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Circular economy and global value chains in the textile industry

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1. Introduction

The Co-creation workshop on circular economy and global value chains in the textile industry was organized on 22nd August 2023, at 7th Nordic Development Research Conference (NorDev), Uppsala University, Sweden. The objective of the workshop was to investigate innovative circular business models and processes that address the complex value chain of the textile sector between Sweden and the developing countries engaged in production.

About 80 per cent of the EU textile consumption-related emissions are in production countries located in the developing world. The overall objective of this workshop was to study the innovative CE business models and processes in the Swedish textile value chain and analyze how they can contribute towards a regenerative growth model to avoid inefficient resource use, reduce consumption footprint, and create new business opportunities within the planetary boundaries. Three areas of circular economy (CE): re-use (prolonging the life of textile items); recharge (repairing or upgrading designs or services); and re-generate (recycling fibres into a closed loop or valuable use) were identified. The textile sector is identified as a priority sector in the European Green Deal and the New Industrial Strategy for Europe (COM, 2020), and the 2020 EU Circular Economy Action Plan (CEAP). The workshop was attended by various stakeholders including researchers, corporate stakeholders and policymakers (Annex 1).

One of the primary objectives of the workshop was to co-create knowledge around the following critical challenges. First, to identify opportunities and barriers, (a) in the Market, (b) Institutional, (c) Supply chains, (d) Technology etc. Second, to identify business/market needs to support implementation and scaling of circular economy. And finally, identify policy needs to support the implementation and scaling of circular economy.



2. Barriers and Opportunities in Sustainable Fashion

Markets

The discussions ranged from the macro-perspective to the importance of consumer demand for sustainable production, sustainable design etc. There was also consensus on the fact that circularity and sustainability are not the same. Market opportunities were identified in the fashion brands establishing themselves as the first movers towards a more sustainable fashion industry. There was also an emphasis in identifying and developing second-hand markets for textiles, new business opportunities, sustainable business models, attracting talent and competence etc. The discussion also touched on the linear infrastructure and complexity.

The participants however identified the consumers' willingness and interest in being part of the second-hand market as a barrier in the market. This is due to the availability of alternative cheap solutions offered by the fast fashion brands. Circular alternatives also tend to be more costly in terms of money and environment. For example, the logistics on mending is too expensive for brands. Similarly, mend in-store are not economically viable. There were suggestions to remove the taxation on mending completely, as a lower (50%) tax cut in 2017 was not effective. In the pursuit of promoting circular business practices, the need for a transformation in consumer behavior is also recognized. To facilitate this transformation, consumers should be incentivized to procure sustainable products, extend their product usage lifespans, cultivate a disposition toward donating or returning products, and nurture a willingness to embrace used items. Notably, it is observed that a psychological barrier often impedes individuals from embracing pre-owned products.

The discussion on the market was extended further to include the international markets and the direct imports from outside the EU. The Swedish companies expressed concern about the private imports from less regulated markets. For example, regulated Swedish brands have to compete against fast fashion online giants like Shein, Alibaba and Whish. According to them if regulations are limited to the Swedish brands only, the consumers will turn to the unregulated market and their cheaper textile imports.

The eco-design directive and the EPR are long-awaited. In general, the Swedish industry is very positive and "*It feels like this will actually even out the playing field*". However, those who have not yet stepped up their game will have a hard time catching up.

The question of who should be responsible in the industry was also discussed. For example, the coffee industry has a few giant players that agreed to the general sustainability standard and to set a higher minimum wage. The fashion industry is more complex and has multiple actors. The small and medium enterprises (SMEs) are a huge part of the fashion industry, which further implies that

the “power” is spread out thin. Even if one, or a network of actors are working towards circularity, there are several more players in the field, which creates a big challenge. Besides textiles, accessories, bags and shoes, are also a huge part of fashion and unlike clothes, bags have a longer lifespan. How does one regulate this part of the industry and regulate guarantees?

Technology

While discussing opportunities and barriers in technology, typical questions that follow any investment decision were asked.: who is responsible? In an international market, who is paying for the investment? Should the producer pay or is it the responsibility of the buyer? Who should take the economic risk in investment? There was also discussion about long-term agreement. It was reported that in conversations with the suppliers in the producer countries, there is a sense of hopelessness. They understand, and they want to improve, for example, energy efficiency. On the other hand, they can't pay for the investment unless they know they have long-term returning customers. For SME, these kinds of long-term agreements and large orders are not possible. Even if both actors agree that an upgrade in the facility and the supply chain would be beneficial, no one is prepared to take the economic risk.

There was an overall there was hope EPR and new technology for recycling fibers. However, it was felt that the actual environmental gain from recycling in Sweden is low to none. The discussions cautioned for a risk in overestimating the new technology. There is a need for more efficient technologies and processes for sorting and recycling clothes, especially those composed by different materials (cotton, polyester and so forth)

Supply Chain

A paramount issue that requires comprehensive examination pertains to the existing supply chain systems, which exhibit deficiencies when addressing circular initiatives. Notably, supply chain stakeholders may encounter impediments stemming from a lack of requisite knowledge, competencies, or the necessary technological infrastructure essential for transitioning toward circularity. This competence gap will require new skills, and new roles with competence that is not a part of any education today. Furthermore, these stakeholders may also confront resource constraints impeding their engagement in circular economy. Additionally, the reverse logistics, wherein used products necessitate reintegration into the value chain through processes encompassing reuse, refurbishment, or recycling is also challenging. Strategies for effectively identifying materials and assessing their condition, thus enable appropriate diversion of these materials. It is important to underscore that the emphasis should be on local consumption when reusing products.

The visibility of the entire supply chain is low given its low density with many tiers of suppliers. In addition to visibility, there are also transparency problems related to the concrete ability to track the life cycle of a product from the initial stages (manufacturing stages that are made in producing countries) to its life till the final one, such as recycling or reusing/repairing for then being reintroduced in the second-hand market.

Instating circular standards for products, and facilitating access to resources and knowledge for all value chain participants etc. are also of paramount importance.

Institutional

Regulators, for example at the EU level, do have not enough knowledge and resources to truly understand how the textile and fashion industry works, which is a crucial requisite to make a feasible regulation that can really shape the industry. Several companies (for example, the fast fashion companies), lobby the EU institutions, and have no interest in transforming the textile industry towards sustainable business models and/or Circular Economy.

3. Supporting CE through business and markets

Changed consumer behaviour, investments in accelerating the change, collaboration between industries and a holistic view were identified as ways in which the business and markets could support CE. The discussion identified the need to change consumer behavior. Scaling up is a complex and time-consuming process and requires huge acceleration in some parts of the system, along with the availability of resources and breaking the silos internally. Transparency and digitalization in the value chain was identified as a crucial factor. There positive intent was reflected in the suggestion of the participating group to co-create the system change but acknowledged that sharing information is difficult because of the competitive advantage of new business models. Cocreation with different disciplines such as finance, law, marketing etc was also discussed. It was recognised that there exist several innovations in the market, but they are not connecting to the supply chain and that creates a lot of frustration. The real challenge is the multistakeholder initiatives that are not mandatory.

The discussion encompassed strategies aimed at nudging consumers toward adopting more sustainable behaviours and cultivating environmentally responsible habits. In this context, brands

play a pivotal role in fostering product returns. Moreover, the consumption of repurposed items should ideally be localized to maximize its efficacy and environmental benefits. A focal point of consideration pertained to the development of digital product passports that facilitate the dissemination of comprehensive and comprehensible information regarding garments, including their composition and recommended end-of-life management practices. At present, most consumers tend to overlook clothing labels due to the information overload conveyed in minuscule font sizes. Consequently, this leads to a pervasive lack of awareness concerning the provenance and life cycle management of purchased items, often resulting in suboptimal disposal practices, and neglect of opportunities for repair and second-hand market utilization. In essence, the proposed approach seeks to streamline and simplify the information conveyed by labels, thereby alleviating the challenge of information overload.

In the realm of other policy formulation, it is imperative to engage experts from diverse disciplinary backgrounds. Task forces, comprising individuals with varying expertise spanning business, engineering, law, and related fields, should be convened to ensure a comprehensive consideration of all facets of the issue at hand. This multidisciplinary approach is imperative since legal perspectives, in isolation, may inadequately address the intricacies of the business dimension. Additionally, the development and integration of advanced technologies are indispensable to automate the processes associated with clothing collection and sorting efficiently. The establishment of high-capacity automated sorting facilities holds the potential to contain operational costs and enhance overall efficiency.

One prospective policy intervention entails the introduction of a pay-back system analogous to existing models for plastic bottles and cans. This system aims to incentivize individuals to return disused clothing items, instead of discarding them, thereby mitigating issues of improper disposal and fostering a culture of recycling. This concept is closely linked to the implementation of digital product passports.

Moreover, fostering knowledge exchange and technological collaboration among companies assumes paramount significance. This is particularly germane in regions characterized by relatively slower technological advancement. Collaborative endeavours in this regard can yield innovative approaches to address the end-of-life management of clothing items, conferring benefits upon both the industry and environmental sustainability.

4. Policy for implementing and scaling CE

Manufacturers engaged in sustainability and circularity initiatives may also face competitive disadvantages when operating within an uneven regulatory landscape. Consequently, there arises a compelling necessity to establish equitable regulatory frameworks to incentivize manufacturers to embrace circular practices. A unified policy framework that encompasses all actors within the value chain, spanning both manufacturing and consumer nations should be developed with a simultaneous enactment of policies across these entities to preclude potential loopholes and establish a level playing field. In addition to effective enforcement of these policies, a system of oversight and supervision is also necessary.

Unsustainable sourcing may be mitigated if none of the brands operating in Sweden, engage with unsustainable manufacturers. However, the attainment of this objective hinges on the presence of policies that mandate sourcing practices, such as competition with low-cost, unsustainable market players, which would otherwise pose substantial challenges.

In the transition toward Circular Economy (CE) business models, the concept of producer responsibility assumes a pivotal role. In this context, it becomes imperative for brands to assume accountability for the garments they introduce into the market, akin to the existing mechanisms observed for products like plastic bottles. Presently, brands lack the necessary incentives to actively participate in diverting textile waste toward recycling and reusing channels. Consequently, legislative measures should be enacted to compel such engagement. A crucial aspect in facilitating this shift pertains to the establishment of a more precise and comprehensive definition of textile waste. The current delineation of textile waste lacks the necessary clarity and specificity required to effectively address this issue.

Furthermore, legislators entrusted with the formulation of policies related to the textile industry must possess a nuanced understanding of the sector. Their regulatory decisions should be underpinned by data-driven analyses rather than influenced by lobbying efforts. This ensures that the regulations enacted are not only intelligently designed but also aligned with the overarching goals of sustainability and environmental responsibility.

In summary, there is a need for a harmonized policy framework encompassing the entire value chain, as well as mechanisms for diligent supervision, in order to foster sustainability and circularity within the industry. Furthermore, embracing producer responsibility and implementing legislative measures, supported by clear definitions of textile waste and informed decision-making, represents a crucial step toward advancing CE business models and fostering sustainable practices within the fashion industry.



Annex

List of workshop participants NorDev 2023 Conference Workshop

Person	Organisation type	Role
1	Fashion company 1	Director Sustainability
2	Fashion company 2	VP Sustainability
3	SU, Stockholm Business School	Researcher
4	Stockholm School of Economics	Researcher
5	Emmaus	Program Manager
6	TreeToTextile	Head of Sustainability
7	Textile recycling company	Vice President Supply Chain & Sourcing
8	Fashion company 3	Sustainability Manager
9	Retail association	Director Sustainability/ Industrial policy expert
10	Swedish Fashion Council	CEO, policy expert
11	SU (Resilience center)	Researcher
12	Stockholm School of Economics	MSc Student
13	Stockholm School of Economics	MSc Student
14	Stockholm School of Economics	Professor, Research Director
15	Stockholm School of Economics	Associate Professor, Research Director
16	Technical University of Denmark, DTU	Asst. Professor
17	Södertörn University	Researcher