replace the uni-functional conventional reactive dyes, to reduce the environmental impact. This requires research and development

to check if every stage is compatible. However, **redesign** approach calls for new solutions to obtain sustainable consumption coupled with environmental benefits to close the cycle, e.g., Fish skin as an alternative to animal leather requiring a redesign approach and removes the pollution associated with leather processing [39, 56]. Customer needs can be fulfilled by different approaches like something very demanding, satisfying yet environmentally safe. **Rethinking** is the next stage which involves a change in the mind-set of the consumer, and this change can bring in new life styles, different ways of living and doing things and also addresses the consumer needs in a sustainable manner. Statements like

Beauty begins the moment you decide to be yourself  
 -Coco Chanel  
 Being true to yourself never goes out of style  
 -Legally Blonde  
 The only real elegance is in the mind; if you've got that, the rest really comes from it.  
 -Diana Vreeland

If the attitude of the consumer is minimalistic, long lasting, and natural, then automatically the consumption of textile and apparels will be sustainable. Hence, rethinking enables this methodology and moves the philosophy toward sustainability. Fast fashion will be replaced by classical slow fashion; the consumer nod will be toward eco-friendly substitutes, e.g., Lakme Fashion week had the eco-friendly LOTUS cosmetic brand made available not only for the fashion artists but also for the onlookers, visitors, and participants. This hands-on experience provided an impetus to rethink and look out for natural eco-alternatives. New practices often hidden in the research laboratories should reach commercialization for providing new options and alternatives to pick and choose by the consumer.

To achieve sustainability in business models, a new outlook in value creation is required. Value is something about the product that makes the customer goes in for the purchase because they realize that is what the customer wants and it is better in comparison to the other products in the market. There are three value creation systems—**the core value** (the basic value- reconceptualization) all manufacturing systems traditionally depend on this value; **value-added** (uses added innovations to reshape the existing) which includes services attached to the core value, e.g., customer involvement for use of modular products which needs updation and modifications from time to time; **future-oriented value** is usually associated with new business products and functions. This requires serious innovative design strategies, all-level collaboration and networking to ensure radical changes in the existing system with emphasis on sustainable production and consumption. The customer is the central point and customer needs and satisfaction is the starting point around which all opportunities evolve. The time has come for the current industrial economy to move on into a service-oriented functional economy with sustainability at its epicenter. Manufacturing was conducted on a global scale buying fabric from one country, accessories from different states, and production in another part of the world bearing in mind only cost-effectiveness with no concern on environment and society. The

new vision is to use locally available materials for production to sustain the local culture, reducing the negative impact of logistics. This vision promotes users' needs and functions as primary aim which ends in a satisfying experience and emotional bonding with high-intrinsic product quality expanded by value-added services and longer life. Research and technology play important partners in executing the new visions of many business models. It is very difficult to convince today's customer as he/she is very informed and data as proof is very essential to make them work toward a particular direction—sustainability

## 6 Concluding Remarks

The apparel sector has been predicted to grow tremendously to cater to the huge population in India and China. The global middle class has grown from 3 billion in 2015 and will be 5.4 billion by 2030 [28] leading to a huge demand. There will be a need for three times the natural resources used in 2000 if the consumption rate continues at the current rate. Apart from economic and social upheavals, there will be a large usage of virgin material which is finite and will require a long time to regenerate. The take-make-waste policy has to vanish and the apparel industries must produce less to implement slow fashion which requires a lot of reorientation and renovation of policies and practices. Only those business models that innovate and redesign with environmental concerns will be able to fit into the future markets.

To start the analysis to know where they stand all apparel manufacturers need to estimate their footprint on all three aspects of sustainability—economic, environmental, and social. The Higg Index, Sustainable Apparel Coalition offers a tool to measure the environmental, social and labor impacts of products and services with guidance on science based targets. Many apparel industries have submitted their results and the SAC can take up numeric and data to make effective comparisons and assessments. Many establishments are aware of the environmental risks and are ready to react—the first goal being to reduce the future footprint when compared to the previous one. This attitude will tend to keep the progress dynamic and move the traditional one to a sustainable one. Publicizing and reporting the good results will lead to more consumer awareness and prevent greenwashing practices.

Many retailers have started collecting old stuff for discounts and are entering into recycling and new product strategies. Others are working toward resource efficiency to reduce the use of virgin resources. Still others are moving into services—repair and reform, rentals and use of second-hand clothing. Initially, only a small percentage of products in the company were sold under the eco-friendly label, but the shift is to attain sustainability in all processes inside the establishment and also in the supply chain that creates the product.

The supplier and manufacturers set the trends, but today it is the need of the customer that is of primary concern. The success of the green products is dependent on the attributes (both environmental concerns and need based) by which it can compete with the nongreen products. After the Industrial Revolution, many waves

of change have taken place; this phase of change seeks technological innovation, social issues and takes the lead to mold the minds of the consumers. The motto to be followed is ‘why the consumer needs the product’ rather than offering a product as per the fancies of the supplier and retailer. The focus should be on what the user wants as an outcome from the product. The manufacturer has to design the most sustainable product to accomplish the outcome. Rather than concentrating on how to produce and market their produce, the outcome-driven strategy is the best approach.

Fashion is a highly segmented business and one solution will not suit all business models. Many options are available for the designers to pick and choose and help to make the product sustainable in all aspects. Be it *Basics First offering the world’s first line of cradle-to-cradle gold level certified safe and compostable T-shirt* or *Natura Sewing Thread with cradle-to-cradle gold level certificate* or *Stella McCartney’s Gold level certified Wool Yarn*—each organization has chosen a vision and redesigned their processes to make their product meet the requirements and standards of sustainability. Henceforth, the Fashion Business must learn from the past and innovate new solutions and perspectives as Fletcher [20] states ‘it uses yesterday’s thinking to cope with the conditions of tomorrow’. A new sustainable mind-set is slowly emerging in both the minds of the personnel involved in the Fashion Business and the consumers who will use the products. The time will soon come when all products produced and used are sustainable in nature and are found in abundance so that there will be no non-sustainable alternatives.

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