Sustainability in the Fashion Industry: Current Practices and Challenges in India

Nilanjana Bairagi\textsuperscript{a}, Sowndarya Acharya\textsuperscript{b}

\textsuperscript{a}National Institute of Fashion Technology, Bengaluru 560102, India  
\textsuperscript{b}National Institute of Fashion Technology, Bengaluru 560102, India

\section*{Abstract}

The fashion industry has major socio-economic value because it is key to both every-day clothing and identity formation. It is based on the model of large-scale production and fast-paced consumption, which has environmental consequences. India being a hub of manufacturing and retail, exemplifies the externality of extracting limited resources at a rate faster than they can be restored. Due to the rising threat to the planet’s safe operating zone, there is a need to integrate biocentric and socio-ecological principles into the industrial model of fashion. There are also extrinsic and intrinsic value-based motivations to localise sustainability that coexist with psychological and economical barriers. Existing sustainable initiatives span across product design and system changes. However, localised efforts are faced with a lack of cohesion due to lack of coordination amongst stakeholders. The study seeks to identify, analyse and collate information across various stages and stakeholders of the fashion industry.

\textbf{Keywords}: Fashion Industry, Sustainability, Challenges, Sustainable Initiatives

\section*{1. Introduction}

The fashion industry is the world’s third largest industry, after automobile and technology (Angelis & Devetag). It has a major contribution to the economy and a major impact on the environment. According to the Pareto principle, 80\% of the consequences come from 20\% of the causes (Mizrachi & Tal, 2021). So, there is a need to focus on the choke points or hotspots in a product’s life-cycle (Notten, 2020). The shift from linear models to nested models map ananced understanding of a system (Ingold, 2013).

In the Indian context the fashion industry is diversified, yet integrated in the retail supply chain. It involves yarn manufacturers, fabric manufacturers, dyeing and processing units, garment manufacturing units, and trims and accessory suppliers. Fabrics are produced in India and also imported. The garment manufacturing units cater to the global supply chain and the domestic fashion industry. There are fabric recycling units that convert pre-consumer fabric waste to yarns.

Sustainability aims for the harmonious coexistence and equitable development of people, planet, and profit i.e., triple bottom line (Geissdoerfer et al., 2017). In the marketplace, it lays out systems to efficiently use limited resources (supply) to meet unlimited wants (demand) (Ponnath, 2016). There are extrinsic and intrinsic incentives for the stakeholders to adopt those systems and close the gap of cognitive and ethical dissonance towards environment-related issues (Angelis & Devetag, 2019). Sustainable fashion comprises of tangible and intangible variables in a product’s life-cycle (Thorpe, 2007). It addresses challenges in consumption practices, disposal channels, information pools, labour practices, material sourcing, pricing policies, product design, workplaces etc (Östlund et al., 2020). It uses tools such as circular economy, economic policies, educative initiatives, multi-stakeholder collaboration, product design and manufacturing, smart textiles etc to overcome those challenges (Fletcher, 2014).

However, despite continued efforts, some challenges persist and spillover to have a compound effect on the industry’s inability to close the loop (Tambovceva & Titko, 2020). A major cause is the lack of enterprise resource planning i.e., lack of integration and optimization of information (Li et al., 2013). The study aims to identity, analyse and collate the current practices of and challenges to implementing sustainability by various stakeholders in the fashion industry in India, using systematic literature review.
2. Objective

The purpose of the study is:

- To study the current status of sustainable practices in the fashion industry.
- To study the challenges to maintaining sustainable practices in the fashion industry.

3. Research methodology

The methodology is based on desk research which is descriptive and analytical in nature. It comprises of 2 sections: (1) Search and selection of secondary resources, (2) Analysis of secondary resources.

3.1. Search and selection of secondary resources

The search was conducted through convenience sampling, using keywords such as “behavioural economics,” “circular economy,” “corporate social responsibility,” “ethical brands in India,” “fashion retail,” “sustainability,” etc. Digital databases were used to collect resources dating 2000-2022 except for 4 resources from the 20th century. Resources were in 3 formats: (1) Audio-visual: documentary, interview, news episode, and webinar, (2) Textual: assessment report, blog post, company’s audit report, conference proceeding, discussion paper, field report, journal article, lecture notes, non-fictional book, policy paper, PowerPoint slides, primer, restricted substance list, survey, thesis (bachelor’s, master’s, and doctoral), toolkit, training guide, and white paper (3) Visual: diagram, and illustration. The source of secondary resources used in the study are mentioned in the following table.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental entity</td>
<td>Convention on biological diversity, Eco age, EEB, Ellen MacArthur foundation, Forest stewardship council, Forum for the future, Greenpeace, IOAS, MSI integrity, Natural step, Slow factory foundation, Verité, World resources institute, and Zero waste alliance.</td>
</tr>
<tr>
<td>Fashion entity</td>
<td>(1) Domestic: Aastey, Abraham and Thakore, Ahmve, Ananas Anam, Atelange, B label, Behno, Bhusratta, Blue made green, Bodice, Brown boy, Buna, Button masala, Dohe tak keh, Doodlage, Ekaya, Eleven eleven, Elfin house, Everyday Rafu, Good earth, Grassroot, Gur organics, Hemp kari, House of wandering silk, I am so wasted, I was a sari, Increncent, InSom, Jodi, Kanelle, Kardo, Ka-sha, Khadi cult, Khara kapas, Leaf age, Lota, Lovebirds, Maati, Malai, Mio borsa, Mishé, Mix mitti, Moborr, Nobitor, Nimboo, No nasties, Nool, Ode, Oshadi, Puiwand studio, Pero, Phablo, Pomogrenade, Pratibha syntax, Rajesh Pratap Singh, Relove closet, René, Runaway bicycle, Salpetre, Shift, Six buttons down, Soham dave, Sui, Terra tribe, Tiny twig, Twirl store, Ura maka, Urban darzi, and We are labelless. (2) International: AFWA, Aid to artisans, Apparel impact institute, BCWS, Fashion for good, Fair wear foundation, Fashion revolution, GFA, Labour behind the label, PACE, Redress, Sustainable apparel coalition, Textile exchange, War on want, and WRAP.</td>
</tr>
<tr>
<td>International organisation</td>
<td>Anti-slavery international, Design exchange, Fair labour organisation, Forum for the future, G7, HRW, ILO, Oxfam, UNGC, UNCTD, UNEP, UNIDO, WTO, WIPO, WTO, and WEF.</td>
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</table>

3.2. Analysis of secondary resources

The information about sustainable fashion was divided into 6 sections: aim, context or factors, focus group, need, stakeholder, and tool of implementation. The aforementioned sub-systems were based on the DPSIR framework which illustrates a chain of causal links in a system. It comprises of 5 elements: (1) Driving force or need of humans, (2) Pressure on environment, (3) State of environment, (4) Impact on environment, (5) Response by humans (Kristensen, 2004). The information was analysed using the discourses of behaviouralism and economics (both micro and macro) to understand the complex socio-economic roots of unsustainability. Behaviouralism provided theories such as attitude-behaviour gap, bounded rationality, ethical dissonance, nudge theory etc to understand decision-making (Delmas & Burbano, 2011). Economics provided theories such as commodity fetishism, cowboy economy, linear inertia, purchasing power parity etc to understand market functions and motivations (Ponnath, 2016).
4. Research findings

The research findings through the review of literature are divided into 3 sections: (1) Fashion industry, (2) Practices of sustainability in the fashion industry, (3) Challenges to sustainability in the fashion industry.

4.1. Fashion industry

The fashion industry comprises of apparels and accessories. Its core utility entails adorning oneself, conducting rituals, making one’s identity, and protecting oneself from external elements (Frame et al., 2010). Its augmented benefit entails desire, emotional attachment, and social competition (Gordon, 2021; Grosse-Hering, 2013). It functions using either of the 2 models: (1) Fashion systems model based on the work of Georg Simmel and Thorstein Bunde Veblen, states that few mainstream groups in one place create fashion (Hemphill & Suk, 2009), (2) Populist model based on the work of Herbert George Blumer states that diverse subcultures in different places create fashion (Ahuja, 2021).

It produces 62-80 million tons’ worth of products every year (Brigden et al., 2012; Creagh et al., 2019; Cornell et al., 2021), a volume that doubled in 2000-2015 (Acaroglu & Segal, 2019) and is forecasted to triple by 2050 (The Economist, 2018). According to Raymond Vernon, a product goes through 6 stages in the marketplace: introduction, rise, acceleration, general acceptance, decline, and obsolescence (Wang, 2010). It is segmented as follows: (1) Age-wise: child, and adult. (2) Gender-wise, androgenuous, and cisgender-based. (3) Market-wise: designer or historical, luxury, industrial or premium, and fast fashion (Angelis & Devetag, 2019). (4) Style-wise: antique, avant-garde, camp, classic, couture, custom fit, fad, haute couture, retro, and street (Ahuja, 2021). (5) Utility-wise: every-day use, and occasional use (Naqvi, 2018).

The life-cycle of a fashion product comprises of 5 stages: (1) Cultivation and extraction of fibre, (2) Production (design and manufacture) of yarn, fabric, and apparel (3) Distribution via retail chains, (4) Consumption, (5) Disposal. The design stage is majorly located in the global north (Brooks, 2015). The manufacturing stage is majorly located in Asia: Bangladesh, Cambodia, China, Hong Kong, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam (Barnhoorn et al., 2018; Parviainen et al., 2021). Non-Asian hubs are Italy, Morocco, Poland, Portugal, Spain, and Turkey (Barnhoorn et al., 2018). Africa is an emerging hub with Ethiopia, Kenya, Nigeria, and Tanzania taking the lead (Korde, 2021).

It is valued at $1.3-3.3 trillion and $67-78 billion the international and domestic level respectively (Angelis & Devetag, 2019; Wazir Advisors, 2020). In India, its CAGR is 10.23% (India Brand Equity Foundation, 2021b). Its contribution is as follows: (1) GDP: 2-5%, (2) Export: 13% i.e., worth $35 billion (Summerton, 2021), (3) industrial production: 10% (Textile Exchange & KPMG, 2019). It employs 40-45 million people and 60 million directly and indirectly (ancillary sectors) respectively (Prasad et al., 2014; Summerton, 2021). Women account for 68-80% of the workforce (Organisation for Economic Co-operation and Development, 2017).

4.2. Practices of sustainability in the fashion industry

Sustainable fashion in an umbrella term for ideas, processes, and outputs that integrate the triple bottom line into the model of large-scale production and fast-paced consumption (Thorpe, 2007; Geissdoerfer et al., 2017). It is nested in sustainability which has progressed in 4 stages: (1) Traditional: substitute, (2) Lean: decrease waste, (3) Green: 3R (reduce, reuse, and recycle), (4) Sustainable: 6R or 9R (recycle, reduce, refurbish, refuse, remanufacture, repair, repurpose, rethink, reuse) (Ostlund et al., 2020). It protects the future at the expense of the present instead of protecting the present at the expense of the future (Frame et al., 2010). It also complements a spaceship economy wherein limited resources are managed to handle unlimited wants, according to Kenneth Ewart Boulding (Adaina, 2017).

4.2.1. Need:

The safe operating zone of earth is exposed to risks such as loss of species, overexploitation of resources, tragedy of commons, urbanism, waste disposal etc (Adaina, 2017). As a result, natural processes have shifted away from the 10,000-year stable baseline of Holocene (Cornell et al., 2021). According to the planetary boundary framework, issues such as bio-chemical flow, biodiversity, climate change, and land-use change are imminent risks (Steffen et al., 2015). Currently, there are 3 economic derivatives from the environment: resource supplier, utility supplier, and waste assimilator (Rizos et al., 2017; Muthu, 2019). The fashion industry relies heavily on natural capital; it will account for 25% of the carbon budget by 2050 (Fashion for Good, 2019). It introduces resources into the system faster than they can be accommodated into reverse chains (Buttwerworth et al., 2013). Following is the climate impact of a fashion product’s life-cycle: production (16%), yarn production (10%), fabric production (14%), wet treatment (23%), confectioning (16%), transport in production (1%), distribution and retail (3%), transport in consumer use (11%), laundry in consumer use (3%), and end-of-life treatment (3%) (Ostlund et al., 2020). Hence, there is a need to address the real-time impact of the industry on the environment (Niiinmäki, 2015).

4.2.2. Motivation:

The producers are largely motivated by sustainability-driven revenue uptake valued at $160-192 billion (Brink, 2018; Textile Exchange & KPMG, 2019). The access to greener and newer markets increases net profit (Choraria et al., 2020; Notten, 2020). For instance, companies that had positive press about climate change saw their share price increase by 26% (Haller et al., 2020; Organisation for Economic Co-operation and Development, 2011). Also, the volume of product sale increases due to increased use per user, increased users per product, and emotional connect between product and user (Ruiz-Real et al., 2018; Ellen MacArthur Foundation, 2020). On the administrative front, the risk of legal trouble related to foreseeability and negligence, or regulatory pressure decreases (Naidoo & Gasparatos, 2018).

The consumers are motivated to engage with entities that are accountable, authentic, credible, equitable, functional, local, respectful, and transparent (Frame et al., 2010; Wiese, 2013; Mein & Mustorp, 2017). Life experiences such as communal responsibility, guilt of climate change, health...
and wellness, and parenthood nudges them to partake in socially responsible activities (Haller et al., 2020; Oeko-Tex, 2020; Valtanen, 2021). They want to overcome information asymmetry (United Nations Conference on Trade and Development, 2020). Its relevance amongst consumers is as follows: China (60%), India (81%), Italy (62%), Japan (55%), Mexico (69%), UK (54%), and USA (55%) (Albouy & Adesida, 2018).

4.2.3. Tool:
Some of the interdisciplinary tools used to implement sustainability in the fashion industry are mentioned in the following table.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>Academic activity (Ellen MacArthur Foundation, 2013), art installation</td>
</tr>
<tr>
<td>Circular economy</td>
<td>Collaborative lifestyle (Dhugosz, 2014), process engineering (Heshmati,</td>
</tr>
<tr>
<td>Multi-stakeholder collaboration</td>
<td>Activist, civil society organisation, consumer, designer, dying and</td>
</tr>
<tr>
<td>Product design and manufacturing</td>
<td>Ability to disassemble (Brown et al., 2021), biomimicry (Tambocceva &amp;</td>
</tr>
<tr>
<td>Smart textile</td>
<td>Conductive ink (Berglin, 2008), digital twins (Federation of Indian</td>
</tr>
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</table>

4.3. Challenges to sustainability in the fashion industry

The industry’s existing approach is more anthropocentric than biocentric or socio-ecological (Thorpe, 2007). It values commercial growth instead of social change (Mukendi et al., 2020). There is a need to understand the cross-scale and cross-level externalities (Palm et al., 2021). However, to focus on only increased profits and imitable trends as the sole causes of a wicked problem is incorrect (Frame et al., 2010). The following paragraphs illustrate how macro-changes in socio-economic systems drive the existence of unsustainable fashion.

4.3.1. Extrinsic value system
Extrinsic value equates a good life to external achievements such as attractive appearance, financial success, and social recognition (Parker et al., n.d.). According to Shalom Schwartz, it values individualism over collectivism. Indulgence is on the rise, which is 1 of the 6 parameters of the cultural dimensions theory (Hofstede, 2011). According to Mihaly Robert Csikszentmihalyi, the inability to tune into one’s consciousness through simple and non-rewarding activities such as having hobbies, spending time with loved ones, witnessing natural landscapes etc causes psychological distress (Thorpe, 2010) i.e., affluenza: negative impact of the dogged pursuit of more (Bly et al., 2015; Roach et al., 2019).

Consequently, there is a lack of tempo guisto (right inner speed or tempo), according to Carl Honoré (Fletcher, 2014). The internal stride is tried to be overcome by indulging in cheap, impulsive and quick product purchases for instant gratification i.e., being on a hedonic treadmill (Denisova, 2021, Pucker, 2022). It is an escapist consolation amid the difficulty or expensiveness of accessing basic needs such as education, housing, insurance etc (Morgan, 2016). One becomes a mere end-user instead of an active citizen (Ng, 2020) wherein one’s identity is defined by what one owns (Wang, 2010). It morphs into a habit of buying positional goods to keep up with peers especially reference groups i.e., bandwagon effect (Lambert, 2014).

4.3.2. Capitalistic consumption
Capitalism is an economic system where private entities own and control goods in a free market. It has had major failures such as depression (1873-1896), wall street crash (1929), oil crisis (1973-1974), financial crisis (2008) etc but it continues to function (Brooks, 2015). It uses the cowboy economy model where resources are exploited at a rate faster than they can be regenerated or restored (Pontrath, 2016). According to Karl Heinrich Marx, commodity fetishism leads to the use of durable goods (“things that people use”) as perishable goods (“things that people use up”) (Morgan, 2016). So, quantity of textiles produced is likely to be more of a concern for sustainable fashion that the features of textiles (Palm et al., 2021).80 billion apparels are consumed per year; a 400% rise in the last 20 years (Morgan, 2016; Koszewska, 2018).

Rising disposable income and a desire for higher living standards (Naqvi, 2018; Andersson & Hoffner, 2020) increases the propensity to consume instead of the propensity to save (Summerton, 2021). In India, the purchasing power parity S176 (National Institution for Transforming India, 2017). Furthermore, due to planned obsolescence, 75% of people buy at-least 1 apparel every 1-3 month(s) (Butterworth et al., 2013; Preuit, 2016). Ezio
Manzini states that product-based well-being disables or de-skills people (Thorpe, 2010). The law of diminishing marginal utility also states that a continuous flow of new rewards decreases one’s capacity to enjoy them (Fletcher, 2014).

4.3.3. Profit-driven production

Production uses capital, entrepreneurship, labour, and land (Ponnath, 2016). But the model has remained stagnant since the industrial revolution (1760-1840) (Vikhytaev, 2021) i.e., linear economy inertia (The Warren Centre, n.d.). It focuses on net profit and shareholder value instead of production efficiency (Ineichen et al., 2015). For example, GDP is seen as the mark of growth but, its inventor Simon Smith Kuznets himself said that it is an inclusive measure (Greenfield, 2021). According to Vandana Shiva, it only measures economic value of products that are traded and not their socio-cultural externalities (Morgan, 2016). Hence, the current model uses entrepreneurship and liberalisation with a top-down approach (Pucker, 2022).

Globalisation comprising of ethnoscapes, finascapes, ideoscapes, mediascape, and technoscapes (Appadurai, 1990) impacts logistics and supply chains. Delicate interconnections increase exposure to risks such as asset bubble, commodity shock, debt crisis, price instability or volatility etc (Brink, 2018; World Economic Forum, 2021b). Wealthier nations make policies to shift the burden to low-income and middle-income nations (Notten, 2020). To maintain profits, compliance loopholes are used in the manufacturing stage: absent unionism, ill-maintained machinery, lack of social safety nets, long working hours, low wages, hazardous workplaces etc (Walter, 2019; Salter, 2020; Bharadwaj et al., 2021).

4.3.4. Pricing model

The fashion industry functions on economies of scale because it caters to a mass audience. Product purchase is price sensitive (Ghemawat & Nuendo, 2006), at least for 77.03% of consumers in the world (Quirós, 2019; Essoy & Fu, 2021) and majority of consumers in south-east Asia (Parvianen et al., 2021). An apparel’s average price has decreased by 26.2% (UK) and 17.1% (USA) (Killy, 2016). Also, except for high-income consumers, people do not desire to pay a premium price for a sustainable product (Moeae et al., 2011; Han et al., 2016). Except the high-end segments, product prices do not often reflect the economic and ecological costs (Gourville & Soman, 2002; Molderez & Elst, 2015; Lisca et al., 2021). 30-40% of apparel are sold at a markdown price because supply exceeds the demand (Koszewska, 2018; Pucker, 2022).

Companies often use dumping (persistent, predatory, or sporadic) to export a product at a price lesser than its domestic price (Adaina, 2017). According to Greenpeace, on the consumer front, 40% of apparel bought is never used (DW Documentary, 2021), and 31 kilograms of apparel is disposed per capita per year (Forum for the Future, 2020). Despite negative externalities, the existing model has not changed due to the risk of price volatility and foreign currency fluctuation (Ellen MacArthur Foundation, 2018; Andersson & Hoffner, 2020). So, the low-price model continues to complement the take-make-waste model (Paoli, 2015). However, “Cheap apparel is not cheap. Someone always has to pay for it and that someone is the worker,” according to Kalpona Akter, executive director of Bangladesh Centre for Worker Solidarity (Paré, 2020).

4.3.5. Lack of regulation

The market has economic, ethical, legal, and philanthropic responsibilities (Ponnath, 2016). Hence, there are laws to protect environmental and intellectual resources in major industries such as construction, food, forestry, logistics, petroleum etc. But there is a lack of legal oversight for the fashion industry (Organisation for Economic Co-operation and Development, 2017). The existing laws on forestry, labour, wage, workplace etc do not specifically address nuances of the fashion industry (Hatley, 2021). Expansionary trade policies such as FTA (for example, CEPA and SAFTA), knock-offs’ legalisation, multiple exchange rates, SEZ etc further remove checks and balances (Adaina, 2017). When the multi-fibre arrangement ended in 2004, it allowed high-income nations to remove the cap on import quotas and shift major part of the manufacturing to Asian and African nations (Connor & Dent, 2006).

Civil society organisations’ efforts to promulgate regulations are hard to align with the objectives of industrial lobbyists (Brooks, 2015; Niinimäki, 2015). Existing metrics and tests focus on specific variables and do not account for social ramifications (Palm et al., 2021). For instance, LCA does not account for impact on biodiversity, land use change etc. Existing facts and protocols have either of the following disadvantages: (1) Jurisdiction issues in a globalised market (Ozdamar-Ertekin, 2016), (2) Lack of evaluation upon implementation, (3) Lack of extended producer responsibility (Greenfield, 2021), (4) Non-enforceability by judiciary, (5) Non-standardisation due to ill-defined or interpretative terminology (Butt et al., 2021), (6) Reliance on classical theories of economics (World Economic Forum, 2021b).

A major area of deregulation is the disposal stage of a fashion product i.e., leak in material loops (Tambovceva & Titko, 2020), Wastage of textile has increased by 811% in 1960-2015 (Paré, 2020). Three-fifth of apparel are disposed within a year of being produced (Denisova, 2021). Current practices of disposal such as donation, dumpsite, incineration, and landfill do not value the resourcefulness of end-of-life stage (Federation of Indian Chambers of Commerce and Industry, 2018). Apparels worth $183 million and 73% of textiles end up in landfills (Chen et al., 2021).

4.3.6. Cognitive dissonance

Cognitive dissonance is the gap between what one says one will do and what one actually does i.e., attitude-behaviour gap (Acaroglu & Segal, 2019; White et al., 2019). People are bombarded with complex and voluminous environment-related data (Horiuchi et al., 2009; Meinke & Mustorp, 2017). The cognitive miser theory encourages one tonot use effort-intensive ways to understand a given concept (Montero, 2009). For example, there is a misconception that cotton is completely sustainable solely because it is a natural fibre. But its cultivation is land-intensive (8% of arable land in India) (Cossiemi et al., 2020) and water-intensive (7,000-29,000 litres for 1 kilogram) (Allwood et al., 2006). Ethical dissonance is the gap between moral self-image and desire to profit from unethical behaviour. It is caused by present bias or myopic loss aversion wherein one values short-term gain over long-term benefit (Organisation for Economic Co-operation & Development, 2013). There are 2 examples of bounded rationality (Deltmas & Burbano, 2011): (1) Licensing: initial ethical behaviour gives one the permission to behave less virtuously in the future (2) Slacktivism: support a cause using only online petition, social media etc because it requires little commitment or effort (White et al., 2019). It is exacerbated by the producers’ effort to shift the responsibility to consumers i.e., “Products are green until, consumers use them” (Horiuchi et al., 2009).
Producers exemplify the following statement by Upton Beall Sinclair: “It is difficult to get a person to understand something when their salary depends upon not understanding it” (Green, 2016). Greenwashing uses selective transparency (Sustainable Apparel Coalition, 2019) to either fix only a small part of the life-cycle or not to address core issue altogether (Perreault, 2021) or to mislead consumers about a product’s environmental impact (Acaroglu & Segal, 2019). It uses deceptive recycling campaigns, falsified audit reports, misleading vocabulary, nature-related imagery in packaging, undisclosed raw materials etc (Delmas & Burbano, 2011). They are aspirational instead of realistic with their sustainability efforts (Bly et al., 2015). They use delaying and distracting tactics such as “until more research is done.” (Changing Markets Foundation, 2021). They equate being less unsustainable to being sustainable (Pucker, 2022). They tend to treat information with a hostility that economists reserve for monopolies and tariffs (Stigler, 1961). They use deception: 42% of 344 claims chosen for a study had exaggerated or false terms (European Environmental Bureau, 2021). They use hard technology to fix complex socio-economic problems and remain unaccountable for their behaviour (Li et al., 2013; Fletcher, 2014).

4.3.7. Lack of multi-stakeholder engagement
Awareness and initiatives about sustainable fashion is rising but fragmented in India. The industry is a diverse set of function-specific providers: artisans, dyeing and processing units, fabric suppliers, seamsters, trims and accessory suppliers, waste recyclers, yarn manufacturers etc. Each of them goes through certain cycles to reach the end-output and thus face challenges in coordination (Li et al., 2013). Each of them has a unique point to integrate sustainability into the organised and unorganised operations of the industry (Textile Exchange & KPMG, 2019). So, exchange of data is key to well-informed decision-making (Summerton, 2021).

On the global stage, governments lead initiatives which trickle down to private players: carbon label by French Agency for Environment and Energy Management, circular economy report by Vancouver Economic Commission (Canada), fashion pact by G7, report by Environmental Audit Committee in the House of Commons (UK), Sustainable product policy framework by European Commission, tax deduction for consumers who donate apparels (USA) etc. In the Indian context, government policies exist but they do not tend to address the environmental impacts of the fashion industry: ATUFS, IPDS, MITRA, PLI, PM MITRA, SITP etc (National Portal of India, 2022).

A major factor for stakeholders to view sustainability as more than just a compliance issue, is economic conduciveness (Parviainen et al., 2021). In the past few years, unilateral fiscal policy has overridden monetary policy: CPSE’s privatisation, demonetisation, GST, IBC etc. It along with other factors has led to inflation, NPL, reduced investment, unemployment etc that dilute the willingness to find an alternative to ‘business as usual’ (Brown et al., 2021). There is a need to adopt sustainability-centric policies such as doughnut economics which accounts for ecological ceiling and social foundation (Raworth, 2017).

In the private sector, homegrown brands and mom-and-pop stores (mentioned in Table 1 on pp. 2) are serving as alternatives to fashion giants despite struggling both in the marketing space and the market space. Bodice uses buttons made of natural sources (coconut shell, seashell, and wood), hand-stitches, and plant-based dyes (Kumar et al., 2019). Elfin House uses GOTS-certified organic fabrics (Elfin House, n.d.). Leaf Age uses barks, leaves and twigs to apply natural dyes on fabrics (Nath, 2022). Malai uses bacterial cellulose cultivated using agricultural waste (Mehra, 2021). Rengé uses leftover fabrics in factories and mills to make limited collections (Dundoo, 2020).

There is a rising focus on reintroducing pre-consumer and post-consumer waste into the cycle (Summerton, 2021). Finland-based Pure Waste Textiles has a plant near Coimbatore (Chhabra, 2016). IKEA has partnered with CAF to 5 years to make a textile-waste handling system suited to India (Bora, 2021). Fashion for Good has partnered with major brands to start ‘Sorting for circularity’ project with the aim to document the scale and direction of textile waste in India (Fashion for Good, 2021). However, there is a lack of a common platform where stakeholders can share, update, compare and measure, and manage data about ongoing initiatives (United Nations Climate Change, 2020).

5. Limitation
The study relies heavily on the discourses of psychology and economics, and does not provide counter-arguments from other relevant discourses. Furthermore, it presents a skewed perspective. For instance, nudge theory is not used only by producers to override consumer sovereignty but, also by civil society organisations to create meaningful awareness (Naidoo & Gasparatos, 2018). Another example is that of capitalism and free market being highlighted as a cause of current consumption habits whereas many factors of zeitgeist have a role in it. The study tends to simplify certain macro-economic concepts. For example, trade instruments such as FTA or SEZ are not intended to only benefit producers. They also have a spillover effect on transfer of knowledge and rise in employment in localised contexts. The fashion industry, like any economic entity, has to balance market demand and stakeholder expectation (Ruiz-Real et al., 2018). So, the trajectory of the fashion industry adopting sustainability is complex and not as simple as input-output (Nininimäki, 2015).

6. Conclusion
Sustainability in the fashion industry is evolving from a linear model to a holistic approach. For instance, 12.5% of the fashion industry intends to adopt circular economy (Fashion for Good, 2019) such that it functions within local contexts (Bly et al., 2015). Furthermore, nested systems help to identify choke points or hotspots that need immediate attention: closed loops, information cycles, economic policies (both private and public), labour conditions, product-service systems, multi-stakeholder partnerships, and product design. However, the macro-systems conducive to unsustainability stay intact. According to Greenpeace, companies project the image of working towards sustainable products when their core business itself is unsustainable (Horiuchi et al., 2009). Psychological factors such as hedonic consumption and cognitive dissonance drive decision-making. Economic models based on classical thinking, support initiatives that value profit over people and planet. Both the factors do not account for ecological and socio-cultural externalities (Rizos
et al., 2017). There is a need to balance the focus on materials’ characteristics as well as materials’ handling in the discourse of sustainable fashion (Palm et al., 2021). An effective approach is to use interconnections amongst stakeholders wherein each contributes using their expertise to increase the local efficiency of a given sustainability initiative (Li et al., 2013; Brad et al., 2018).

REFERENCES


Meinke, K., & Mustorp, O. (2017). Understanding the awareness of fashion concerns' social responsibility practices influences consumers' perception of brand image, as compared to one's interest in fashion. [Master's project, University of Gothenburg]. https://gup.e.uib.no/bitstream/2077/52832/1/gup_e_2077_52832_1.pdf


