

Book of Abstracts

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RP1 – How Can Social-Cultural Values Nurture Sustainability in the Fashion Sector?

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Background scientific research: The current socio-cultural panorama requires much more extreme attention in redefining the values of the products that belong to the Fashion sector through research for authenticity in the productions, incorporating ethical values and social governance, and more conscious consumption.

According to this, Fashion brands, as demonstrated by the 2019 Fashion Pact (www.thefashionpact.org), are constantly demanded to show a respectable, unequivocal, and credible company reputation. Such status is not only expressed through the transparency and traceability of their fashion businesses' operations but above all, through a continuous social and cultural exchange through on-going narratives with their consumers and their wider audience (Arrigo, 2015; Levitt, 1965). Therefore, the socio-cultural component is an essential driver for culture-intensive industries in differentiating products and gaining a competitive advantage (Bertola et. al, 2016). This variable becomes "cultural authenticity", which means both pinpointing on exclusivity, uniqueness and originality of the process that generated specific products or services, but also implying a strong connection with heritage, productive culture of a specific territory, the communities of workers, to which those very products and services belong (Bruner 1986, 1991; Vacca 2013, Brawn and Vacca, 2022).

Research issue to be addressed: The culture of design reconfigures socio-cultural sources in new artifacts not only developing highly narrative content, but also stimulating innovation, pursuing new languages, increasing the potential of the evocative dimension, moving along the value chain creating new meanings and promoting new models of socio-cultural sustainable development. Moreover, the socio-culture dimension reflects a specific identity through which it can be accepted and embedded into contemporary cultures and engage in a process of collective reputation in which brands and customers collaborate and co-create contents (Moisander and Personen 2002). In those specific fields of practice, the paper will discuss how socio-cultural values can nurture sustainability in the Fashion sector, with an ostensibly emphasis on their attention to authenticity, respect for time, craftsmanship and ecologies and on their ability in promoting values for social justice, sharing practices, responsibility and sustainable development (Kim, Ko, 2010). In fact, if on the one hand, the intrinsic value in Fashion production has a social impact on costumers' behavior as there is a growing awareness of fashion consumption on people, of the ethical issues and more concern over the different stages of production. On the other hand, culture intensive industries, such as fashion, embeds cultural capital values (Throsby, 1999) as an aggregate of tangible and intangible factors which is continuously reinvested in the development of new artifacts, goods, and services but also the bearer of new values and meanings (Sennet, 2008; Vacca, 2013).

Methodology used: According to the authors' investigation, a mapping of socio-cultural sustainability practices of European Fashion companies is carried out through an iterative process to model the data.

The paper is based on the authors' research and reflections on the topic. Here, the data pool produced by authors' contributions to several research projects (DGGROW, Mapping Sustainable Fashion Opportunities for SMEs, 2019; Erasmus+, FashionSEEDS, 2019) is analyzed. In addition, further specific data are drawn upon the research carried out by one of the authors (Vacca, 2021; Bertola et al., 2020; I was a Sari, 2013; Design Re: Lab, 2002), the doctoral thesis of one of them (D'Itria, 2022) and their previous publications on the topic (Brown and Vacca, 2022).

An initial desk research phase was followed by applying a case study methodology to narrow the selected scope of research into topics. This process resulted in codifying two main directions that the fashion industry is adopting for enhancing sustainability through a socio-cultural perspective I: (1) Understand current industry strategies to capitalize on the distinctiveness and uniqueness of the process that generated products or services, and (2) implementing sustainability by shifting companies' narrative by stressing their attributes of care for the environment, artisanship, and territories, and their role in fostering social equity, inclusive practices, and responsibility. Selected case studies, that emerged from the research phase, are presented as best practices. The authors focus on these specific cases, but simultaneously take account of the whole context encompassing many variables and qualities for restituting explicative knowledge (Johansson, 2007).

Results achieved: The paper illustrates how fostering socio-cultural sustainability for Fashion brands creates strategic actions that stimulate and develop the production and competencies of local systems. Such strategies in now enhancing "cultural authenticity" by engaging specific pieces of knowledge and communities that contribute to the brands' uniqueness triggering a sustainable innovation in the production sectors they represent.

Keywords: socio-cultural sustainability, cultural capital, cultural authenticity, culture intensive industries, processes of change in the fashion system.

RP6 – A Systematic Literature Review of Fashion Rental and Blockchain Technology

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Purpose: The paper synthesises peer-reviewed journal articles on fashion rental and blockchain technology to assess academic research in this new field and highlight research opportunities, challenges, and future research directions.

Design/methodology/approach: A systematic literature review of 37 articles was conducted to determine the extent to which blockchain/blockchain technologies has been applied to and can be applied to fashion rental business models to facilitate its mainstream adoption.

Findings: A descriptive analysis was conducted outlining paper distributions, author affiliations, and journals, followed by analysing keyword co-occurrences as part of a data-based support to identify topical areas for further thematic discussions.

Research implications: By illuminating the relative novelty of the two concepts, future areas of research related to the cross-linkages between fashion rental and blockchain technology is identified.

Originality/value: Currently, there is a dearth of research on what is known about the particularity of fashion rental through implementing blockchain technology. This study proposes a future-oriented perspective on fashion rental development and blockchain application for the fashion industry.

Keywords: fashion rental, blockchain, blockchain technology(ies), platform, fashion, sustainability, systematic literature review.

RP9 – The Virtual Life of Textiles: a Provisional Haptic Library Model**LUPU, Ruxandra and TUFARELLI, Margherita****Cardiff University / University of Florence (REI Design Lab)**

The knowledge economy and the subsequent digitization of all cultural forms have transformed textile and fashion archives into an active part of the storytelling and design of new goods and services, turning them in all effects into knowledge laboratories (Spencer et al. 2020; Akiwowo et al., 2019). However, despite the possibility of constant reinterpretation and combination of content which textile archives activate and the obvious educational potential they hold (Lee and Leong, 2019; Mechan, 2020), these repositories remain currently underused. As fashion data experience in a 'phygital world' becomes ubiquitous, material archives are called to design more meaningful interactions with technology (Lean, 2020, Iannilli and Spagnoli 2021). Although rapidly evolving technologies manufacture the actual and virtual surfaces of today (Montilla et al., 2014), altering our perception thereof, they are currently not able to offer the user the level of understanding of textile properties that physical manipulation and viewing provide (Igoe, 2020). Haptics remains thus one of the most challenging areas for virtual textile experience design.

This article addresses the untapped haptic potential of digital textile collections by outlining a theoretical model relying on visual hapticity (Lécuyer, 2009) rather than the use of haptic devices (Furukawa et al. 2019), which is the more common approach. Visual hapticity remains underexplored in fashion mainly because it is underpinned by complex cognitive processes (Jang and Ha, 2021; Mlakaret et al. 2021). Thus the main question arises: how can an embodied approach to 3D technologies expand haptic visuality and expose the haptic/tactile qualities of materials, inducing an extended sense of touch and producing a more immersive, dense and intense user experience that enables the acquisition of tacit knowledge? We aim to answer this question by proposing a theoretical model where haptic visuality, meta-materiality and immersive exploration represent the fundamental basis in the interaction between media and tools that can enable new experiences in the digital environment.

The paper adopts a Research Through Design (Frayling, 1994) (RtD) approach that employs project-grounded actions to advance knowledge with the methods, practices, and processes of design practice. RtD proves useful insofar it enables us to interpret our design artifact i.e the haptic library model, as a transformational outcome leading to a preferred condition. The library model produced in this type of research becomes thus a design exemplar, providing an appropriate conduit for research findings to easily transfer to fashion research and practice communities (Zimmermann et al, 2007). Following this methodology, our paper unfolds the outcome of the first of the three steps of the design process for a new haptic library model - the pilot phase - that aims to define the process, gather test materials and develop the framework for experimenting with 3D-haptic textiles. It also discusses implications for the following two steps of the project: 2. Prototype phase aimed at building the first functional prototype of the haptic library project; 3. Scaling up the model testing and using the framework within institutions and private companies.

The proposed model of haptic textile library has implications both for design theory and practice. Theoretically, it advances research in visual hapticity applied to fashion, by experimenting with more integrated approaches which leverage on latest studies in film practice as well as 3D modeling and scanning of textiles. On a practical level it has important implications not only for institutional repositories which can create new experiences for their collections, but also for the communities of designers and design education institutions. A model that democratizes access to new ecological textiles and integrates innovative principles (modularity/reuse/co-creation) in its core functionalities is ultimately fundamental for creating new opportunities for visual education in fashion that leads to a more eco-sustainable future.

Keywords: visual haptics, fabric hand, haptic library model.

RP10 – Implementing Education for Sustainable Development in Textile Education and Training
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Trakia University

Purpose: A strong demand for sustainable products and processes in the textile and fashion industry and its global markets imposes a continuous implementation of the guiding principle Education for Sustainable Development (ESD) in textile education and industry.

Methodology: To achieve this goal, the European project “Sustainable Fashion Curriculum at Textile Universities in Europe - Development, Implementation and Evaluation of a Teaching Module for Educators” (Fashion DIET) developed digital teaching and learning arrangements within a partnership of a university of education and universities with textile departments (project duration: 09/2020 - 08/2023).

Findings: In an initial step, the project elaborated a further education module on ESD in the context of fashion and textiles, based on a survey of over 120 university lecturers in the three partner countries Bulgaria, Germany and Romania. The three-part module comprises 42 lectures with didactic-methodical concepts, sustainable fashion design and corresponding production technologies as well as sustainable orientation of the fashion market. It aims to enrich established textile-related curricula at universities and vocational schools. The ESD module was tested and evaluated for participatory development by lecturers and educators from the partner countries in two Learning, Teaching and Training events. The project content is provided as Open Educational Resources via Glocal Campus, an open access e-learning platform, that enables virtual collaboration between universities. In addition, the Fashion and Textile Database, a comprehensive database to collect up-to-date information on fashion and textile related topics, is developed.

Practical implications: Fashion DIET thus strengthens the quality and relevance of sustainability-oriented textile engineering and management education.

Keywords: fashion design, ESD, textile and clothing technology, e-learning, curricula.

RP13 – Design for Cyclability. Recycling-Oriented Product Development Using the Example of the Practical Implementation of a Menswear Rain Jacket

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Purpose: This work aims to develop a recyclable menswear rain jacket made of polyester. A smaller variety of materials crucially enhances the recyclability of the product, especially in the case of plastics processes, which is why it should preferably only consist of one material. Besides this guiding principle, the functionality of the jacket should not be impaired.

Methodology: The strategy used here is described as Design for Cyclability. After the theoretical elaboration of the topic and the definition of the exact criteria, the next step is to develop a prototype. This practical implementation is mandatory to determine the degree of contamination by polyurethane and thus the recyclability. During product development, all the necessary information is generated, such as the weight of the jacket or the consumption of the outer fabric, to calculate this contamination.

Findings: The actual proportion of polyurethane in the materials is not disclosed by the manufacturer, thus a statement about the product's purity can only be made hypothetically. For example, with 5% polyurethane in the outer fabric and 70% polyurethane in the seam tape, the final product would only consist of 6.3% polyurethane. Additionally, the selection of material and design elements guarantee functionality.

Originality: This study clearly shows design in terms of mono-materiality contributes significantly to recyclability and thus, the conservation of resources. Moreover, this strategy leads to new design solutions since the idea of recycling is already integrated at the product creation stage.

Keywords: recycling, design, menswear, mono-materiality, ultrasonic welding, polyester, laminate.

RP15 – Exploring Perceptions of Climate-Aware Generation-Z Towards Fast-Fashion Corporations' Responsibility

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Background scientific research & Research issue to be addressed: Growing concern for the climate-crisis has led to the emergence of sustainable communication efforts by businesses, following a demand by consumers for ethical consumption (Granskog et al., 2020). This is evident within the fashion industry, where fashion marketing focuses on sustainability in response to criticisms that fast-fashion is inherently unsustainable (Ritch, 2021). As a result, there is a feeling that to propagate change, activism is required to instigate sustainability as a priority for governments, businesses, and citizens. Often activists believe that changing the current capitalist economic system is necessary to mitigate imminent climate breakdown (Grossmann, 2022; United Nations, 2021) and that the global North is responsible for unethical, neo-colonial practices that are based on the exploitation of the global South (UNEP, 2021). This notion of applying a political lens reflects debates around citizenship and consumerism (Gabriel and Lang, 1995), with citizens assuming responsibility for equality and the well-being of all, and consumers focusing on commodity value. Increasingly, in the northern sphere, consumers actively oppose exploitative production and embrace ethical consumption (Vajkai Kovács and Zsóka, 2020). This aligns with adopting a citizen approach, where consumers' position spending behaviour as economic voting, in which brands engaging in unethical practices are actively boycotted or avoided (Vringer et al., 2017). In particular, Generation-Z are influential in driving the market toward sustainable offerings (Kyroglou and Henn, 2021). They are the first generation to be educated in sustainability from a young age and the rise in media outlets reporting on sustainability has resulted in this cohort developing concern for their future and that of the planet (Seemiller and Grace, 2019). This cohort encompass characteristics of climate awareness, critical-thinking skills and general concern for imminent climate damage and can therefore evaluate corporations' responsibility for sustainability. Generation-Z are often regarded as politically involved climate-activists (Seemiller and Grace, 2019); however, rising numbers in fast-fashion purchases and throwaway consumption amongst Generation-Z (Kale, 2021) pose the question of whether Generation-Z apply a critical lens to fast-fashion sustainability marketing.

Increasingly, current fast-fashion business allude to CER (Corporate Environmental Responsibility) marketing strategies often receive scepticism and criticism of greenwashing by Generation-Z (Djafarova and Fouts, 2022). Companies acknowledge demands for sustainability by addressing social responsibility in advertising (Croson and Treich, 2014), such as announcing improvement in production and recycling processes, and prompting individuals to shop more sustainably (Carvill et al., 2021). Current qualitative studies exploring CER communications suggest higher scepticism amongst climate-aware and concerned respondents towards sustainable advertising (Luo et al., 2020) and buying sustainably and buying less (Kim et al., 2018). Yet, research lacks the concentration of consumer's perception behind green marketing and greenwashing (Hesse and Rünz 2020).

Research issue to be addressed: This research investigates Generation-Z's perception of fast-fashion CER, since this cohort are characterised as highly critical future change-makers and becoming influential spenders (Bowman, 2019). Consumer perceptive research behind CER motives is outdated (Vlachos et al., 2009) and would benefit from a fresh evaluation on how fashion-brands address CER to appeal to Generation-Z. The study will examine the allure of fast-fashion as evoking hedonism (Di Benedetto, 2017) with the juxtaposition of sustainable consumption (Cairns et al., 2021; Liu et al., 2021). Despite the industry being largely responsible for unethical and unsustainable production, many fashion-brand communicate apparent sustainable efforts with terminology of carbon-neutrality and circular economy, yet this masks the reality (Sailer et al., 2022). Scientists claim this is greenwashing, but consumer perception, specifically Generation-Z', has yet to be investigated (McCarthy, 2021; Pearce, 2021). Adopting CER as a marketing strategy invites speculation about whether Generation-Z expects transparent communication from corporations on their sustainable efforts. Hence, this research seeks to explore how climate-aware Generation-Z students perceive fashion corporations' sustainability responsibility and the side effect of greenwashing.

Methodology used: To examine this proposition, the methodology adopted an interpretive inductive philosophy of qualitative in-depth semi-structured interviews to explore Generation-Z's perspective of sustainable fast-fashion marketing (Saunders et al., 2019). Whilst similar previous studies have gathered quantitative data (Busser and Shulga, 2019; De Jong et al., 2018) this has only delivered a general facile perspective of greenwashing and it was considered that understanding how perceptions were thought through in a fashion context would generate more insight (Szmigin et al., 2008). Purposive, convenient, and homogenous sampling of ten Generation-Z final year university students from Glasgow (Scotland) (Saunders et al., 2019), who described themselves as climate aware, were carried out in January 2022. Questions were divided in four topics: climate awareness, responsibility for sustainability; CER and reflections on two fast-fashion sustainability campaigns. Thematic analysis was used to identify overarching themes and patterns (Liamputtong, 2013).

Results achieved (conclusions) or expected as well as their relevance for theory and practice: This research contributes to theoretical development by examining Generation-Z as they evolve from passive consumption behaviours into activate citizens keen to shape a new sustainable marketplace. Incorporating CER as a framework to examine Generation-Z has so far been neglected in the literature, as has using current sustainable fast-fashion marketing examples to elicit opinion. Examining Generation-Z as they emerge from education and move into the workplace provides a novel insight into how they believe economic models should function, who is responsible for ensuring sustainable markets and what is expected from marketing communications. This research provides a unique opportunity to examine reflections of sustainability claims from fast-fashion marketing campaigns that allude to CER and how climate awareness constructs interpretation of core messages, and understandings around terminology such as 'carbon-neutrality' and 'circular economy'. While those concepts are not new, they are often applied as a potential solution to encourage more consumption. Yet, the research identified notable climate awareness, criticism of current economic models and scepticism of superficial CER responses that were considered as greenwashing. To combat this, the participants had reduced consumption behaviour and boycotted what they perceived to be unethical brands and products. Understanding this cohort offers insight for industry practitioners on what is expected of governance, production and supply chain management, end of product life and communication. For brands to appeal to Gen-Z, it is recommended to communicate transparency and ownership of the climate damage.

Keywords: generation-Z; fast-fashion; greenwashing; sustainability; corporate environmental responsibility.

RP16 – Closing the Gap: Syncretic Stewardship in an Age of Inequality. The Social, Environmental, Business, and Economic Case for Fashion Subsidization

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We are living in an age of inequality, which is “corrosive” and “rots societies from within” (Weisskopf, 2017). The fashion industry is rife with inequalities, both domestic and foreign, but it is also one of the greatest economic forces in the global economy (Stone, 2013). Valued at roughly 3 trillion dollars and responsible for 2% of the world’s GDP (Fashion United, 2021), fashion is “big business.” It spans numerous industries (e.g., agriculture, manufacturing, transportation, distribution, advertising, publishing, etc.) and employs more than 300 million workers throughout the value chain (UN Alliance for Sustainable Fashion, 2021). However, it’s widely regarded that the fashion industry is also one of the most polluting industries on the planet due to the severity of environmental degradation. Simultaneously, there is also severe social degradation regarding supply chain workers’ health and well-being including that of local communities. This is due to firms taking advantage of developing countries’ low wages, weak social and environmental regulations, and enforcement, all in the name of producing low-cost goods with low-quality materials for consumers who will wear them a few times before throwing away (Locke et al., 2007). Meanwhile, fast-fashion brands market their products as accessibly priced, high-end fashion for the masses, but the low pricing structure is due to brands not factoring the negative social and environmental externalities into retail prices. The rise of Sustainable and Socially Responsible (SSR) fashion, while seeking to address societal issues, has brought to light many of the industry’s contributions to the devastation and destruction of the planet and its inhabitants, showing how the implementation of more responsible practices can quell negative environmental, social, and cultural impacts. However, SSR fashion inadvertently highlighted the economic and racial inequalities of domestic fashion consumerism. The high pricing structure essentially renders SSR fashion a commodity for wealthy Americans and thereby largely unattainable for a substantial percentage of the public. This frames fashion as an issue of equity, accessibility, race, and class. Furthermore, an inability to afford “green” fashion, consumers are likely to instead consume fast-fashion even if they are concerned about the environment. Joshi & Rahman (2015) have dubbed this phenomenon the “green attitude-behavior gap” (Figure 1).

Inequality effectively skews the relationship between consumers and producers because of how capitalism and the “free” market reflect and reinforce structures of power, and certain actions may segregate and prevent environmentally and ethically responsible behavior and “green” living (Brisman, 2009). This is because a consumer’s financial circumstance dictates their environmental valuation, but this metric is also skewed due to systemic inequality which is directly responsible for consumer demand or lack thereof regarding certain fashion products. This price disparity between fast-fashion and SSR fashion creates a market failure whereby environmentally damaging goods are over-consumed and environmentally sound goods are under-consumed. According to market failure theory, the way to correct the price gap lies in the governmental deployment of Pigouvian subsidies (Pettinger, 2020) in order to bring about the social optimum (Heutel, 2014) and enhance society as a whole (Donev et al., 2016). This is pivotal because the UNECE (2018) describes the current fashion system as an “environmental and social emergency.”

Considering inequality and the anthropogenic “climate emergency,” this paper proposes a theoretical policy to subsidize the SSR sector of the fashion industry. Inspired by the Organisation for Economic Cooperation and Development’s (OECD) belief that promoting both sustainable production and consumption are important aspects of achieving sustainable development (OECD, 2008), this research aims to address the price gap between SSR fashion and fast-fashion as well as the “green attitude-behavior gap”. Through a two-pronged strategy, this research proposes (1) upstream production subsidies and (2) downstream consumer-facing incentives (Figure 2). The goal of these efforts is to curtail SSR fashion from becoming a classist commodity for the wealthy echelon of American society and spur a gradual divestment from fast-fashion manufacturing methods. This would create economic equity and environmental justice within the fashion system.

This research analyzes various forms and causes of economic and racial inequality as well as global inequality in the fashion supply chain. In addition, case analysis research will define different types of “subsidies,” their purpose, the historical context surrounding their implementation in the United States, successful programs,

and the theory of government intervention. The compelling analogy this research centers on as justification is that of the renewable energy sector compared to fossil fuels because subsidies are how “green” energy sources became both scalable and affordable. This demonstrates that there is an economic and business case for fashion subsidization in addition to a social and environmental case.

This proposal is a call to action for U.S. subsidy reform because “we must reinvent fashion” (UK Parliament, 2019). A theory of subsidies to motivate these changes will be presented at the conference because fashion subsidization may be the turning point for brands being able to achieve syncretic stewardship in an age of inequality.

Keywords: subsidization, fashion, inequality, climate change.

RP17 – Taking Responsibility for Clothing Waste: Learnings from a Global Scan
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Purpose: This paper examines how product stewardship and extended producer responsibility schemes are deployed around the world in the transition to a circular economy for fashion.

Design/methodology/approach: analysis of initiatives in 12 jurisdictions across 4 continents through desktop research, employing the lens of responsive regulatory theory

Findings: Numerous voluntary initiatives with PS characteristics operate at a pilot or regional scale, with the most impactful being those that are closely tailored to country context and engaging stakeholders across the value chain. Although only one mandatory EPR scheme is in operation, others are in development.

Practical implications: Arguing for a place-based approach closely attuned to the local context, the paper applies regulatory theory to propose sanctions and supports that may be progressively employed to strengthen regulation over time.

Originality/value: This paper offers a global look at initiatives for clothing waste management, and contributes to scholarship on how theories of circularity, responsibility and stewardship are applied and practiced around the world.

Keywords: fashion, clothing, circular economy, regulation, global, local, textile waste, product stewardship, extended producer responsibility.

RP18 – Resurgence of Hope and Wellbeing Through Fashion Education in Prisons**GUPTA, Bela and GRIOLI, Antonio Maurizio****Pearl Academy**

Purpose: This research project was conducted in the women's jail 6, Tihar Complex, as a planned intervention for a need-based program for skill development. A fashion education program was identified and implemented over a period of six months with certain basic modules in Indian wear. India has 141 central prisons with capacity of 200,000 inmates. Major reasons for committing crime include illiteracy, lack of appropriate skills to earn a livelihood, deprived backgrounds, physical and sexual abuse, and alcohol and drug dependence.

Social Implications: An initiative was undertaken to establish a Fashion and Textiles Training Centre in women's central Jail 6 in Tihar, Asia's biggest prison complex, in February 2017. The program was designed and implemented with several planned outcomes: economic and social empowerment, which would inculcate feelings of self-worth and self-esteem, rehabilitation in society, and reducing the chance of returning to a life of crime post-release.

Methodology: The present paper focuses on (a) Setting up infrastructure, design of course curriculum and assessment, mentoring and counseling of inmates undergoing training, industry projects, and presentations in the form of fashion shows; (b) Fashion education as a means of correctional behavior, and the challenges and issues faced during training in prisons; (c) Case studies highlighting the impact of training, including increased income, measurable skill enhancement, reduction in stress levels, revival of hope in inmates, a holistic life within and outside prison, and reduction in return cases; (d) Impact of fashion education on other beneficiaries.

Findings: Fashion education has brought positive change in the behavior of inmates in their rehabilitation. The use of hands, mind, and creativity works as a correctional tool and has a therapeutic effect. Inmates worked on industry projects in a team, which resulted not only in a positive change in thinking, but also healthy relationships among each other. The inmates started to appreciate each other. In addition, the positive feedback from outsiders is invaluable and boosts inmates' self-esteem and confidence.

Research limitations: Many inmates may have to leave the program as they are released in between the duration of the program.

Regular counseling and communication with inmates is a must to run the course successfully.

Originality: 100%

Keywords: correctional behavior, empowerment, fashion education, prison as a community, skill development.

RP20 – India’s Fashion Education Approach for Inclusion of Green Ethics**LAL, Nandini****Pearl Academy**

Purpose: Aim of this research is to find the ethics and values of the green fashion feasible in Indian fashion systems and to understand the gap in current fashion education for better inclusion of sustainable concepts.

Design methodology: To accomplish the aim described above, two research activities were carried out. Market research about the existing sustainable fashion businesses in India were performed to understand the feasible ethics and values to inculcate sustainability. The strategies used by sustainable fashion businesses were collated, through store visit, online store visit and study through published article and news. Another activity was questionnaire-based survey through purposive sampling with currently involved fashion educator and industry practitioners, to understand the present fashion education approach for the inclusion of green fashion concepts in the curriculum and its delivery.

Findings: Findings of the research gives important insights about feasible ethics and values for green fashion systems in India. Use of, locally available natural fiber, artisanal skills, natural dyes, indigenous organic cotton, traditional craft textiles, handloom fabrics, re-cycling-upcycling, and local consumption are various strategy enabling Indian fashion businesses to practice decarbonization at various stages of production and consumption of fashion items. Usage of traditional textile crafts encourages emotional bonding with the fashion item for long lasting use and it creates social value by generating livelihood and at the same time helps in preserving cultural practices.

Research limitations, Practical or Social implications: This research was individual effort of the researcher, so only purposive sampling were feasible for survey and market research was limited to 45 industries only.

Originality/value: Plethora of research is available, but the specific study about Indian fashion education approach and popular feasible ethics and value of green fashion in Indian scenario is new knowledge creation and it will be a contribution to the domain of written knowledge in Indian fashion education.

Keywords: sustainable-fashion, indian fashion education, green ethics & aesthetics, values and ethics of sustainable fashion, design educators, industry expert, fashion-education-framework, sustainable fashion systems.

RP21 – Skills for Development Sustainable Fashion Products for Industry: the Case of Structured Garments
BICHO, Marta; PEREIRA, Madalena; BELINO, Nuno; MARTINS, Paulo and SANTOS SILVA, Manuel
University of Beira Interior / UNIDCOM R&D / FibEnTech R&D

Currently, the textile and clothing industry develops strategies, technologies, and products, towards a more sustainable industry based on OECD goals (SDGs) and at the European level associated with policies for product development, waste, unfair trading practices, international trade, support to producing countries, alternative business models and a multi-stakeholder platform, and in the objectives defined by Europe for the climate neutrality of the European Green Deal 2050 EU. In the textile and clothing industry there is a growing concern for the development of increasingly sustainable products. In research area different studies analyze the problems, solutions, and the new skills for high education system in sustainability subject and digital and ecologic paradigm (Goldberg 2009; Flint, 2010; Fletcher, K. and Williams, D., 2013; Grose, 2017; Bertola et al. 2020; Conti and Motta, 2022; Inwood et al.2021; Janssens et al. 2022).

In this sense, the Textile Science and Technology Department of the University of Beira Interior, developed a new bachelor training proposal “Technology and Sustainable Fashion Product” to which we were given the challenge of contributing to its objectives, competences, contents and methodologies with the creation of curricular units, that contribute to new skills in students for the development of sustainable fashion product with knowledge in sustainable materials, technologies, digital tools, process, systems, services, market and also knowledge in Portuguese textile and clothing Industry. The development of curricular unit in sustainable fashion product – complex garments was the subject of this research.

During the development phase we used interviews with industry, experts and ex-students, specifically for complex garments such as structured garments that often use trimmings such as interlinings, linings, buttons, etc. and questions arise:

How can we develop sustainable apparel products from complex and structured garments? What types of trims are used today? Do companies in Portugal in this category of products already have sustainable practices? Are designers and product developers concerned about selecting sustainable trims?

The strong environmental impact caused by the production of clothing is indisputable, where all those involved in the chain must pay particular attention.

As for the main materials, there is a range of sustainable and environmentally friendly fibers, however this concern must also be present in the use and selection of trims used in the construction and development of the product. The objective of this study is to assess, in terms of sustainability, the practices of the industry and suppliers of trim in the market, necessary for the construction of fashion products and present a model of good practices in terms of the selection of the technical production process, without compromising the sustainability of the final product. After the results obtained from the interviews and based on the scientific review were included in curricular units of the new training proposal. In view of the objectives of the EU and the OECD, it is concluded that the development of new training and skills proposals that contribute to the implementation of the EU's sustainability and circular economy strategies is essential for the future of Industry. The value of this proposes represent the contribute with new skills in new bachelor course in a country with 5300 million euros for export textile and clothing products.

Keywords: sustainability; fashion product; skills; structured garments; high education.

RP25 – An Investigation of European Climate Activists' Fashion Buying Behaviour
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Background scientific research: As a response to the rising threat of the climate crisis, activist groups such as Extinction Rebellion and Fridays for Future have emerged during the last few years (Portway, 2019), with millions of people regularly participating in climate strikes globally (Taylor et al., 2019). Along with this, general consumer awareness of environmental and ethical issues has risen (Yang et al., 2020). The fashion industry is a particularly strong contributor to climate change, for example through pollution of waters and improper disposal of clothing (Hill & Lee, 2015). The overconsumption of fast fashion with its planned obsolescence and increase in collections that are brought out each year is one of the key reasons for this (Gwozdz, Nielsen & Müller, 2017). Despite the rising awareness for fashion's environmental and social impacts, research has still observed a mismatch between consumers' intentions to consume more sustainably and their actual consumption behaviours (e.g., Achabou, Dekhili & Codini, 2020; Govind et al., 2017). While consumer attitudes towards sustainable fashion have been explored in many studies (e.g., Ritch, 2020) sustainable consumption behaviours are still an under-researched area (Mukendi et al., 2020). Many previous studies focus on consumers who are not interested in sustainability (Lundblad & Davies, 2016), and only few papers have explored fashion acquisition behaviours of environmentally aware consumers (e.g., Bly, Gwozdz & Reisch, 2015; Do Paço & Reis, 2012). With the popularity of the new climate strikes (Roser-Renouf et al., 2014), climate activists have been of interest for researchers as well, but due to their relative newness on this scale, the research about them is still in its infancy (Martiskainen et al., 2020; Fisher, 2019). Moreover, research on whether their activist behaviours translate into their consumption is very limited (Roser-Renouf et al., 2016), particularly in a fashion context. However, small, vocal groups and environmentally aware consumers of sustainable fashion have been found to set trends for other consumers (Bly, Gwozdz & Reisch, 2015), and climate activists can be powerful opinion leaders (Roser-Renouf et al., 2014). More recent research by Djafarova & Foots (2022) proposes that Generation Z consumers in the UK are aware of ethical issues and declared that this younger generation have reduced clothing consumption. Thus, it is important to investigate such an influential consumer group of opinion leaders to find new ways of consumption for a more sustainable fashion industry.

Research issue to be addressed: Given the very limited literature exploring consumption behaviours of climate activists and the environmental impacts of the fashion industry, the aim of this novel research is to explore the attitudes of European climate activists towards fashion and its environmental impact, as well as understand their fashion clothing consumption. The objectives informing the research were:

1. To explore the attitudes of European climate activists towards fashion and its environmental impact.
2. To understand how European climate activists consume fashion.
3. To consider the practical applications as a way to contribute to meaningful change.

Methodology used: Given the subjectivity of deliberating sustainability among other idiographic lifestyles implications, the research adopts a social constructionist stance (Bergman & Luckman, 1966) to explore how existential experiences inform and direct attitudes towards climate activism and fashion practice. Using purposeful convenience sampling, nine semi-structured in-depth interviews with self-describing European climate activists were conducted in early 2021 via Zoom. Potential participants had to rate themselves on a scale of 1-7 describing their involvement with climate activism (1 being no involvement, 7 being highly involved) and only participants who rated themselves 3 or higher were chosen to participate (Hackett & Reysen, 2017). Interviews were recorded, transcribed, and analysed thematically. A second stage of research is planned for summer 2022 to explore the process of the communication of these opinion leaders to understand the potential for creating meaningful change.

Results achieved (conclusions) or expected as well as their relevance for theory and practice: The findings show that European climate activists exhibit a high awareness of environmental issues in the fashion industry and are critical of the lack of response in addressing sustainable production as well as manipulative marketing that encourages frequent consumption. Involvement with climate activism means that fashion is mostly

consumed sustainably. Common ideologies between climate activists were identified, with some shared practices evident. Their main source of fashion are various forms of collaborative fashion consumption, including second-hand garments from online second-hand platforms, charity shops and hand-me-downs from friends and family. However, overall consumption of fashion is reduced considerably, and creative ways of consuming fashion have emerged. Some barriers to consuming fashion more sustainably remain, including price, style, and the need to purchase second-hand and sustainable clothing online, which was identified as a new barrier to sustainable consumption in this research. These behaviours can provide examples for other consumers on how to adjust their consumption habits to become more sustainable, as well as illustrate to fashion brands that their environmental impact is under scrutiny.

This research advances theory by moving beyond the well-established attitude-behaviour gap, to illustrate that engaging with fashion does not necessarily allude to unsustainability and that new practice can be built on collaboration and creativity. Understanding what motivates sustainable fashion practice in ways that do not induce elements of self-sacrifice are an important means for engaging a wider audience with sustainability. In a society in which fashion followers follow fashion leaders (Martensen et al., 2018), sustainable fashion leaders could be a way towards more sustainable consumption. What the participants express is confidence in their fashion acquisition practice and satisfaction that they do not contribute to the climate crisis. Further, as many of the participants are young people, this supports research that identifies a greater awareness and concern for the climate crisis in younger generations. Consequently, the research will also be of interest for fashion industry practice, offering pathways to engaging with fashion consumers concerned for sustainability and developing new business models that support sustainable fashion practice.

Keywords: ethics, climate activism, sustainable fashion consumption.

RP26 – ReDo, ReValue, ReNew
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Generally known as toiles- made of calico, a low-cost and easy-to-use material. Toile has become synonymous with the design process for any design student throughout any undergraduate or postgraduate program. 'Successful design is not about achieving perfection rather it is about minimization and accommodation of imperfections (Petroski, 1985).' This led to an opportunity for finding value propositions in lesser-known or rather hidden in the process. The textile waste is generated through prototypes. Design schools should also be responsible for developing an attitude towards designing and making that is sustainable, rather than making sustainability a fleeting conversation. This paper documents the work done with a group of year three students. These students were enquired firstly through focused group discussion to understand their value propositions towards toiles they have been creating throughout their practice. Later through an action-based research methodology, the toiles were considered as a beginning point to create something unique and different. A series of workshops were conducted wherein students were immersed in creating a series of outcomes by deconstructing, reconstructing, and adding value to the existing toiles to give them a new identity. Utilizing our role as design academicians, to educate young design students towards minimizing and using the waste created during the garment-making process. Which can bear infinite possibilities to re-create value to embed change and shift the attitude towards circular design and economy. The results signify a series of activities and actions aimed to widen and deepen the perspectives and practices and eventually the students who later would go on in the industry and practice it as an innate skill.

Keywords: toiles, fashion, revalue, sustainability, higher education, waste management.

RP31 – Fashion Curators and Historians: Instagram’s Untapped Sustainability Champions?**SAND, Katharina; DE MIRANDA, Chinouk Filique and CANTONI, Lorenzo****AMD / Università della Svizzera Italiana**

This paper investigates the potential of content published online by fashion curators and historians to promote clothing longevity perceptions and stimulate intentions of garment preservation practices through their communication of longterm clothing value on Instagram. How can these highly specialized professionals, who dedicate their careers to the preservation of garments, best engage audiences with their cause on social media? Which of their visual and textual communication strategies of historical clothing value and care could be most successful in impacting attitudes towards garment longevity? Could these help to change clothing care intentions? The data was collected during workshops which took place in July 2022. It reviews the impact of 48 Instagram posts by six accounts of Fashion curators and historians on a group of 12 participants. The study uses qualitative research methods, including netnography, talking aloud workshops, semi-structured individual and focus group interviews, as well as card sorting, and Stephenson’s Q-sorting methodology. The findings of this explorative qualitative study indicate that the argumentation of material value and the sharing of care practices by fashion curators may provide vital alternatives in repositioning clothing value, a shift which can counteract the low-value propositions of fast fashion communication.

Keywords: pro-sustainability communication, Instagram, fashion curators.

RP35 – The Role of Impulse Buying on Fast Fashion Consumers’ Emotions and Behaviours**WEBER, Nadia and RITCH, Elaine****Glasgow Caledonian University**

Background scientific research: The popularity of fast-fashion has not diminished, despite allegations of exploiting workers and the environment (Environmental Audit Committee, 2021; Zhang, Zhang & Zhou, 2021). The model enables rapid mimicking of popular styles at low prices and has enabled consumers the opportunity to replace their wardrobe frequently (Watson & Yan, 2013). Coupled with online marketing tactics of limited sales incentives and product scarcity that provoke hedonism (Niinimäki et al., 2020), fast-fashion retailers encourage frequent impulsive consumption (Bick et al., 2018), which Lim et al. (2017) believes challenges consumers ability to resist making purchases. This situates low involvement with ‘throwaway fashion’, in which consumers continually buy new clothing, only to wear the items a handful of times before disposing of them (Zhang, Zhang & Zhou, 2021). Denisova (2021) suggests ‘throwaway fashion’ has stemmed from social media culture of never being photographed wearing an outfit more than once. While consumers have been found to purchase fashion more impulsively than from other product categories (Joung, 2014), Son & Lee (2019) found this was a means to improve negative emotions by triggering positive emotions. However, little is known about how consumers experience post-purchase impulsive fashion consumption, and whether they experience post-consumption regret. Chen, Chen & Lin (2020) characterise this as post-purchase cognitive dissonance in which consumers experience regret and disappointment from their behaviour. Previous research has found that fast-fashion consumers experience cognitive dissonance from not applying the same sustainable principles to their fashion practice that they do in other consumption and behavioural contexts (Cairns, Ritch & Bereziat, 2021; Stringer, Payne & Mortimer, 2021); however, those studies explored intention to purchase fashion rather than reflecting upon fashion consumption behaviours. Caught up in the excitement of marketing tactics and social media culture inspiring consumption, it may be upon reflection that discomfort emerges.

Research issue to be addressed: Following from studies examining fast-fashion impulse consumption and the role of hedonism, there has been limited attention paid to the role of post-consumption emotions, especially when reflecting upon environmental and social impact concerns. It is well established that Generation-Z are highly climate aware and concerned for sustainability (Hurrelmann and Albrecht, 2021), as well as predominantly purchasing fast-fashion and engaging with social media culture (Kale, 2021). As digital natives, Generation-Z engage on social media platforms to entrain themselves, socialise, learn, play and consume (Adgate, 2021); while this contradiction in behaviours exhibits cognitive dissonance (Cairns et al., 2021), understanding how to disrupt current practice offers insight into how to develop more sustainable fashion acquisition models and how best to position marketing activities to encourage sustainable fashion consumption. However, retailing and consumption have been significantly disrupted over the last two years to manage the global pandemic of COVID-19, as have social occasions; this has impacted on fast-fashion sales, with marketing tactics accelerating and process falling as low as eight Pence (UK Sterling)(Blackhall, 2020). Therefore, this exploratory study investigates fast fashion consumers’ reflections of impulse buying, amid concern for environmental and social practices, during a time when lockdown measures are decreasing, ensuring a novel approach. Learnings from this experience are paramount to developing a sustainable fashion industry, especially in understanding the role of emotion in both fashion and sustainability contexts.

Methodology used: Adopting an interpretive approach to enable a rich understanding of the emotions and reflections experienced after post-purchase fast-fashion impulse consumption (Ragab & Arisha, 2018), ten semi-structured in-depth interviews were conducted with Scottish generation-Z women (aged 19-25 years). Participants were recruited purposively, having experience of frequent impulsive fast-fashion consumption behaviours, and interviews were held early 2022 over a video platform, each lasting approximately an hour. Participants were asked to recall their recent experiences of purchasing online fast fashion and how they felt during each stage of the buying process. Questions included their knowledge of the environmental and social impacts of fast fashion and whether this was reflected in their buying behaviours. The interview data was transcribed, verbatim and thematic analysis was applied to the data.

Results achieved (conclusions) or expected as well as their relevance for theory and practice: Analysis identified that emotion played a role in both the pre and post purchase experience. In particular, marketing ignited emotions pre-purchase and this was exacerbated by the COVID-19 pandemic, where the lockdown had increased a sense of isolation and boredom, and fashion consumption offered a “dopamine rush”. Marketing appeared to induce selective amnesia at the point of purchase, but when reflecting back to “the clothes still sitting in my wardrobe with the tags on” there were expressions of regret. Yet, despite feeling regret post-purchase, impulse buying was reported as a constant cycle that the participants found hard to break. The data illustrates that fashion consumption is awash with emotions, some stimulated by marketing, but other components of conformity, belonging and a sense of self – all of which were challenged during the pandemic. While the data revealed much evidence of cognitive dissonance when reflecting on the social and environmental impact of fast-fashion, there was also evidence of post-purchase cognitive dissonance (Chen, Chen & Lin, 2020), and the participants deviated between accepting responsibility for their contribution to unsustainability and prioritising their consumer selves.

Understanding the role of self, identity, belonging and conformity contributes to developing the sustainable fashion literature, that often focuses on actual behaviours and the well-established attitude behaviour gap. While this gap is acknowledged in the cognitive dissonance experienced by the participants, it is also evident that much can be learned from post-purchase cognitive dissonance and how behaviours and attitudes are impacted by emotions, particularly isolation and boredom. Consequently, this research advances theory including the role of hedonism, especially as emotions were heightened over the COVID years. For example, the participants were not shopping for actual social occasions, rather, they were hedonistically buying for hypothetical occasions, where pleasure was gained from the consumption act itself rather than owning the garment. Understanding this provides relevance for fashion and marketing practice on how to provide hedonistic fashion experiences from alternative fashion acquisition. The findings provide insight into how marketing campaigns for sustainable fashion models can be developed to appeal to Generation-Z consumers.

Keywords: fast fashion; hedonism; impulse buying; cognitive dissonance; post-purchase regret.

RP38 – Sustainable Communication Through Instagram: An Investigation of Fast Fashion Brands

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Background scientific research: Fast fashion encourages over consumption by providing low-cost clothing to consumers through rapid production cycle and in excessive quantities (Joy et al., 2012; Zhang et al. 2021). In the pursuit of profit, fast fashion relies upon growth, speed and obsolesce (Ertekin and Atik, 2015). However, the lockdown imposed because of the COVID-19 outbreak allowed consumers an opportunity to reflect on their social responsibilities regarding fashion clothing and concerns of the impact on the global environment (McNeill and Venter, 2019). Young fashion consumers (Gen Z and younger Millennials) have demonstrated growing consideration and importance of sustainability when buying fashion items (Mintel, 2021). Many fashion brands now use social media channels and in particular Instagram, to address issues around sustainability (Dovleac, 2015). Fashion companies are placing more emphasis on branding and collections focusing on sustainability (Zhang et al., 2021), however, there is a lack of research on how fast fashion retailers are communicating and their sustainable initiatives through Instagram.

Research issues to be addressed: Currently, there exists a lack of trust in fashion brands with their sustainability claims due to the use of images and greenwashing practices (Schmuck et al., 2018). Most brands focus their communication on environmental efforts (Kwon and Lee, 2021) with limited consideration towards social and economic impact when evaluating sustainability in fashion (Stahle and Muller, 2017). Fast fashion retailers such as Zara, H&M and Gap are recognized for putting effort into sustainable initiatives (Zhang et al., 2021) whilst others such as Primark and BooHoo are perceived by consumers to be less sustainable (Mintel, 2021). This indicates that opportunity for fast fashion brands to present and communicate their sustainability initiatives on Instagram. To date, research has in the main focused on sustainable brands with a small number of brands investigated (Milanesi et al. 2022; Testa et al. 2021).

From a consumer perspective, there is increasing consumer awareness of the environmental impact of the fashion industry and a growing willingness to pay more for sustainable clothing (Nayak et al., 2019). However, young female consumers are not sensitive to fast fashion products with sustainability features (Zhang et al., 2021). There remains an inherent dissonance amongst consumers who share a concern for the environment even as they indulge in consumer patterns unethical to ecological practices (Joy et al., 2012). Therefore, it is challenging to make consumers understand the ethical and environmental concerns because their fashion goals take priority (Harris et al., 2016). Brands need to make their messages explicit and avoid information overload, boring performances and misinformation (Carrascosa et al., 2015). Gen Z consumers continued to shop online for fashion clothing at an increased pace throughout the lockdown down period (Siddiqui et al., 2021) highlighting a need for clear communication on sustainable fashion consumption.

Hence, this research seeks to respond to two research questions: (i) how do fast fashion brands communicate their sustainability initiatives through Instagram and (ii) how do their fans (consumers) respond to content focused on sustainability compared with content focused on brand lifestyles. We spotlight attention on fast fashion brands who focused on low prices, high volume and turnover and only recently adopted sustainable initiatives.

Methodology: This data collection adopts a mixed methods (qualitative and quantitative) content analysis which is consistent with previous studies (Milanesi et al., 2022; Testa et al., 2021). A coding document has been developed with a focus on sustainable and brand lifestyle content consistent with relevant studies (e.g. Kwon and Li, 2021). By applying a software tool (K4 Stogram) relevant images and text are captured within an elected timeframe (Milanesi et al., 2022). Thematic analysis will identify the themes expressed within the text data. Statistical analysis will be undertaken via SPSS to explore frequencies, percentages and Chi-square analysis to compare difference within online and multi-channel brands (e.g., Acuti, 2018).

The positioning of this research differs in the following ways: (i) a focus on 30 fast fashion brands; (ii) a comparison of brand lifestyle and sustainability communication (iii) a focus on both visual and text-based communication within one study.

Results Anticipated: This is currently a work in progress. Full results will be presented and discussed at the conference presentation. It is anticipated that the results will reveal insights into how fast fashion brands are communicating their sustainability initiative and how consumers engage with such content. The fast fashion perspective will build upon knowledge from studies that have focused on sustainable fashion brands (Creange, 2019; Milanesi et al., 2022). From a consumer perspective, the results will reveal how consumer engage with brand lifestyle and sustainable content and identify posts that receive higher levels of engagement. The results will extend current understanding of sustainable communication through Instagram and provide direction on the type of content that is more likely to engage consumers. Finally, the will results will be of interest to the wider industry sector as they evaluate their attempts to become more sustainable and transparent within their fashion practice.

Keywords: sustainability, Instagram, fast fashion.

RP39 – Renting Style: Exploring Sustainable Fashion Social Media Influencers’ Fashion Rental Practice
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Background scientific research

The Circular Economy and Fashion Rental: There has been a plethora of articles in recent years proposing that the fashion industry needs to shift from a linear process to a circular one (e.g. Ritch et al., 2021; Adreza de et al.) and this would significantly reduce environmental impact (Gyde and McNeil, 2021). The premise of Circular Fashion according to the Sustainable Fashion Forum (www.sustainablefashionforum.com) in simple terms is, to reduce the number of natural resources utilised to make clothing and accessories, to prevent items going to landfill as waste and making new materials out of old materials, thus creating a ‘closed loop system’. A circular economy aims to create a zero-waste principle while addressing the problems of over production and over consumption, with the intention to keep products in the lifecycle for as long as possible (Ellen MacArthur Foundation, 2022). As well as recycling, repairing and reselling (Ritch et al., 2021) fashion rental services, also offer potential extension of the lifecycle of garments and accessories (Borg et al., 2020, Adreza de, 2021). However, the environmental impact of increased laundering, repair and transport of these items within rental services is not fully understood and eventually the items will ‘wear out’ (Gyde and McNeill, 2021). Researchers report that the majority of fashion companies mostly follow the linear fashion model. This process involves the use of resources, companies make products, consumers use briefly (for some fast fashion items, three times or less) consumers throw away, and repeat the process creating excessive waste (Borg et al., 2020). Renting fashion beyond occasion wear (such as weddings) is worthy of further investigation (Harper, 2018). The rental fashion core value proposition is that it can provide consumers with a wide variety of choice at a reduced price, enabling access to variety (including designer luxury products), with minimal financial risk while offering potential for a more environmentally friendly offering (Gyde and McNeill, 2021). However, there has been little investigation into what could make renting fashion appealing, but given that younger consumers utilise social media to engage with fashion brands and retailers, this may be a way to encourage behavioural change.

Social Media and Generation-Z: As of January 2022, the global average penetration rate of social network usage is 58.4%, Facebook the market leader, has 2.89 billion monthly active users (Statista.com, March 2022). Instagram (another social media giant) is important for fashion brands due to the visual nature of fashion promotion (Lynch and Barnes, 2020). Generation-Z, the young, digital natives are important fashion consumers. Born from 1995 to 2010, these young people have been exposed to social media their entire lives (Francis and Hoefel, 2018) they spend nearly 11 hours consuming content, reading, liking and sharing across a variety of devices every day, checking Instagram up to 5 times per day (Djafarova and Bowes, 2021). This generation seek brand experiences and prefer the digital content of the social media influencer to traditional advertising (Lynch and Barnes, 2020) and Generation-Z are more conscious of environmental issues than previous generations (Hurrelmann and Albrecht, 2021; Ritch et al, 2021). Jacobson and Harrison (2021) report that due to the power of social media, Social Media Influencers (SMIs) have become a vital part of marketing brand strategy as marketing communications seek to reach large communities of followers. The authors suggest that the Sustainable Fashion SMIs are content creators who have become popular discussing and sharing about sustainable fashion on social media. In a study of female consumers in India, the authors concluded that social media influencers had a positive effect on respondents’ attitudes about fashion rental in the fashion industry and that more research is needed (Shivastrava et al, 2021). Therefore, this indicates that social media could play a role in influencing sustainable fashion practice and specifically rental fashion. There is little research that addresses sustainable fashion and social media influencers (Jacobson and Harrison, 2022) and even less addressing how Sustainable Fashion SMIs create fashion lifestyle content involving fashion rental services, and thus providing a rationale to study this area.

Research issue to be addressed: The aim of this research is to explore the fashion rental services industry as a potential contribution to the sustainability agenda, specifically focussing on the role of the SMI. Previous literature does identify that the SMI is very powerful with regards influence, however, there is very little literature exploring consumption behaviour of Sustainable Fashion Social Media Influencers and the area of

fashion rental (out with occasion wear). Renting is also in its infancy in the UK (besides wedding wear, graduations etc).

The research questions informing the research were:

1. What and who are Sustainable Fashion Social Media Influencers?
2. How do Sustainable Fashion Social Media Influencers relate to their followers?
3. How do fashion rental services contribute to the circular economy?
4. What is the relationship with fashion rental organisations and Sustainable SMI's and how might this contribute to the environmental agenda of the fashion industry?

Methodology used: To better understand the potential of the fashion rental industry and specifically how the Sustainable Fashion SMIs communicate about it, an exploratory inductive interpretative approach was deemed appropriate.

This work-in-progress research, investigates Sustainable Fashion SMIs in the UK, their own fashion rental practice and behaviour, and their relationship with their Generation-Z followers. Five UK based, Sustainable Fashion SMIs were selected using a purposive, non-probability sampling procedure which is appropriate for a new exploratory study (Bryman and Bell, 2015) and in-depth interviews were completed in March and April 2022. The analysis of these first qualitative results will be presented at the conference.

Results achieved (conclusions) or expected as well as their relevance for theory and practice: The early findings indicate that Sustainable Fashion SMIs exhibit a high level of awareness of environmental issues in the fashion industry and are seeking to find new ways to address sustainable behaviours for themselves. Sustainable Fashion SMIs know they have power and influence and findings suggest that they believe they have influenced their followers to reduce consumption of new clothing and accessories but that fashion rental is still a new phenomenon, and that it will take time for followers to adopt. In saying that, the findings suggest that fashion rental is highly interesting to the SMIs themselves and their fast fashion Gen-Z followers. The findings will offer novel information for the rental service industry and new insights about the behaviour of these influential Sustainable Fashion SMIs and their large Generation-Z communities.

Keywords: fashion rental, sustainable fashion consumption influence.

RP40 – Social Sustainability: Understanding Social Standards Implementation Failures in Bangladesh RMG Industry

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Bangladesh tells the world a remarkable story of progress and the eradication of poverty. Bangladesh, one of the poorest countries when it was founded in 1971, was classified as lower-middle status in 2015. It is projected to be separated from the LDC list (United Nation's Least Developed Countries) by 2026. Using the worldwide poverty threshold of Taka 141 (\$1.90) per day, the rate of poverty declined from 43.5% in 1991 to 14.3% in 2016 (Purchasing Power Parity (PPP) exchange rate 2011). Moreover, the results of human development increased in numerous dimensions, and the expansion of industrial sectors was necessary to achieve this.

The concept of social sustainability was created to achieve global growth. At the regional and national levels, policymakers have elaborated on this concept. Corporate social responsibility (CSR) has grown relevant in scholarly research over the last few decades, as indicated by a rising number of articles and journals dedicated to the subject. Business, government, and civic society are all concerned about supply chain sustainability. The availability of low-cost labour and low-cost manufacturing makes developing countries appealing to outsourcing destinations. As a result, Bangladesh is quickly becoming a prominent role in the global garment supply chain. Bangladesh's readymade garment (RMG) industry, which exports to the EU and the United States, is a significant source of revenue. The 2013 collapse of Rana Plaza in Bangladesh, which killed 1,134 employees in the readymade garment (RMG) industry, brought global attention to the issue of worker safety and social responsibility in the supply chains of significant garment retailers in Bangladesh.

It exposed worker safety and other social issues at RMG companies, demonstrating that traditional, top-down remedies to these issues, such as corporate codes of conduct and labour law revisions in Bangladesh, had minimal effect. Unfortunately, the collapse would not have made international headlines if the catastrophe had not harmed these companies. However, because of this correlation, the accident has become grist for the ongoing discussion about globalization. Many North American and European human rights and labour campaigners believe that Western-based companies purchasing overseas clothing should be held accountable for this calamity. Stakeholders and social organizations are increasingly pressuring manufacturers to embrace all three sustainability characteristics. Though businesses have begun incorporating economic and environmental (green) indicators into their operations, social sustainability has yet to gain traction.

Within the RMG supply chains, there is a significant gap between aims, pledges, practice, and outcomes regarding social responsibility regulation.

This research evaluates the social responsibility practices of RMG industry supply firms in developing nations, using Bangladesh as an example. While social responsibility performances, in theory, could be used by firms (Retailers and suppliers) to demonstrate the legitimacy of their operations to stakeholders, these performances could be used in practice to gain a competitive advantage and market share.

This paper investigates the Bangladesh RMG industry in two steps: first, it examines the overall social responsibility practices of retailers and RMG firms. Furthermore, it analyzes why and how vital global social norms that are applied in the apparel business frequently don't get put into practice.

Keywords: slow, design, discourse, re-definition, women.

RP41 – NY’s Fashion Act: The Beginning of a Global Accountability Renaissance

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Background scientific research: According to a research conducted by the Ellen MacArthur Foundation, the fashion industry will be responsible for more than 25% of the world’s global carbon budget by 2050, if it is left without legally binding environmental standards enacted through government regulations.

The New York Fashion Sustainability and Social Accountability Act (Fashion Act) , post a vote in spring 2022, will be the first US law to pin responsibility by explicitly placing sustainability requirements aimed at large fashion companies, with an aim to achieve science based targets to reduce their climate impact. Upon studying the proposed act and its many nuances, it is clear that disclosure of accurate data is at the heart of the legislation. To build the case for creating accountability, a simultaneous reading of the Paris Agreement 2015, IPCC Report 2022, EU Strategy for Textiles, California Transparency in Supply Chains Act, FABRIC Act (awaiting a vote in the Senate Finance Committee), UN’s Fashion Industry Charter for Climate Change and UN’s Sustainable Development Goals, has been undertaken for an in-depth understanding. Additionally, reference to the Business of Fashion’s Sustainability Index, the sustainable practices at Kering, Stella McCartney, Burberry, Chloé, Mara Hoffman and Sheep Inc. has been made to cite the affirmative actions being taken within the industry, in furtherance of the Fashion Pact.

Research issue to be addressed: In the light of the above-mentioned framework of research material, the analysis addresses the complex question of - whether there is a need for harmonisation of the international regulatory framework in the fashion industry for ensuring innovation in a way that it reduces the negative climate as well as economic and social impact.

Methodology used: To address the issue, an exploratory approach has been adopted to analyse the revolutionary Fashion Act in terms of accountability in the fashion industry and examines the need for a harmonisation of legislation worldwide, in its backdrop. This included a comparative analysis of the emerging mix of quantitative and qualitative data including but not limited to the various proposed legislations, academic articles, case studies within the fashion industry that have taken affirmative action to reduce the devastating climate impact they are having. Ultimately the research question has been examined to understand if it is imperative for governments to lead the way for sustainable practices in the industry.

Results achieved (conclusions) or expected as well as their relevance for theory and practice: As the BoF Sustainability Index was established to measure the fashion industry’s actions towards urgent sustainability targets by evaluating the progress of the five largest publicly traded fashion companies against ambitious environmental and social goals, the research shows that collaboration on the level of governments, policy makers and lobbyists is imperative to measure the government’s actions towards driving accountability and systemic changes in the industry.

It is interesting to see that the fashion industry has largely been bereft of regulation in almost all countries until recently, which has led to the genesis of fast fashion and blatant disregard for the environment or the negative social impacts that ensue. The Fashion Act offers us a dream in the form of a ground-breaking roadmap that governments can follow to build their own legislation to pin the responsibility where it belongs at every stage, to ensure innovation in the right direction. This Act has the potential to become a benchmark and start a renaissance in the fashion industry, by compelling businesses to rethink the way they have been operating and ultimately to have sustainability at their core. In conclusion, the study attempts to make constructive suggestions 1) for companies to use cutting edge technology to innovate collaboratively and 2) for collaboration among governments for harmonisation of legislation in the industry.

Keywords: accountability, legislation, innovation, governments, ethics.

RP42 – Ethics and Aesthetics of Biomaterials and the Impermanence of Fashion**QUINN, Elizabeth Shane****Albright College**

The fashion industry is a major contributor to climate change, with destruction to people and the planet baked into its supply chain from start to finish. Material innovation, an emerging field within the fashion industry, offers the potential of using bio-based components and naturally regenerative resources that could help shift the fashion industry toward a more circular design model. However, with the recent and quickly spreading adoption of biomaterials, critical questions about the product life cycle are being overlooked as brands scramble to meet consumer and societal demands for more 'sustainable' designs. Additionally, despite a push for apparel and accessories with greater longevity, overconsumption remains a key factor in the fashion industry's post-consumer waste dilemma.

Much research has been written on the separate topics of consumption and material innovation, highlighting these as important considerations when addressing the social and environmental impacts of the fashion industry. However, virtually no research has linked these topics as integral to each other in identifying viable industry solutions. Those seeking new approaches to the design process and consumer behavior will be interested in this unorthodox approach and participative practice.

This first-phase research was conducted based on literature and industry reports, hands-on investigation, and experimental course curricula exploring the intersections between historical references and future-thinking material innovations to answer the question: "How can we continue to create new products season after season without further cluttering and destroying the Earth?"

Keywords: biomaterials, consumer behavior, ethics and aesthetics.

RP43 – Fashion Sustainability Intention of Consumers in RMG Manufacturing Countries. Obstacles and Potentialities for Implementing Sustainable Fashion in RMG Manufacturing Countries

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BGMEA University of Fashion & Technology

Purpose: This study aims to get a holistic current state by identifying and assessing the existing challenges with opportunities to implement sustainable fashion in RMG manufacturing countries.

Methodology/approach: The opinion-based and priority-based concerns regarding fashion sustainability intention among consumers of RMG manufacturing countries were chosen to collect data. Rather than choosing randomly, 352 young fashion-aware consumers having various academic degrees including fashion design and apparel manufacturing from reputed institutes, related industry professionals and practitioners, sustainable fashion researchers, and education personnel were selected as participants purposively. Conducted the survey by collecting responses in Google Form, from which case studies and data were compiled.

Outcome: Remarkable findings from the research include people's awareness of the environmental and social benefits of sustainable fashion. According to the results, if the product features, trendiness and styling of sustainable clothing items meet consumer demand, it can be considered an opportunity to promote sustainable fashion in RMG manufacturing countries commercially to a large extent. Besides excessive price, business strategies, inadequate availability of sustainable fashion brands as well as products and less competitiveness of such products are also driving the consumers purchasing decisions negatively.

Originality: This study will contribute significantly to a more in-depth and detailed investigation of how people's overall perceptions toward sustainable fashion in RMG manufacturing countries make it more challenging to adopt while also highlighting the potentiality to successfully penetrate sustainable fashion to benefit consumers and the global environment.

Keywords: fashion sustainability, opportunities, perception, challenges, intention, rmg manufacturing countries.

RP44 – Psychological Well-Being of Women Prison Inmates Through Hand Textile Crafts
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Pearl Academy / National Institute of Fashion Technology / RML Hospital

Purpose of the study: The aim of this paper is to study the impact of hand textile crafts on the well-being of women inmates in an Indian prison.

Research Methodology: The paper begins with gathering secondary data to evaluate the impact of practicing textile crafts on women participants' mental wellbeing. A group of 25-30 women prison inmates from Bhondsi Prison, Haryana, was selected and trained in three different hand textile crafts. A training module was designed and administered, and resultant data was analysed. World Health Organization Quality of Life Scale (WHOQOL-BREF), and Depression, Anxiety and Stress (DASS) scale were used for identifying mental well-being. ANOVA and T tests were conducted to analyze the data.

Findings: The preliminary DASS findings indicate reduced anxiety and depression levels, and a collective sense of self after participants engaged in textile craft making (crochet, embroidery, and yarn craft). Further research and discussions are ongoing to evaluate the efficacy of the module with respect to various factors.

Originality: Prior studies have shown positive correlation between psychological well-being and creative craftsmanship, especially in women. The milieu of prison was chosen firstly since there is no prior extensive work in this area in India, and secondly, testing efficacy of training modules on the psychological well-being of women in a regulated environment is a novel approach.

Keywords: well-being, health, textile crafting and fashion, life satisfaction, women creators.

RP46 – Fashion Fictions: Unmaking the Mainstream Fashion System**TWIGGER HOLROYD, Amy and ASPINALL, Matilda****Nottingham Trent University**

Purpose: Fashion Fictions is an international participatory research project that aims to influence and energise the emergent post-growth fashion movement by bringing people together to create, experience and reflect on fictional visions of enticing alternative fashion cultures and systems. This paper considers the ways in which the project's generative activity, in the form of discursive world-building, practical prototyping and embodied enactment, provides a platform for participants to question – or “unmake” – the socioeconomic order of the real-world fashion system.

Design/methodology/approach: This paper focuses on the second stage of the project, where participants work in small groups to create an object or image to represent life in a fictional fashion world. It draws on qualitative data generated via four two-day prototyping workshops run between November 2021 and March 2022, each involving up to twelve participants.

Findings: The making involved in the collaborative prototyping activity provided fertile ground for unmaking the status quo. The focused act of speculating about an intentionally outlandish fictional world acted as a conduit for a more open-ended and powerful sense of wonder that led participants to question the assumptions and structures underpinning the mainstream fashion system.

Originality/value: The paper introduces the notion of “unmaking” to the post-growth fashion context and argues that taken-for-granted norms must be challenged as a necessary precursor to change. The participatory workshops discussed provide a practical and accessible way to support unmaking.

Keywords: ethics and aesthetics, processes of change, speculation, post-growth, unmaking.

RP47 – Using Fabulations to Overcome Mimicking Practices in Online Fashion Consumption
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Royal College of Art

This article sets out to map the burgeoning field of contemporary online fashion consumption, presenting an account of its developments, questioning how technical and quantitative approaches have been privileged over relational and tacit. In particular, this paper examines how digital retail tools have prioritised addressing technical challenges around reproducing existing consumer experiences instead of promoting new ones. A literature review then situates the development of fashion e-commerce technologies within the context of IRL (in real life) consumption, fashion consumers, sustainability in fashion and ecology studies. Methodologically, we have conducted desk research, literature discussion, and reflective writing. This review supports the development of the concept of mimicking as metaphor for technocratic solutions and a fraud sustainability strategy. From there, we define a set of theoretical frameworks around the philosophical concept of fabulations as a method that contributes to our goal of identifying opportunities for disruptive consumer experiences.

Keywords: e-commerce, fashion and sustainability, consumer behaviour, consumer experience, tacit knowledge.

RP48 – Digital Product Passport to Support Product Transparency and Circularity
OSPITAL, Pantxika; MASSON, Dimitri H; LEGARDEUR, Jérémy and BELER, Cédrik
Université de Bordeaux / ESTIA Institute of Technology

In the textile industry, corporate transparency, as the disclosure of firm information, does not provide information about products that would allow the customer to make informed purchases. Product transparency as defined by the disclosure of information concerning a specific product is necessary to support distrustful consumer. Among the key actions, setting up a digital product passport (DPP) for textile products is an opportunity to inform consumers. The aim of this paper is to explore the current situation of the industry and the new regulations to develop a DPP data model. We studied the evolution of current fashion landscape, evaluated the situation of actual practices concerning transparency and compared information available online and in-store regarding both product transparency and corporate transparency. We then propose a model of DPP.

Keywords: product transparency, traceability, digital product passport, the european green deal, fashion industry, textile supply chain.

RP49 – New Clothing in Charity Retail; the Discrepancy Between Second-Hand and First-Hand Consumption
IRVING-MUNRO, Abigail and JAMES, Alana
Northumbria University

Purpose: This study aims to define a new phenomenon in second-hand retail which has seen an influx of new clothing starting to populate UK-based charity shops. Previous research on the modern charity shop has been explored from a social adoption perspective, analysing how consumer behaviour has adapted and changed over time.

Design: This paper however adopts a systems design approach, through a series of semi-structured, informal interviews with consumers and industry experts, including a charity retail manager, policy experts and a Ghanaian non-governmental organisation.

Findings: The data collected questions how a distribution and regenerative model can work with contemporary consumer culture, whilst being adaptable to the current second-hand clothing economy. Resources which flow into the proposed model will sustain even distribution to keep clothing out of landfill by utilising regenerative qualities that ebb and flow in a localised economy.

Value: This will prevent the demise of clothing longevity and promotes new opportunities through the use of systems thinking, material studies and service design methods.

Keywords: consumption, second-hand, charity retail, new clothing.

RP51 – Empowering Textiles Towards a Circular Future. Meta-Textiles Case Study**TAMAMES SOBRINO, María****ESNE- University School of Design, Innovation and Technology**

This paper explores the condition of the textile value chain as an agent of reticular reconstruction, capable of redesign and regenerate the actual context (Ellen McArthur Foundation, 2017 and McKinsey, 2019). The textile industry tends towards a circular systematization which presents the opportunity to reimagine our systems. To do so, businesses need to consider, address and rethink the governance of cultural, social, economic and environmental impacts of their current models and corresponding supply chains (Amed, et al., 2020). The textile supply chain has completely transformed its practices, modifying the notions, parameters, criteria and linear processes. It has given rise to a new genre whose central axis is circularity to ensure prosperity (Lehmann et al., 2018). Textile industries are in the spotlight due to the heavy environmental impacts along their products' life cycle. As a consequence, the textile sector has become a priority area in the new circular textiles action plan of the European Commission. Circular action should inspire evolution towards new forms of relationship, more equitable, fair and responsible.

Action that broadens the autonomy and decision-making capacity of textile industry players is needed, establishing direct dialogue and agile interactions. Thus, textiles players must address strategic questions in order to give answers to complex processes. This analysis questions how most attempts to raise and spread sustainable awareness occur at the textile making stage and its design processes. Sustainable is often primarily used by the industry and the brands as a greenwashing marketing tool. In the 2017 report by Global Fashion Agenda (GFA) industry workers identified several barriers to sustainability such as short-term thinking, resistance to change, lack of company resources, undefined roles and lack of skills (Kerr and Landry, 2017). In this context, transparency not only provides a link between workers and customers, but it provides workers and their unions the needed information as it allows for interactions to be settled in an efficient manner (Ditty et al., 2018).

The article will present a short introduction to digitalization and virtualization processes on textiles. The overview gives context for the necessity of using digital textile design systems and e-material interface platforms to save the use of resources and improve the impact footprint. Thus, to help improve consistency in the understanding of sustainable textile approach, this chapter examines its relationship within the textile supply chain, defines the strategy that promote their interactions and determines their key enabling principles. Further on, the META-TEXTILES project will be introduced with a focus on the topic of traceability with digital textiles. This article addresses collaborative forms of engagement and processual materialities that have been core to the project, META-TEXTILES. The established method interprets and challenges the traditional knowledge about how textiles are constructed and designed. Therefore it will enrich the present and predict a future textile language in order to enable innovative materials and product identities in the textile field. The fabric passport has a crucial function as it technically materializes the design vision and serves as a decision tool for future product developments in the production process. It traces a legacy that asserts a continuity from textiles and material design practice in more traditional conventional formats to future and emerging design that engages and merges both the physical and digital aspects.

Methodology: This study is based on empirical data gathered through fieldwork and our reflections on the analytical framework. The project is practice-based, involving refractive methods in a process that is both generative and regenerative.

The methodology is grounded in an experimental research within textile design, and discuss digitalization and virtualization as means to investigate the role of materials in an industry in search of sustainable development.

Results: Through participatory action research, this project intends to create sustainable real interactions and respond to the patchy industry landscape. In seeking to explore possible ways in which digital textiles could strategically contribute to encourage a sustainable future, we engaged the Italian company Manteco SpA through interconnective processes of making. Several design experiments were implemented in a case study in which the company wanted to assess how textiles become action connectors rather than representational features. The significance of the research is that it demonstrates how collaborations between the tradition and

digital can introduce craft thinking into digital workflows. At the same time makes it possible to acquire a broader perspective of design practice when making changes of the existing fashion system. The finding that emerged reveals new workflows that it allows for in articulating the relationship between contexts, mindsets and practices– while bringing into relief the inherent boundaries and conflicts that exist within the fashion system. The study argues for the potential of material as foundational for creating new methods and communicate its value to processes of change.

Keywords: textile design, virtual materiality, textile passport, traceability, digital workflows.

RP53 – Artificial Intelligence Enabled Fashion Forecast System: A Demand Centric Approach
DIMRI, Neha and CHADHA, Sanyogita
Pearl Academy

Fashion and its supply chain are notorious and complex. The issue of gargantuan amounts of fashion items making its way to the incinerator or landfill is well established. One of the primary reasons for this colossal waste generated by the fashion industry is how it has traditionally operated to forecast and produce. With constantly changing fashion seasons, demand fuelled by ephemeral trends and fashion disruptions, making an accurate assortment plan has always been challenging for the brands. The challenge is in two key decisions the industry takes, firstly, what trend / product to make? And then how much to make? Traditionally the decisions are largely intuitive plus own data of the brand. A new way to solve this has emerged which is putting consumers at the centre. A demand-centric approach to solving the challenge using advanced artificial intelligence (AI) algorithms and big data at internet scale. This statistical research paper is part of ongoing research which explores the AI and ML based approach that has been road tested across global brands and retailers in accurately predicting buying and assortment plans of fashion brands. The case study of Stylumia investigates how AI enabled forecasting systems where the subtle changes in consumer interest can be predicted by advanced algorithms deployed on various online tools. The research also documents how these tech tools have been effectively used in reducing carbon footprint by up to 30%. It is also noted that technological tools are instrumental in recording and reducing the ecological impact of fashion production systems and increased transparency.

Keywords: artificial intelligence; attributes; demand sensing; forecasting; sustainability.

RP54 – Ethically Produced Cotton and its Impact on Indian Consumer Buying Decision by Indian Brands
DIMRI, Neha and CHADHA, Sanyogita
Pearl Academy

Cotton has been part of Indian textile and clothing industry since the evolution of ancient history. It has been one of the staple fibers used for producing textile and clothing in the sub-continent (Santhanam & Sundaram,1997) . India is the largest producer of conventional and organic cotton in the world (Shahbandeh, 2020) . Even though cotton contributes a significant part in the overall textile and apparel production, its cultivation, processing, and manufacturing does not happen in a composite manner.

Majority of makers of apparels and manufacturers of cotton textile are not aware of the extent of damaging impact commercial cotton cultivation has on planet and people involved in its production. The problem is compounded as the large part of supply chain is highly opaque and lacks transparency and accountability.

One of the aims of the research is to document the existing patronage provided by the apparel brands in agricultural practice in cotton cultivation in India. The case study reviews how large-scale clothing businesses in India like Arvind Mills are using ethically cultivated cotton in their supply chain. The research reviews if the incorporation of ethically manufactured cotton has any impact on the cost of production. The research investigates if known to the consumer, apparels made from ethically produced cotton has any impact on their buying decision.

The study reveals that the companies like Arvind Mills have identified key areas of sustainability and cotton cultivation is one of them. The report published by the company shows that the farmers associated with the company through BCI (Better Cotton Initiative) has increased 6 times from FY 2014-15 to FY 2017-18 (Mills, 2019) . Furthermore, the outcome of the research is to create an online tool kit for the brands to use while sourcing cotton fabric for apparel production in India.

Keywords: sustainable production, cotton farming, apparel manufacturing.

RP58 – Exploring Taxonomies of Heritage and Innovation for Sustainable Textiles**SUNGWARN, Chaveeporn****Heriot-Watt University**

Innovation and heritage both attract much attention when we consider sustainable futures for design, and for every exciting new development in greener technologies, we might point to a heritage skill that could help achieve more sustainable innovation of making practices. In textile craft, some traditional abilities do already play a critical role in innovative development, while others might be continued either for cultural or political reasons, or as able contributors to market visibility within the broader movement away from globalized and mass-produced offerings. In most cases, the choice of retaining certain heritage practices while innovating others with regard to processes, products, materials, design, or stakeholders does not tend to be particularly systematic, but this paper proposes the use of a taxonomy of heritage and innovation features for textiles, with the aim to explore how effective a tool this might constitute for culturally, environmentally and economically sustainable textile production of the future. The research used in-depth interviews and observation of fabric makers in various cultures of Thailand and Scotland as its empirical basis for a sample taxonomy, clarifying through content analysis. The difference between traditional processes and innovative elements of fabric production in these very different cultures of making. In order to make such a taxonomy user friendly and universal, symbols were considered and established to classify relevant traits of the entire fabric production processes that may be considered traditional or innovative. Using a concise and clear model of sign design has the capacity for easy communication across stakeholders from artisan to design communities and offers the prospect of observing its use and the product outcomes that will come from it. In the first instance, the researcher, herself a Thai textile designer currently residing in Scotland, has explored the taxonomy in her own weave practice and will offer reflections on the outcomes of experimenting with combining traditional and innovative traits in a systematic manner. A preliminary discussion on the benefits and possible applications of this approach will be offered, with further analysis being expected as a result of feedback from the GFC conference community. The paper promotes symbols both as an analytical tool and as a powerful artistic communication device of traits of traditional crafts, intangible cultural heritage and innovation around these industries. The purpose of this paper then is both to analyse heritage elements and innovative aspects of making and to explore how these can be a systematic and conscious source of sustainable development. It clarifies in terms of initiation; markers, materials, and technique throughout the outcome; fabric, and the processes related to the aesthetic and the transition of cultural value crafts. The research thus seeks to contribute to the reconciliation of the twin trajectories of heritage and innovation as we seek to define preferred futures for a design that answers to cultural, marketing, economic, political and environmental concerns.

Keywords: sustainable design, intangible cultural heritage, innovation, taxonomy, preferred futures.

RP59 – Aesthetics of Coherence: Rethinking Dress from Eco-Feminisms and Ethics of Care**CAPDEVILA CUGAT, Fiona****Universitat Autònoma de Barcelona**

I undertake this task reflecting on how materials reach the bodies, aiming to step out from sustainability narratives to reimagine the clothed body outside the scope of biocide fashion, in an exercise of “performing language to create new imaginaries”(Ordóñez, 2016). In this essay I attempt to rethink clothing as an interface that connects bodies with ecosystems from a multidisciplinary approach, taking into account the agency of apparel as a daily care practice, both related to the body and to the earth, using the ethics of care of Virginia Held and ecofeminisms theory as analytic tools. Relatedness, in contrast with individualistic moralities based on Kantian ethics, affords aesthetic experiences which bridge ethical and ecological concerns from eco-feminist perspectives. I conclude that clothing is necessary as an input of embodied materials meant to maintain body stability, healthy relationships with others and with environments, and, so to speak, to guarantee the reproduction of life, just as healthy and sovereign food systems do.

Although this is a work in progress evolving organically, I argue that culturally embedded, appropriate and healthy clothing systems should be a priority, not a whim, for societies that aim to be caring. This raises a political question, opened for further research: Whether clothing systems should be reappropriated as commons, considered a constituent element of the individual, an extension of the ecological and ethical self through aesthetic experience of coherence, and for the pursuit of collective and environmental welfare.

Keywords: Interfaces, ethics of care, eco-feminisms, biocide fashion, good life, caring self, liberal morality, clothed bodies, relatedness, embodied knowledge, food sovereignty.

RP61 – Are Regulatory Requirements Antecedent of Internal GSCM Practices in the Textile Industry? The Case of Spain

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Background scientific research: Climate change, ecological concerns, and environmental regulation pressures force companies to manage their daily activities from a more ecological perspective (Mutingi et al., 2014). These pressures are becoming more relevant for companies and providers (Dou et al., 2018), shifting from controlling pollution in their value chain to preventing it.

The textile industry is one of the seven key value chains identified by the EU in the Circular Economy Action Plan (European Commission, 2020) that requires urgent measures and actions to move towards a more sustainable production and consumption. Therefore, only in 2022 the European Commission has launched or is going to launch an extensive set of measures, including the EU strategy for sustainable and circular textiles published on the 30th of March 2022, the Sustainable Products Initiative, and a legislative proposal for substantiating green claims made by companies (European Commission, 2022).

The academic literature has extensively addressed the main issues of sustainability in the fashion and textile industry (Luján-Ornelas et al. 2020; Henninger et al., 2016; ILO, 2014). The recent literature on Green Supply Chain Management drivers and practices is also prominent (Osoasanmi, Ojo, Ogundimu & Oke, 2022; Hebaz & Oulfarsei, 2021; Huang & Huang, 2021), although there is no agreement on which are the prevailing practices in GSCM.

The drivers are critical factors to achieve GSCM practices (Dhull & Narwal, 2016). They allow GSCM practices to generate a positive impact on environmental performance (Sarkis et al. 2010).

According to different authors (Maditati et al., 2018; Dubey et al., 2014; Agan et al., 2013; Caniato et al. (2012) four drivers have been selected (environmental awareness, regulatory requirements, internal motivators and external pressure), to identify their influence over the internal practices of GSCM (both in processes and in products), and their correlation with the economic and the environmental performance of the companies.

This theoretical model has been applied to the fashion and textile industry in Spain.

Research issue to be addressed: This study aimed to investigate whether the regulations acted as drivers for implementing internal practices in Green Supply Chain Management (GSCM) in the fashion and textile industry in Spain. It was a part of a broader study in which drivers and barriers of both internal and external practices were identified.

Methodology used: There was an analysis of 166 Spanish companies with more than ten employees, whose NACE (statistical classification of economic activities) were related to the manufacture of textiles, apparel, leather and related products, or wholesale of textile products, garments and shoes. 98% of the companies interviewed were SMEs, which is congruent with the textile sector in Europe.

The methodology was based on questionnaires addressed to the main responsible for implementing sustainability in the companies: sustainability manager, supply chain manager, CEO, etc. The questions used validated scales in previous research. All of them were measured on a Likert scale, from 1 (totally disagree) to 7 (totally agree). There were 20 items for drivers, 21 for internal practices and 12 for economic and environmental performance. The fieldwork was done between September and October 2021, sending the questionnaires to 2,805 companies.

Results achieved: The results showed that the regulatory requirements do not influence the implementation of practices GSCM in the textile and fashion companies in Spain.

Indeed, there were until now, few regulations mainly related to waste, and many recommendations focused on the circular economy, but there were not mandatory.

The new regulations coming from the European Union may change the trend and act as drivers, but companies should prepare to adapt to this shift.

Keywords: GSCM, drivers GSCM, regulatory requirements, sustainability, fashion-textile industry.

RP62 – The Fashion Pact’s Injustices

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Background: The environmental and human consequences of the fashion industry are now well characterized and can no longer be ignored. Clothing consumption is projected to increase from 62 to 102 million metric tons between 2019 and 2029, likely exacerbating those issues (World Bank, 2019). In response to the magnitude of the environmental and human impacts of the fashion industry and the growing concern of consumers in this regard, international initiatives have emerged. One of these is the Fashion Pact, which aims to provide impetus to "bend the curve away from environmental crisis, and towards a more just, durable, and ecologically responsible fashion industry in which all parties are able to thrive." (The Fashion Pact, 2021, p. 6) The Fashion Pact is led by a steering committee of 14 CEOs of fashion companies and co-chaired by the CEO of luxury group Kering, François-Henri Pineault, and Paul Polman, co-founder of IMAGINE, an organization that promotes the involvement of private companies in addressing the climate crisis and inequality. The steering committee is the sole decision-making, i.e. objective-setting, body within the Fashion Pact.

Research issue: Although the fashion industry's value chain can be divided into three tiers: (1) production, (2) logistics and sourcing, and (3) design, sales and marketing (Fernandez-Stark et al., 2011), the Fashion Pact's steering committee only includes representatives from the 3rd tier. The lack of representation of the 1st and 2nd tiers in the pact's leadership constitutes a procedural injustice in its objective-setting process.

Methodology: We will argue that the Fashion Pact's objective-setting process is unfair using Brighouse and Fleurbaey's (2010) definition of procedural justice.

Results (Argument): Procedural justice refers to justice in a decision-making process. Procedural justice requires that the parties who will be affected by a decision have a voice in that decision. Brighouse and Fleurbaey (2010) propose that stakeholders who will be the most affected by a decision also have more power in the decision-making, following the principle of proportionality.

It is clear that the absence of stakeholders from the 1st and 2nd tiers of the fashion industry in the Fashion Pact's governance is unfair, first because they represent the majority of workers in the fashion industry (Fernandez-Stark et al., 2011); second, because these stakeholders – particularly those from the production tier – suffer the bulk of the industry's human and environmental impacts. Indeed, 90% of clothes are produced in low- and middle-income countries (LMICs), where political and organizational capacity limits the enforcement of occupational and safety standards. Garment workers are at increased risk of respiratory diseases, cancers, reproductive diseases, work-related injuries, and deaths (Bick et al., 2018). These workers' wages are often below what is required to cover "base necessities" and are predominantly female, subject to disadvantageous gender-based power relations (Kates, 2019) and have low education levels (Fernandez-Stark et al., 2011). Finally, the fashion supply chain is buyer-driven, meaning that it is "[g]lobal buyers determine what is to be produced, where, by whom, and at what price" (Fernandez-Stark et al., 2011, p. 7) leaving little power to the 1st and 2nd tiers. By contrast, the Fashion Pact's steering committee's composition exclusively includes CEOs from the fashion industry's 3rd tier – the most powerful within the industry – whose individual financial, health and symbolic capitals are significant. Thus, considering the principle of proportionality, workers in the 1st tier of the fashion industry, and to a lesser extent those in the 2nd tier, should have a voice, and a strong one, in the Fashion Pact's objective-setting process.

One could argue that the more there are stakeholders in the decision-making process, the more resources (time and money) will be necessary reach a decision (Himmelreich, 2022). In fact, the efficiency of decision-making is an argument put forward to justify the fact that decisions are made only by the 14 CEOs of Committee (The Fashion Pact, 2020). While we agree that it would not be efficient for all workers to participate in the Fashion Pact's decision-making process, we argue that mechanisms could be put in place to ensure that their voices are heard, e.g. by including union or non-profit representatives.

Conclusion and relevance: The absence of representatives from the 1st and 2nd tiers of the fashion industry in the Fashion Pact's governance is a procedural injustice and it needs to be addressed for its own sake, but also

because it leads to another injustice – a substantive one, that is the absence of human rights objectives in the Fashion Pact. The Fashion Pact’s three pillars and objectives are environmental in nature. Thus, although the pact aims to promote a “fashion industry in which all parties are able to thrive”, it leaves aside the fashion industry’s social justice issues. Importantly, sustainability initiatives must address environmental and social justice issues (Campbell, 2016). Including representatives from its two first tiers – particularly from the 1st one – would reasonably have brought forward the need for such objectives. Worryingly, by focusing on environmental goals, the pact may help perpetuate the injustices experienced by garment workers. However, it is not too late to revisit the Fashion Pact’s objectives and objective-setting mechanisms.

Keywords: Fashion Pact, procedural justice, fashion, sustainability, human rights.

RP63 – Practicing the Work of a Sustainable Digital Fashion Designer/Maker 4.0: Design of an Organic and Modular Clothing System Based on the Industry 4.0 Approach

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Politecnico di Milano

Industry 4.0 in the Fashion Industries is having its momentum through the application of digital fabrication technologies encompassing 3D modeling or computing-aided design (CAD), additive manufacturing (i.e. 3D printing), and subtractive manufacturing (i.e. laser cutting, cutting through plotter, and CNC machining) technologies in changing the fashion system in all aspects, from the business models to the creative fashion designer professional skills and activities. In the wave of Industry 4.0 (I4.0), a new design paradigm has been emerging based on the cooperation between digital production and manual expertise: new digital artisans/fashion designers 4.0 emerged as being able to work on scouting old crafting techniques and updating them through the use of digital fabrication technologies to boost their creative abilities, explore aesthetical possibilities, and start-up new economical businesses. This paper aims to present the status of the art of the digital fashion designer/artisans practices through a preliminary literature review as a baseline to present a case study of hybrid digital fashion craftsmanship focusing on the design and implementation of an organic modular garment system based on the I4.0 approach. The case study will serve to describe the impacts, opportunities, and limitations that digitalization and additive manufacturing techniques could have on fashion design in terms of creativity, design and manufacturing processes, new skills and practices, and sustainability.

Keywords: Fashion 4.0, 3D printing technology, fashion design, modular design, cultural sustainability, environmental sustainability.

RP64 – Growing Whole Bacterial Cellulose Garments with Membranes and Industrial Robotics
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This research explores the aesthetic and environmental potentials of growing whole bacterial cellulose (BC) garments with membranes and robotics. The experiments were conducted with *Komagataeibacter Xylinus*, an aerobic microorganism metabolising oxygen and sugar to bacterial nanocellulose threads. On a visible hierarchy, these nanocellulose threads form a homogenous cellulose pellicle at the edge of nutrition liquid and oxygen. Using air-permeable membranes allows us to shape the nutrition liquid oxygen border and direct the cellulose pellicle growth three-dimensionally. In one of our small-scale experiments, we grew a trouser-shaped object within ten days of incubation. Based on these preliminary results, we started experimenting with robotic BC growth setups to program garment features as, for example, thickness, pattern, and buttonholes, locally and gradually. As of today, growing whole bacterial cellulose garments still bears limitations regarding costs, clean room standards and scalability. Nevertheless, mastering those challenges could offer fashion segments an option to cut down the fashion production chain, enable three-dimensional parametric garment designs and lead to more sustainable and individualised garment production.

Keywords: growing whole garments; bacterial cellulose; three-dimensional fashion; fashion sustainability; robotics in fashion; biomaterials in fashion.

RP67 – Waste Material Library – a Resource for Designers to Encourage Material Play

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Understanding material qualities and properties is imperative for designers. This paper showcases a material library built from waste material as a learning resource for designers to help consider what existing materials can be utilised in design projects. It is estimated that roughly 80% of the environmental impact a product will have in its life cycle is decided during the design stage (Graedel, Comrie and Sekutowski, 1995). Although the ultimate aim is to eliminate waste all together by creating a circular process which allows creations to either be re-used or return to the earth as food (Barber, 2019). As Katie Treggiden highlights 'we need to deal with the legacy of 200 years of "take-make-waste', 'the resources we need are no longer in the ground, but in landfill' (2020) and that 'by recategorising waste as a raw material, we can slowly start to bend that straight line (of a linear economy) around into something more circular' (ibid) changing waste from a 'fact' into a 'category' (Treggiden, 2020b)(Katie Treggiden, 2020). (Katie Treggiden, 2020b) Building on the concept of a materials library from the 'Institute of Making' this library will be based at Heriot-Watt University, School of Textiles and Design and will be documented online 'enabling users to experience at first hand the relationships between materials and tools that constitute processes of making' (The Institute of Making, 2020). Mark Miodownik reiterated the importance of materials for thinking to allow material scientists, engineers and designers to 'take them apart, to analyze them, to muck about, and to practically try out new things' in order to think through material play and generate ideas using both hands and head (Miodownik, 2013). A similar approach has been applied to garments in a study by Bigolin et al. (2022) exploring design methods to reevaluate and resignify waste materials and garments through photographic documentation, 'material inventories' and 'garment ontologies'. Using existing waste garments they explored ways of investigating the deeper material qualities and potential 'extended life cycles' (ibid). Building on this research the researcher plans to document the waste materials in through photography and video and conduct material experiments using processes such as sublimation printing and heat processes to explore initial starting points for how to use materials and create further materials from them for use in garments and products.

The waste material library project will be conducted using a Research through Design (RtD) methodology. Durrant et al. (2017) when introducing the RtD conference explained that RtD has been 'used for over 20 years within the design community as a distinct term to describe practice-based inquiry that generates transferable knowledge'. Like Candy (2006) states, 'Practice-based Research is an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice'. This statement suggests that practice-based research shapes the wider research and vice versa, creating a circular process. RtD explicitly acknowledges the creative phase in research (Jonas, 2015, p. 26) where the researcher utilises their practice, in this case, material documentation (through video and photography) and material play to create a learning resource and range of prototypes as a form of material research. RtD allows prototyping and the designer's insider perspective of their practice to inform research plans, activities and outcomes (Jonas, 2015, p. 31). RtD process will be applied to this research to answer two initial research questions:

1. How can we build a learning resource of materials to inform the consideration of waste at the beginning of design projects?
2. What initial prototypes/ further materials can be created through applying making processes to the materials?

Once the library has been built (initial containing around 100 waste materials) this will continue to be added to as an ongoing process. The library will then be available as a learning resource across the School of Textiles and Design courses initially explored by students through the MA Fashion and Textiles course as a way to consider a range of materials and processed using waste. This use of the library will form stage 2 of the research and provide further findings of the benefits a material library can provide designers.

Keywords: waste, materials, play, sustainability.

RP68 – The Significance of Emotional and Sustainable Values in Smart Clothing**RIKANOVIC, Dragana and LUIBLE-BÄR, Christiane****Fashion and Technology, Kunstuniversität Linz**

In the past, numerous examples of garments with integrated electronics have been developed in research, artistic, as well as commercial contexts. Despite continuous technological advancements within e-textiles, there are few examples of smart products that work as fashion items and that have led to a lasting and satisfactory commercial use. The reason for this can be found in the fact that wearable technology products focus on problem-solving by using reason and targeting the wearer from a user rather than a human perspective. This approach results in clothing that lacks intuitive and emotional expression, as well as distinct design identity. To develop clothes with integrated electronics that blend fashion and technology with emotional and sustainable values, it became apparent in this research that standard methods of fashion and common methods of technology contradict one another. With the aim to harmonize these two approaches a new concept-driven collaboration methodology based on emotional and sustainable/ethical values has been developed. In the realization of this research, an extended desktop-research and literature review was conducted. The newly developed method was tested in teaching with students, as well as with a group of experts from a wide variety of identified relevant fields. By combining designer's visual sense and sensibility with engineer's technical and scientific expertise, as well as additional experts with sustainability, design communication, anthropology and sociology background at the beginning of the R&D phase, new thought processes could be started that lead to more meaningful smart objects.

Keywords: wearables, fashion, technology, sustainability, participatory method, art-tech collaboration, concept-driven collaboration, emotional design.

RP69 – Sustainable Design Decisions for Circularity – a Challenge
ADLER, Françoise; SCHMIDT, Lea; WEBER MARIN, Andrea and WILLI, Benjamin
Lucerne University of Applied Sciences and Arts

Considerable importance and responsibility are attached to the issue of design in the shift towards circularity. Environmental implications throughout the product life cycle must be anticipated in the design phase in order to enable the products to have second and third lives. A large number of theoretical concepts and 'design for X' action instructions for sustainable product development have emerged in recent years. The implementation of the theoretical approaches in design practice would be an important step towards promoting circular practices. There is a large gap here.

The objective of this paper is to contribute towards closing the gap between theory and design practice by analysing, contextualising and translating the existing theoretical action instructions for low-threshold use in design practice, with a focus on the design of textile products. An initial graphical visualisation of the findings for design practice, a 'design decision tree', subsumes the findings from the literature search and analysis in a new, product-centric form. This overview can be used to determine which decisions can be taken when and by whom in order to promote product circularity. Detailed and networked action instructions enable designers to utilise their creative freedom in the interests of sustainability in practice, in line with science-based concepts and criteria. In the next step, the first version of the design decision tree will be tested using practical case studies from industry.

Keywords: sustainability, circularity, design, textile, decision tool.

RP71 – Generation Z Purchase Intention of Environmentally Sustainable Luxury Fashion Products

BADIEI KHORSAND, Darya; VIGNALI, Gianpaolo and RYDING, Daniella

University of Manchester

Background: Consumers are becoming increasingly aware of sustainability issues in the fashion industry and are demanding brands to incorporate sustainability into their business models (Youn & Cho, 2021). Regarding sustainability in luxury fashion, it can be argued that luxury brands have an advantage over high-street brands as they are believed to have smaller production batches produced at a slower pace (Henninger et al., 2016). Research suggests that many consumers class luxury fashion as slow fashion, meaning there is less/no need for sustainability (Henninger et al., 2017). However, as consumers' awareness regarding the negative environmental and social impact of the fashion industry grows, luxury brands are no longer able to continue operating based on their traditional unsustainable business models (Janssen et al., 2017).

When implementing sustainability into luxury fashion, brands are faced with many challenges. First, luxury products are traditionally made from rare materials which increases the perceived value of the products (Kapferer and Michait-Denizeau, 2014; Veblen, 2016). This conflicts with sustainable fashion which seeks to incorporate recycled and less resource-intensive materials in the products (Henninger et al., 2016) which may be perceived as less valuable (Veelaert et al., 2020). Second, the concept of luxury is associated with ostentation and conspicuousness where purchases are made excessively to display wealth (Veblen, 2016) whereas sustainability is associated with ethics and altruism where purchases are made in moderation (Kong et al., 2021). Third, change is a form of luxury in fashion (Gardetti and Torres, 2015) and for most luxury consumers, it is not only important to be seen in the 'right' clothes, it is also important to follow the latest trends as "status and power are asserted through consumers' ability to discard products that are still useable" (Gardetti and Torres, 2015, p.16). This lack of compatibility between sustainability and luxury fashion has been found to have a negative impact on consumers' purchase behaviour regarding sustainable luxury fashion products as it highlights the conflict between the two (opposing) concepts (Kapferer and Michait-Denizeau, 2014).

Research Aim: This paper aims to evaluate Generation Z consumers' purchase intention of sustainable luxury fashion products in the United Kingdom. Although there is a lot of research conducted on consumers' purchase intention of sustainable and luxury fashion products (Henninger et al., 2016; Janssen et al., 2017; Kong et al., 2021 and Youn & Cho, 2021), there is limited research on the two concepts combined, i.e. sustainable luxury fashion. Additionally, sustainability is a broad term and includes both social and environmental sustainability (Henninger et al., 2016) and in most papers the distinction has not been made. In this paper the researchers solely focus on environmental sustainability as it has been identified as one of the main areas that luxury fashion brands can rely on for their recovery after the Covid-19 pandemic (Deloitte, 2020). The primary audience for this paper is Generation Z consumers as they have been identified as the "sustainability generation" (Youn & Cho, 2021, p. 516) and one of the key market definer cohorts with a significant spending power (Davis, 2020). To achieve the research aim, the researchers will first identify the factors that affect that Generation Z consumers' attitude toward environmentally sustainable luxury fashion products using extant literature. This is key as consumers' attitude is one of the key factors that impact their purchase intention (Ajzen, 2020). Next, they evaluate how their attitude affects their purchase intention by conducting a questionnaire based on extant literature.

Research questions:

- What are the main factors that affect Generation Z consumers' attitude towards environmentally sustainable luxury fashion products?
- How do the above factors affect Generation Z consumers' attitude towards environmentally sustainable luxury fashion products?
- How does Generation Z consumers' attitudes toward environmentally sustainable luxury fashion products impact their purchase intention?

Methodology: The researchers will take a quantitative approach and use questionnaires to understand the factors that affect generation Z consumers' attitude towards environmentally sustainable luxury fashion

products, and their impact on their purchase intention. The questionnaire will be digitally distributed between 400 Generation Z participants across all regions in the United Kingdom who are luxury fashion consumers. The questionnaire will consist of filter questions to ensure the respondents belong to the target audience selected for this research.

Findings: The expected results of this research are identification of the factors that affect Generation Z consumers' attitude towards environmentally luxury fashion products, and evaluation of how these factors affect their purchase intention. Using the results, a framework will be developed which will have theoretical contributions to academia and can be used by academics and researchers who wish to understand and study this topic further. Additionally, this research will have managerial contributions as it provides valuable insights for luxury brands who wish to incorporate environmental sustainability into their business model.

Keyword: sustainability, luxury fashion, sustainable luxury fashion, purchase intention.

RP72 – Hearts and Hands: An Ongoing Design Project for Responsible Fashion Consumption
NOROGRANDO, Rafaela and LOSS, Caroline
ID+ Research Institute for Design, Media and Culture / University of Beira Interior

This paper presents the creation and implementation phase of the Hearts and Hands pilot project. This is undergoing original research, which intends to integrate different research fields, students and professors from higher education and elementary school to inform consciousness about responsible fashion consumption and valuing intergenerational learning. Combining the participatory and STEAM methodology, elementary school and Fashion Design students are invited to express their knowledge about sustainability by creating a semantic panel. Then, one group presents to another, exchanging points of view. Further, all students review their closets to self-analyze their consumption modes. In the end, the future designers develop two semestral works based on the moodboards/drawings made by the children. This paper describes the entire program of the project and the steps for its construction. It also shows the results of the first phases that have already been implemented. During the pre-implementation phase was possible to see the importance of collaborative work, where the suggestions of the school's teachers were heard and implemented. Then, in the implantation phase, it was possible to check the superiority position of the university students compared to the children during the moodboards presentations. However, in terms of practical results, only two groups of university students had a differentiated analysis in relation to children's outcomes, raising the hypothesis that some concepts, including consumption, already regiment adults' behavior. At the same time, with children, it is softer, including non-direct access to purchasing power.

Keywords: fashion design, consumption, sustainability, awareness, children, intergenerational, circular economy, elementary schools, undergraduate students, community, emotional relationship.

RP73 – The Program of a Curriculum for Sustainable Fashion Design: Process of Change**PEREIRA, Madalena****University of Beira Interior**

The era of Sustainability in its four aspects (figure 1) and Circular Economy require the definition of teaching strategies, at the course curriculum level. The University of Beira Interior developed its reformulation after the Bologna process, introducing 2016 the curricular unit - Sustainable Fashion Design. Nowadays, the abbreviations of content in this matter go beyond curricular units, but in design practices throughout the training, analyzing the different phases of the product life cycle and how one can contribute to each of them in order not to commit future generations to manage the planet's resources. But changing mindsets is essential. The development of a curricular unit in sustainable fashion design at an early stage, with the learning of crucial concepts associated with Sustainability and Circular Economy, thus allowing its application in the different projects developed in subsequent steps. Therefore, over these years (2016-2021), what are the Learning outcomes, Syllabus, teaching methodologies and evolution of the bibliography necessary given the accelerated evolution required for the fulfilment of the objectives of the EU 2030?

The sustainable society and industry are based on OECD goals (SDGs) and at the European level, associated with policies for product development, waste, unfair trading practices, international trade, support to producing countries, alternative business models and a multi-stakeholder platform^{1,2}. In the research area different studies analyze the problems, solutions, and the new skills for the high education system in sustainability subjects and digital and ecologic paradigms (Goldberg 2009; Flint, 2010; Fletcher, K. and Williams, D., 2013; Grose, 2017; Conti and Motta, 2022; Inwood et al.2021; Janssens et al. 2022).

During the development phase we defined learning outcomes as in (1) Knowledge concepts; (2) Knowledge and Capacity for Understanding; (3) Intellectual Skills; (4) Practical Skills; (5) General Skills Transferred.

The second question arises in this way: What Syllabus, teaching methodologies are needed to achieve these goals?

Thus, different curriculums of international universities were analyzed, and directors or managers of the department/area of Sustainability in Portuguese companies and international brands were interviewed.

The study is longitudinal and repeated every six years, with the evaluation and accreditation of the courses.

It is concluded that there is a need for constant updating in view of the changes that have taken place in recent years and the objectives set by the EU 2030. It is considered necessary not only to comply with these objectives through methodologies and knowledge of European regulations but also to change mentalities with application knowledge throughout their training and professional life at all stages of the product's life cycle: design; production; distribution, use and end of life.

Keywords: sustainability; fashion design product; skills.

RP74 – A Qualitative Study of the Well-Being of Fashion Models
SUPER, Emily; KHADAROO, Ameerah and BARDEY, Aurore
London College of Fashion

Fashion models are often assumed to have a glamorous job with limited consideration for their well-being. This study aims to assess the well-being of models through semi structured interviews with six professional fashion models and six industry professionals. Thematic analysis revealed that although models experienced improved self-confidence, they also reported heightened anxiety levels, body image issues and negative influence of modelling on their self-esteem.

By contrast, industry professionals reported no or minimum concerns about anxious behaviours or the general well-being of fashion models.

Being resilient as a model was perceived as an essential attribute to have by both models and industry professionals as they face recurrent rejection in this industry.

These results demonstrate a significant gap in the current understanding of the well-being of fashion models between industry professionals and the models themselves. Findings imply that there is an inherent need for change in the modelling industry to promote and enhance their well-being.

Keywords: body image, fashion, modelling, wellbeing.

RP75 – Neo-Cultural Artifacts for Eco-Fashion Semantics: No Being Without the Sun

BINDER, Katharina

UX Designer

Research Issue: The aim of this case study is an exploration into how garments can help us connect to our planetary environment: creating fashion that is both expressive and environmentally friendly.

With garments, we tell stories about who we are and who we want to be.

Clothing was originally intended to protect us from the elements and enhance our appearance.

Over time, fashion has evolved into a way of expressing ourselves and entering a multi-faceted relationship between our body and the space around us within societal, psychological, and political contexts. (Leutner, 2012; Gaugele, 2016).

The price of this expression however is high: the fast-paced fashion industry has major critical environmental implications (Niinimäki et al., 2020).

How can we create a garment that combines expressing ourselves, while actively and consciously engaging with nature?

This research explores the close connection between our body and identity, sustainable energy, and material culture, through the example of a working prototype of fashion technology interacting with solar energy.

Methodology: The aim of this design project is to use the sun, the source of planetary life, as a sustainable resource of energy, binding the reason for existence to personal identity.

Following a “Research through Design” approach (Zimmermann et al., 2007) the topic was explored by researching, sketching, experimentally prototyping (Dalsgaard, 2010), and evaluating the interactive concept in an iterative methodology. Experimental prototyping approaches were used in a divergent and convergent framework – from ideation to fixation.

Project-based design research covers work in adjacent fields and is contextualized by recent work taking on similar challenges, as well as materials investigation and the inclusion and use of suitable hardware components, as well as aesthetic and cultural context, classification and evaluation.

Accompanying materials research, an ongoing, four-month practical design research resulted in a prototype artifact.

A kimono-shaped black cloak, tailored from 100% water- and energy sustainably sourced viscose, was designed and constructed to function as a puristic, neutral-acting medium to leave room for the intended communication and expression of the wearer.

Integrated flexible solar panels, stylistically placed holding the area of shoulder pads, harvest the solar energy, thus furnishing power for a glowing row of symbols.

The language symbols are embedded in the garment through a vertically attached, magnetic strip, worn over the spine, and controllable by the wearer. The garment thus features a speculation on language's nature and the spectrum of meaning, and how it symbolizes and controls fluid identity and thereby individualized personalization.

The embedded lettering, which resembles Morse code characters, is based on a speculative sign system created prior to this project for taking quick notes. It semantically explores an artistic expression of information transformation and consists of fictional symbols.

According to the wearer's preference, the luminous glowing symbols can be controlled with a magnetic switch on the collar.

This laser-cut, LED-underlaid main part was magnetically applied to the cloak over the spine, electronic hardware parts were insulated, washable hardware components subtly integrated, and interwoven into the fabric. The final touch of crafting the contrasting materials together into a hybrid object was vital for forming an artifact that symbolizes both a closeness between body, natural energy, and language, as well as an intimate personalization resulting from this connection.

In current and ongoing research, biodegradable PLA wire coating and washable hardware components allow for prototyping a ready-to-wear piece with responsible use of production materials.

The design artifact constitutes a neo-cultural frame, presenting the steady exchange between body and environment in harvesting energy from the sun to fuel the individual freedom of personalized identity expression. The interactive garment symbolizes, as a “thread of life”, the direct link between individual existence and the sun.

Results: This wearable artifact and illustrated concept sheds light on the ancestral connection between body and environment which, in the current crisis, is disturbed.

In the context of eco-fashion approaches (Niinimäki, 2010), this prototype extends the aspects of wearer’s personal expression with their reconnection to the environment.

Planned further observation and comparative contextualization are needed to identify the, for the wearer, altered impact and perception (Johnson et al., 2014) in times of digital fashion. (Mackey et al., 2017).

The resulting artifact and underlying technologies present the potential to engage personal expression by raising awareness for a personalized reconnection with the surrounding environment.

Keywords: fashion technology, wearable technology, eco-fashion, sustainability, research through design.

RP79 – The Social and Gender Identity in the “New Fashion” World: The “Food and Beverage” Made in Italy Television Commercials – Year 2022

MARRELLA, Federica Maria

In 1961, Roland Barthes highlights a parallelism between food and fashion (R. Barthes, 1961). He states that food, as fashion, are symbols of society significance. Fashion and food are the two clearest and most defined places of language and social culture. Barthes talks about food like a dress, like a garment, like an object of creativity and social conscience. He, for instance, describes the value of sugar in the culture of the United States of America. And in the *Mythologies* (R. Barthes, 1957), he illustrates the role of wine, milk, steak, fried potatoes, and ornamental cuisine. Three little essays that light up around like an intense lantern. So ironic, cynical, exquisite. In the history of fashion photography, the images of gender have constantly been anchored to a limited number of archetypes. According to Federica Muzzarelli (2013) these archetypes include those of the androgynous woman, of the exotic woman and of the femme fatale. Although they can be traced back to ancient myths and observed throughout the centuries (as shown in L. Nochlin *Representing Women*, 1999), these archetypes acquired distinctive and new iconographic shapes in the late nineteenth and early twentieth century. As Aby Warburg's achievements have shown (E. H. Gombrich, ed. 2003), in order to be aware of the role played by a specific iconographic custom in contemporary society, it is important to trace back its tradition. The iconographic and iconological method (E. Panofsky, ed. 1975) can certainly also be applied to images and videos of gender in contemporary society. Does the medium used affect the social significance of images? Has the so-called lo-fi, digital media and the subsequent “Democratization of Fashion” (N. Barile, 2011), changed gender iconography and experimented new styles? Can we find new social identity representations in the television commercials of food and beverage Made in Italy? What can we discover looking at these commercials, starting from the E. Goffman work (*Gender Advertisements*, 1976)?

My Post Doc dissertation focused on the social identity representation in the television commercials in Italy in 2022, particularly in the month of April.

Here I will analyze the most interesting cases of my Post Doc thesis of representation of old - and maybe some also new? - social identities.

Keywords: fashion, iconology, ethic and aesthetics, cultural studies, food and beverage advertisement, archetypes, gender.

FILM1 – Deconstructing the Pleasures of Superfluity in Fashion

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Royal College of Art

This abstract proposes the creation of a short artistic film based on my MA Fashion thesis written at the Royal College of Art. It addresses the problem of the aesthetics of superfluity in the fashion industry through autoethnographic research.

The problem

You have stated in your 'call for papers' document:

'Small labels with big goals work in a market that is simultaneously occupied by global players, while being dependent on the creative ideas of designers who do not work primarily looking for profit.'

I hope to expose and investigate the inherently unsustainable power dynamics present in this structural relation on which the fashion industry operates. Achille Mbembe states in *The Aesthetics of Superfluity*:

'Superfluity does not only refer to the aesthetics of surfaces and quantities, and to how such an aesthetics is premised on the capacity of things to hypnotize, overexcite or paralyze the senses... It also refers to the indispensability and expendability of both labor and life, people and things. It refers to the obfuscation of any exchange value that labor might have'

The aesthetics of superfluity in the fashion industry has disastrous consequences for workers and climate crisis alike, making this a pressing question of our times. This film seeks to clearly identify dominant narratives in the fashion industry that contribute to the aesthetics of superfluity. It does this through the documentation and recounting of a specific experience, in which I was one of 12 Royal College of Art students invited to a talk through of exhibitions at the McQueen flagship store in Old Bond Street.

I was highly skeptical of the power dynamics played out during this experience, and became increasingly aware of the obscuring of labor throughout the talks. This film hopes to challenge the dominant narratives around haute couture luxury and the fabled solo designer genius, through clearly identifying the tactics of intimidation used through the obscuring of labor in McQueen's *Roses* exhibition.

'Many hands touched this work'

'McQueen is all about community'.

I felt the first statement negated the second. The reduction of workers to 'hands' disturbed me. If McQueen is all about community, why is this community and their labor invisible? Why do we hear only about the labor of the fabled genius designer: Burton or Lee? This work is not a pointed attack at McQueen but at the structures that underpin the destructive aesthetics of superfluity. It takes the house and its narratives as a marker for dominant narratives and modes of operation today in the industry: the house is, indeed, part of luxury fashion conglomerate Kering. I undertake this research in an attempt to deconstruct the power, pleasure and thrall the aesthetics of superfluity have over us. Identifying the mechanisms by which these aesthetics work gives us opportunity to resist, and to imagine alternative ways in which fashion brands could be structured today.

Methodology: In order to approach this issue I use an autoethnographic research method, which has allowed me to understand the politics of the body in the setting of contemporary culture. I use a Foucauldian feminist framework, that, appropriately for the domain of fashion, understands power to be socialised, embodied and everyday. This lens of thought takes seriously the power of fashion in the everyday context. The personal becomes political, a key in feminist movements originating from the 1960's second-wave. The self is understood through this methodology as a cultural production and a window into contemporary and historical cultural forces. I took seriously the observation of my own thoughts, feelings and sensations that were produced within me during this experience as grounds for legitimate academic research. I hope that this feminist approach to epistemology can be taken seriously within an academic context.

This methodology is based upon feminist scholar Laura Mulvey's idea that 'the deconstruction of pleasure is a radical weapon'. The pleasures of the aesthetics of superfluity are overwhelming: in this case, the setting of the luxury store, the exclusivity of the products, the technical genius of the couture garments on show, and the obscured labor involved in their production, all contributed to an overwhelming sense of awe and pleasure, but also a sense of exclusion, that I was very aware of and interested in investigating further. The mannequins

pedaling an ideal body, excluding our bodies, playing on our lack, producing in us the sensation that by purchasing these goods we can become something that we are currently not.

Summary of results achieved demonstrating the relevance of the research for theory and practice: The results of this investigation include a call for an exposition of the labor involved in the production of fashion across all sectors, for the crediting of workers and for a truly collaborative and community focussed approach to the structure of fashion brands. Ironically, the house of McQueen, in a rather self-congratulatory fashion, stated its pride in exposing the creative process in the exhibition 'Roses'. I acknowledge this is a step that couture houses are now taking, but argue that the 'hands', the people who are essential to the work's production are still invisible, and that this must change.

Keywords: aesthetics of superfluity, labour, cultural criticism, psychoanalytic feminism, resistance.

TESTIM2 – Inspired by Design: Developing Grassroots Fashion Sustainability Cases on Underrepresented Groups to Spur Equity, Creativity and Action

STEFFEK, Vladimira and KADIYSKA, Rossie

Humber Institute of Technology and Advanced Learning

Background: In 2018, while working on a new course in a program specialization in Fashion Innovation and Sustainability, Vladimira Steffek and Rossie Kadiyska, found that there is a lack of teachable cases related to sustainability. They decided to create their own library collection of real, live, local sustainability cases that are inspired by the diverse population of the Greater Toronto Area and the institutional alumni pool. Those cases were to be used in the classroom for teaching sustainable fashion through action based learning. The professors also wanted to inspire students to dream big for sustainable fashion solutions and become inspired to change the world of fashion.

An overview of the literature indicates that advanced cases are being particularly useful for applying various thinking processes and utilizing existing knowledge to new situations (Sparks, R. J., & Langford, J. 2012, Paul 2012), and those cases help enhance complex cognitive abilities in learners (Weil et al., 2001). Due to its global focus, a leading publisher of creative case studies Bloomsbury Publishing had indicated a limited interest and motivation in developing Canadian-specific cases. A lack of such case studies has proven to be an opportunity to craft a made-to-measure (tailored) local case study addressing the issues of both brick-and-mortar and global (online) markets in (sustainable) fashion.

Objectives: The objectives of the project were to tap into the power of local people to inspire students and give them confidence that they could be agents of change for sustainability. By writing cases of local heroes of sustainability (fashion, design, production), the researchers wanted to use the power of locality for transformational learning in sustainable fashion using grassroots examples.

Furthermore, the researchers wanted this library to become an institutional source of equity, diversity and inclusion materials that could be shared and used in other classrooms.

Methods: The authors used four criteria when developing the cases: locality, fashion related, underrepresented societal groups and sustainability. Case subjects have been found either through personal networks or through institutional alumni pool. In four out of the six cases, the case subjects were former students from the program coming from diverse and underrepresented backgrounds.

Results: As of today, there are six cases being written. The cases are on a black entrepreneur, sustainable denim entrepreneur, an Indian immigrant in Canada, two indigenous entrepreneurs, a furniture and fashion decor entrepreneur, an Iranian start-up entrepreneur in Canada.

Two of those are approved for publication for Bloomsbury Fashion, one is sent for approval, two final ones are in draft form ready to be sent to the publisher.

Out of those six cases, four have been taught in the classroom using system design thinking. Three of those times, the cases were taught in collaborative international settings with international institutions - collaborative online international projects (COILs). Two of those cases were the used in subsequent cohort classes and in one of the iteration, the case was used in parallel with a partner institution local case.

During the writing of those cases, the researchers have coached and trained seven research assistants, two of which have found jobs with the case subjects and related network contacts.

Conclusion: Using locally inspired sustainability cases of real life companies have been a source for inspiration and dreaming big for a more sustainable fashion world. The collection of cases created so far has been serving as a tool for inspiration and dreaming big for a more sustainable future. Those cases are used also as a general EDI open resource for teaching in other than fashion disciplines (arts, design, entrepreneurship, marketing, advertising, etc). The collection has been helpful to nurture a new generation of research talents in sustainability and sustainable system design thinking while creating a more varied and equitable representation within the business case materials collections.

Keywords: sustainability, immersive experience, virtual fashion, e-commerce, communication.

TESTIM3 – From Waste to Luxury. Fashion as Catalyst for Sustainable Development**HAYEK, Joanne****Vanina / Dubai Institute of Design & Innovation**

This paper questions the potential use of fashion as catalyst for sustainable development through the presentation and analysis of fashion collections transforming waste to luxury. These collections, which have been designed by the author along with collaborators, are presented as case studies in order to extract insights about the frameworks needed to enable the use of fashion as a tool for social and environmental impact. The paper documents and analyses the design, prototyping, manufacturing and commercialization processes behind these fashion collections, in view of answering the research question: in contexts of multi-sectoral local and global crises, how can fashion be used as a catalyst of sustainable development?

Keywords: sustainable fashion, social entrepreneurship, upcycling, material innovation, conscious luxury, traditional handcraft, parametric design, digital fabrication.

TESTIM4 – From Waste to Luxury. Fashion as Catalyst for Sustainable Development

BENDT, Ellen; WEIDE, Thomas; MAHLTIG, Boris; DAGEDEVIREN, Hazal; PATTBURG, Daniel and BACHE, Thorsten

Niederrhein University of Applied Sciences / Bache GmbH

The ecologically, economically and socially fair production of products already plays a major role in the purchasing decisions of every third consumer, and the trend is rising. The textile industry in particular is criticised for being an environmentally damaging branch of industry, with globally ramified production chains, high environmental pollution, socially difficult production conditions and non-transparent supply chains. While the demand for fibres continues to rise, demands for environmental protection and sustainability are also increasing. The natural fibre cotton in particular is known for its high consumption of water and pesticides. Due to the global distribution of cultivation, processing and textile production, a wide range of logistics activities are necessary, which according to the WEF are responsible for 5.5 % of the world's CO₂ emissions.

Regional cultivation with subsequent regional processing is a cornerstone for market efficiency and resource management in the textile chain. 20 % nitrate-polluted arable land is a major problem for NRW agriculture, so that relief of arable land is imperative. Hemp plants extract nitrate from the soil and thus make a decisive contribution to improving soil quality and groundwater. The cultivation and processing of hemp into high-quality textiles and technical applications are thus promising technologies for alleviating the current problems of agriculture. The cultivation of hemp varieties with a content of less than 0.2% of the psychoactive substance THC, which has been permitted in Germany since 1996, has led to a steady increase in cultivation areas. Since 2017, the unlimited cultivation of hemp as a winter crop has been permitted and, due to the unique quality of the fibers in terms of fineness and feel from the domestic soil-climate areas, makes it possible to use it for high-quality textiles. The excellent ecological properties and the low water consumption should be emphasised: only 400 litres of water would be used to produce a pair of jeans from hemp, compared to 12,000-15,000 litres for cotton. Aim of the research project HanfKnit (HempKnit) is the design and development of a sustainable cardigan made of 100% hemp. This combines positive physiological properties of hemp, such as good moisture and temperature management, with comfort properties of a knitted garment. The holistic sustainable design concept contains following steps in a local textile chain from fiber to product:

1. Selection of hemp fiber types with sustainable preparation, for different processes and product applications from local sources.
2. Spinning process > production of yarn blends from natural hemp and Lyohemp[®], a regenerated fiber made from harvest waste > hemp straw (target > monomateriality)
3. Design of an ergonomic function concept for a cardigan (body mapping concept).
4. Development of a construction model according to different targeted functionalities in the fabric / the product (based on different knitting constructions)
5. Knitting tests on flat knitting machines > yarns in different blends and combinations, using f.e. plating technique with pure Lyohemp[®], to test effect on the physical properties.
6. Analytic tests (performance and optical appearance)
7. Evaluation of all results > selection of patterns and constructions.
8. Converting the selected patterns into a zero-waste knitting programme (fully fashioned or seamless) for a first prototype.

Cutting of individual parts, material loss and time-consuming finishing processes are eliminated. Via a body mapping concept, ergonomically placed functional zones and their properties are to be developed and integrated into the knitting construction, adapted to the various requirements for leisure, work and outdoor use. Plating technique offers another option to optimize function and comfort of the jacket. Due to its monomateriality, the resulting prototype also fulfils the most important requirement for recycling at the end of the product's life and thus for the circular economy.

Improving the processing of hemp fibers into attractive, sustainable natural products with a regional production chain in Germany thus promotes small and medium-sized companies with high innovation potential in the long

term. In addition, increased hemp cultivation (with low THC content) promotes biodiversity and relieves nitrate-polluted soils.

Overall, the project supports the goals of establishing the circular economy, the "National Research Strategy Bioeconomy 2030" and the EU's Green Deal.

This project is funded as part of the European Union's response to the COVID-19 pandemic, REACT-EU project (EFRE-0802061).

Keywords: design for sustainability / recyclability , local production, zero-waste knitwear, hemp, monomaterial.

WORKS1 – BUY GOOD STUFF: A student project for sustainable fashion and local communities
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AMD Akademie Mode & Design

We would like to discuss our interdisciplinary student project BUY GOOD STUFF, a fair fashion shopping guide for local cities and regions. Hypothesis: Although many opinion polls show, that consumer would like to buy more sustainable cloth, they claim, that the market doesn't offer such clothes (CSR-News 2016). In reality, there exists a broad offer of sustainable cloth in the market. Consumers need information about the offer and criteria of sustainable fashion in form of an attractive fashion guide.

The shopping list of BUY GOOD STUFF is based on students' comprehensive market surveys of local fashion retail. The project is based on field research applying the method of supply and demand research concerning sustainable fashion in local cities and regions (Hermann/Homburg/Klarmann 2007; Bethlehem 2017). In addition, the guide assesses critically the conventional fashion system (Hoskins 2022) and offers a multitude of sustainable alternatives (topic: pro-sustainability journalism and communication). The fashion guide answers several questions: Which serious problem are fashion production and consumption facing today? What are the criteria of fair and/or ecological fashion? (Fletcher/Tham 2016) How can one convince consumers to buy more sustainable fashion? (Klymkiw 2020) Where can one buy such clothes nearby? How can consumers and designers change their mindset and the fashion system (topics: ethics on buying: consumer behaviour, processes of change in the fashion system)? (Muthu 2018) How can design of sustainable cloth be more attractive and fashionable (topic: ethics and aesthetics of fashion sustainability)?

The production of one guide usually takes one to two semesters and involves several study groups. Students of fashion management conduct and analyze surveys of the local fashion stores and write essays about local concept stores or local designers of sustainable fashion. Students of fashion journalism develop the concept for the publication in form of a magazine, they also contribute essays about various aspects of sustainability in fashion and produce fashion photo series.

Our experience has shown, that this project is well suited to build up long lasting relationships with local cities, communities and NGOs as well as other universities.

Goals and results of the BUY GOOD STUFF project:

- Building long lasting relationships with local communities through collaborations with local retailers, fashion companies, consumers, NGOs, other universities and state organizations
- Raising awareness of sustainable issues among fashion students in different study programs (design, management, journalism) (Leal Filho 2017)
- Acquiring competencies in the field of fashion and sustainability
- Applying methods of critical thinking and market research (Berekoven/ Eckert/ Ellenrieder 2009)
- Learning to collaborate in interdisciplinary teams (inside and outside the university)
- Establishing a long-term sustainable project at the university
- Determining the local status quo of sustainable fashion retail
- Raising consumers' and retailers' awareness of ethical and ecological issues of fashion (Becker-Leifhold/ Heuer 2018)
- Bundling of information in a creative and attractive consumer magazine
- Multiplying the series in different cities or regions
- BUY GOOD STUFF exists now in a printed version for Düsseldorf (2014), Cologne (2017), Berlin (2018), Munich (2019), Ruhr area (2019). Its website www.buygoodstuff.de publishes the information and includes a navigation system for smartphones. The website also includes the city of Bonn.
- The AMD has been established as an expert for sustainable fashion, frequently requested by public media and as speakers at public events.

Objectives and method of the workshop: We will discuss our method of research, structure of the questionnaire and evaluate the results of the market research. In addition, we would like to use the workshop in order to inform and encourage other participants to share and join the project in their own town or local region. Our method will be a short presentation (keynotes) and a guided discussion.

Keywords: pro-sustainability journalism, sustainable ethics and aesthetics, consumer behaviour, fashion retail, change of fashion system.

WORKS2 – Sustainable, Rhythmic and Mathematical Sindhi Motifs

BALA, Saroj and NAUTIYAL, Sharda

Pearl Academy

Background scientific research: Kutch and Saurashtra regions of Gujarat in India specialize the most exquisite form of embroidery stitches for adorning fabric. The rhythmic patterns speak volumes about the passion with which the patterns are embroidered by tribal women. Each tribe have their own style of embroidery, and the patterns and stitches vary. They have their traditional localized names. The most complex stitch, interlacing through the grid produces patterns which could baffle anyone. It's the Sindhi Stitch magic and geometric motifs which beautifully add value to the fabric. This is practiced in one region of India, although today it's spread to other regions because of cross cultural interactions within the country. The vibrant bright colors aesthetically balanced with rhythm and harmony add to the richness of the patterns. Designers in India closely work with artisans to design their collections and there is a huge upper segment market for these exquisite works of embroidery. This technique is sustainable and survived over ages and still holds special place in hearts of consumer who have taste and style to wear them.

Research hypotheses/Problem to be addressed: The workshop aims at exploring and experimenting with different materials to achieve beautiful patterns and combining it with mirror work to give exquisite look. Exploring and experimenting with either with bright and vibrant or muted tones will be fun and a tremendous learning for the participants. The participants will learn the skill of the Sindhi stitch combined with mirror work. Participants make layouts where potentially they could apply the motifs. The participants will appreciate the rich traditional embroidery from India.

Methodology used to involve participants in the workshop: The participants will be provided the materials so that they can learn the skill and understand the mathematical motifs by formation of grids. The interlacing is an interesting technique to make the motif. Participants will understand the interlacing rules and techniques. This requires dexterity and skill to maneuver the design, however by understanding the rules it becomes easier to follow.

Results expected and achieved at the conference. Relevance for fashion theory and practice: The participants can experiment with the beautiful colors and technique of making basic motif, which the skilled artisans have mastered over ages. This will give exposure about the technique of attaching mirrors through different techniques understanding India's strengths in designing.

Although the complexity of the stitch restricts production at large scale and therefore only caters to a niche market. My mother once quoted, "Hand embroidery is priceless and no can pay its price since the emotions of a person are reflected in the work...and the time taken to embroider each motif is huge...especially when it comes to sindhi since it's involves complex grid first and then embroidering...sink in effortless harmony even with bright colors..." The sustainable designs have sustained generations and still shining with the millennial generation.

Keywords: sindhi embroidery, sustainable design, rhythmic motifs, mirror work, kutch embroidery.

WORKS4 – Workshop Wrong Theory

GOEL, Varun

Pearl Academy

Background scientific research: The global pandemic followed with a series of lockdowns, short-lived reopening only to see another wave and lockdown have kind of put people in a time loop. Remote work options, shifts and rosters at workplaces, swaying between online and offline, handling more than one screen at the same time possibly in multiple time zones – according to Google Trends, “world clock” is a 2020 breakout global search term (it grew by more than 5,000%) – and the concept of time seemed non-existent. Academics named the lack of time perception the “quarantine paradox” (World Global Style Network, 2021).

People came together and were unbelievably creative to pass time, how to make the most of it and how to endure it. Whether people were stress-baking (global flour sales rose 238% in the pandemic), DIY was not a choice anymore, gardening or hosting virtual cocktail parties, a vast majority of people spent time reflecting on the good old days and connecting with their loved ones and family because somewhere we also realized the fragility of life very closely.

Fashion does not exist in a vacuum. It is created and consumed (Sala, 2016); therefore, both the designer and the consumer are responsible for its impact. 60 billion of 400 billion m² of textile produced annually, is left on the cutting room floor and ends up in landfills, far from sight, far from the mind (McKinsey & Company, 2020). Shifting from the traditional take-make-dispose model to one where, theoretically, waste doesn't exist in the value chain is imperative. Aiming toward a system that treats an entire piece of cloth as an opportunity and treats neither people nor resources as it's disposable and allows not just to live but flourish. Calling for all the divergent stakeholders to emphasise re-contextualize consumption.

Research hypothesis/Problem to be addressed: The consumers of today and tomorrow are going to choose for themselves, creating and designing their wardrobes. Now that several garments are offered cheaper than a sandwich, we all know and feel that something is profoundly and devastatingly wrong," Edelkoort in her manifesto writes. She further eloquently continues by saying "Prices profess that these clothes are to be thrown away, discarded as a condom and forgotten before being loved and savoured, teaching consumers that fashion has no value. The culture of fashion is thus destroyed (Edelkroot, 2014)." Resonating with the belief “interpretation begins where perception ends” workshop uses a variety of textiles pieces chosen by the participant himself or herself as picked up from used or discarded textile pieces. They are trained to work with these chosen textiles pieces and manipulate them into one form to release them of their many meanings and unify them as one with minimal or no wastage. The workshop professes design is limitlessly probing the participant to explore outside the defined or self-stimulated boundaries of perfection and standard are known parameters of garment making. A zero-waste design approach that considers the environmental impact associated with a product throughout its life emphasises education, authenticity, functionality, localism, exclusivity and closing the loop. It aims to solve the creation and management of pre and post-consumer textile waste by reconsidering the design process and production methods.

Methodology used to involve participants in the workshop: The workshop involved a constructionist approach to research which implies that social phenomena, such as the emerging consumption patterns within the immediate environment were inquired and its related aspects, are produced through the social interaction of the groups and individuals involved and are in a constant state of revision. This approach has enabled us to investigate how individuals and groups may participate in the process and their receptiveness towards the workshop. Several standard processes, sustainability practices and zero waste pattern making techniques in past, present and possible near future were also evaluated from existing literature to understand and lay down the groundwork for the proposed hypothesis. that compelled to look within and question own beliefs through reflection and action to lead to the systematic inquiry that aims to improve social paradigms affecting the lives of a wider populous.

Results expected and achieved at the conference. Relevance for fashion theory and practice: Wrong Theory believes that “Successful design is not the achievement of perfection but the minimization and accommodation

of imperfection (Petroski, 1985).” We as designers may not realize that we are subconsciously endorsing wastefulness by demanding perfection. The results would signify a shift in value proposition towards the consumption patterns and come with a system that eliminates waste right at the beginning of the process as the outcome is self-made and would be personal and unique to its maker. The efforts would also lead to a reduction in waste created and sent to the ecosystem as It accommodates imperfections and turns them into intelligent details or components of garments. Each piece is unique in its shape, the fabric used, colour and pattern achieved and would broaden consumers' horizons towards resources which could have ended in landfills.

Keywords: zero-waste, experiential, sustainability, collaborations, fashion.

WORKS6 – Waste Material Library – material play for a sustainable practice using waste

ROBERTSON, Lucy

Heriot-Watt University

Introduction: This workshop builds on a proposed paper abstract ‘Waste Material Library – a resource for designers to encourage material play’ exploring a waste material library as a learning resource for designers. The participants will be asked to add to the library through documenting, describing, and playing with the materials they bring to the digital workshop to explore the possibilities for the use of waste materials in their own sustainable practice.

Context: Understanding material qualities and properties is imperative for designers. It is estimated that roughly 80% of the environmental impact a product will have in its life cycle is decided during the design stage (Graedel, Comrie and Sekutowski, 1995). Although the ultimate aim is to eliminate waste all together by creating a circular process which allows creations to either be re-used or return to the earth as food (Barber, 2019). As Katie Treggiden highlights ‘we need to deal with the legacy of 200 years of “take-make-waste’, ‘the resources we need are no longer in the ground, but in landfill’ (2020) and that ‘by recategorising waste as a raw material, we can slowly start to bend that straight line (of a linear economy) around into something more circular’ (ibid) changing waste from a ‘fact’ into a ‘category’ (Treggiden, 2020b)(Katie Treggiden, 2020). (Katie Treggiden, 2020b) Building on the concept of a materials library from the ‘Institute of Making’ this library will be based at Heriot-Watt University, School of Textiles and Design and will be documented online ‘enabling users to experience at first hand the relationships between materials and tools that constitute processes of making’ (The Institute of Making, 2020).

Workshop Methods: Using a selection of waste materials collected by the participants the workshop will provide prompts and suggested ways of exploring the materiality of waste to help describe and categorise the materials as ‘data’. This will include gathering information on material composition, form, location (if found), where it was purchased (if from a scrap store), how it is made, information on its end of life/recyclability and any other information that the participants would like to add.

Using visual documentation, the participants will be asked to photograph and film their materials to show their qualities. Following this they will be asked to rapidly prototype through playing with the materials using stitch, cutting, gluing or other making methods they have accessible to them. After the ‘rapid prototyping’ stage they will be asked to (quickly) visualise the materials on the body considering its use within fashion garments or accessories. All images, videos and notes will be collected by the facilitator.

Workshop timing:

00:00 INTRODUCTION & CONTEXT - Introduction to workshop and context of the Waste Material Library – need to consider waste as a category for design not a fact (Trigedden, 2020)

00:05 INTRODUCTION & NETWORKING - Ask participants to introduce themselves and their interest in attending the workshop and what materials they have available/have brought.

00:20 EVALUATE & DESCRIBE MATERIALS - Group discussion around materials to assign ‘descriptors’

00:40 MATERIAL PLAY - participants ‘play with their materials to see what can be made.

00:60 VISUALISE – imagining the materials on the body.

00:80 REFLECT - Debrief and reflect on the session – go over next steps for the project/research and how participants can continue to be involved.

00:90 END

Materials required (participants to have ready):

5 or more ‘waste’ materials (gathered from recycling, local scrap stores or studios)

Needle and thread

Pen and Paper

Scissors

Glue

Optional:

Knitting needles
Crochet hook
Overall methodology

The waste material library project will be conducted using a Research through Design (RtD) methodology. RtD explicitly acknowledges the creative phase in research (Jonas, 2015, p. 26) where the researcher utilises their practice, in this case, material documentation (through video and photography) and material play to create a learning resource and range of prototypes as a form of material research. RtD allows prototyping and the designer's insider perspective of their practice to inform research plans, activities and outcomes (Jonas, 2015, p. 31). RtD process will be applied to this research to answer two initial research questions:

1. How can we build a learning resource of materials to inform the consideration of waste at the beginning of design projects?
2. What initial prototypes/ further materials can be created through applying making processes to the materials?

Outcomes:

1. Crowdsourced data (video, photography and descriptors) around waste materials for the waste material library
2. Examples of material play and experiments
3. Fashion visualisations imagining waste materials on the body.
4. Qualitative data from workshop recording expanding the discussion on the use of waste within a sustainable fashion practice.

Keywords: waste, materials, play, sustainability.

WORKS8 – The Goodwill Label Research Project**GROSE, Lynda****California College of the Arts**

*'I make no apologies for being a large volume retailer.
We bring sustainable fashion to our customers at a price they can afford.'*

Paul Marchant, CEO Primark.

The above statement closed the 2021 Textile Exchange conference. It stood in stark contrast to the opening keynote by economic anthropologist, Jason Hickel, which re-set the context for the fashion industry's 30-year-long efforts to curb its impacts and realigned them to help limit global warming to 1.5 degrees by 2030. The stance from Primark's leader signaled that, despite the science, the fashion sector would resist this reset and would remain unyielding to deep systemic change.

Yet, Marchant's statement also delivered a blunt and well-founded critique of the current sustainable fashion movement; its expense, its privileged market, and its inaccessibility to lower income-level customers. How to bring the dream of sustainable fashion to reality for all, remains a challenging conundrum.

The fashion sector produces way more product than anyone has interest to buy, and way more than can be processed by existing industrial or biological systems. 'Of all discarded goods, only 20% reaches the stores and only 15% are resold. From the 80% of goods which don't reach stores, 50-70% make their way overseas. Taking Ghana as an example, approximately 40% of imported clothing ends up in a landfill dump within two weeks' (Makov et al., in process).

Business models in the fashion sector are slow to adapt to this 'real world' condition. Efforts made so far include: subscription models, clothing repair services, lending/leasing, rent to buy, systematized repurposing, made-to-order and wearer sized services and branded re-commerce. Of all these models, branded recommerce seems to offer the most promise, comprising approximately 7% of the current apparel market and projected to be 12% by 2030 (Kinsey and Co. 2020). Yet, the production of new goods also continues to grow each year. 'At its current pace, (the fashion sector) is on track to overshoot the global budget associated with limiting global rise in temperature to 1.5 degrees Celsius by more than 50% by 2030. Displacing the production and sales of new items with the sales of used items is necessary to reduce the overall environmental footprint of the brand' (Cohen 2022).

Research issue: Ethics on buying: consumer behavior

Forum for the Future notes the imperative to 'create and share new narratives based on sharing and abundance to enable the critical shifts needed for business to adopt a just and regenerative mindset' (Forum for the Future 2021). This project deploys a label:

- to identify secondhand purchases
- as a social probe to 'actively seek engagement beyond conventional voices' in these new narratives.

The Goodwill label research concept is based on the premise that everyday people may be willing to publicly indicate their secondhand purchases and that this coding could be leveraged as a potent tool to challenge the power of brands in perpetuating the 'culture of the new'.

Building on previous research conducted in collaboration with anthropologist Sydney Martin (Grose, Martin 2017), the following questions guide this stage:

- Could a label be deployed to speed the uptake of resale purchases by economically diverse customers?
- What latent emotional associations with second hand may hinder or may be leveraged to enable this goal?
- Can garments be activated to directly engage the broader public?

Methodology used to involve participants in the workshop

Thus far, the project has deployed ethnography, photography, woven label prototyping, label placement prototyping, image scenarios and social media (via #goodwilllabelstories). Situated close to the check-out registers in Goodwill stores, Grose has invited customers to provide input on the concept after they have made their purchase. When participants opt to label their garment, Grose sews in the label, free of charge.

This GFC workshop will deploy ethnography and photography (of participants) via zoom, as well as post conference photography of labeled garments conducted by participants themselves.

Three questions will lead the discussions in the workshop breakout sessions:

Would you opt to label your thrifted garment on the outside after purchase?

Why?

Why not?

Workshop participants will also have the option to sew a label into a Goodwill thrifted item. These participants will receive a label via mail and will be asked to photograph the garment and themselves with the garment, to contribute to the project's ongoing research files.

Results expected and achieved at the conference.

The relevance of this research to theory and practice is multifold:

Within California, the project has shown the potential to further speed a 'bend' away from the 'culture of the new' (Grose, Martin 2017) by 'visually outing' secondhand purchases and thereby 'activating' the garments as well as their wearers. 'I LOVE it! (holding up the labeled garment). I LOVE Goodwill and want to promote (it)!', exclaimed one participant. 'It's an indicator of community (with shared values)', noted another. In this way, the small act of labeling a thrift garment makes a big counter-cultural statement and suggests the labels potential to 'build capacity (of the everyday public) to self-manage and initiate change' (Forum for the Future 2021).

This project is primarily centered around everyday people's reaction to putting the Goodwill label on their garment and as such, GFC 2022 participants attending this workshop will themselves become subjects of this research. In addition, GFC offers a unique opportunity to gather the insights of globally acclaimed academics and practitioners, to provide additional theoretical and practical context for this ongoing project. For example, thus far, conversations with Goodwill's legal team indicate that as an art/research project Goodwill Label Research falls into the domain of 'fair use' of the label on already branded garments. Insights from international legal scholars will be particularly helpful to inform the project's capacity to scale internationally.

Keywords: overproduction, consumption, ethics, aesthetics, diversity.