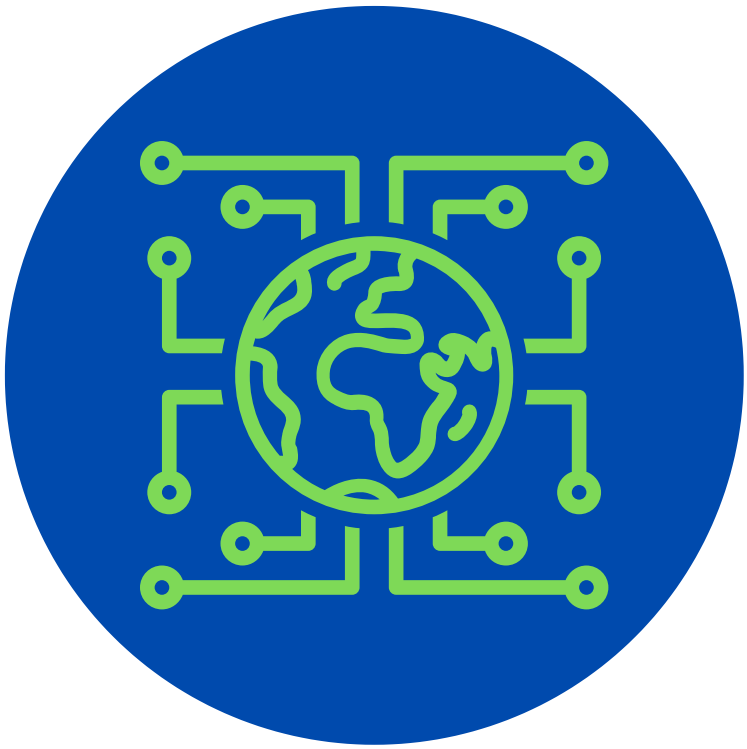
WEBINAR 2 - REPORT

TECHNOLOGY AND INNOVATION IN CIRCULAR FASHION

AUGUST 2, 2021



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BACKGROUND

The fashion industry is undeniably important to India's economic development, employing 45 million people and contributing 12% of export earnings. India holds a significant position in the global fashion industry as an important producer of garments and textiles and a growing consumer as well. Given its dual role as producer and consumer, the country is in a unique position to become a market leader in sustainable and circular fashion.

There is growing recognition in the country of the importance of managing textile waste and shifting to circular modes of production. In the current linear model, waste is generated at each stage of the supply chain: right from producing raw materials to tailoring the garment, to the post-consumer end-of-life stage.

Studies show that 12% of fibres are still discarded on the factory floor, 25% of garments still remain unsold and less than 1% of products are recycled into new garments. However, dialogue around circular production remains outside the mainstream and existing solutions have been unable to scale up. This is largely due to cost-barriers and the problem of finding replacements for the functionality and affordability of plastic-based textiles.

Technology and innovation play a critical role in transcending these barriers. They make it possible to develop solutions that address waste at each stage of the supply chain and deliver them cost-efficiently at scale. Technologies exist to solve a number of problems - from producing sustainable fibers in a closed loop system and inventing other sustainable raw materials, to reducing microfibre leakage during washing, and even using blockchain technology to trace the life cycle of a garment. In this series of 6 webinars the second webinar was interested in the technology and innovation landscape that can help transition to circularity.

SPEAKERS

PRIYANKA KHANNA

International Expansion Manager (South Asia) at Fashion for Good. Priyanka Khanna is a business development and partnership expert with an MBA from Oxford University. She manages International Expansion for the South Asia Innovation program at Fashion for Good, which helps organizations pilot, scale, and access investments for innovations driving the apparel industry towards a circular economy. She aims to bring growth to organisations focused on economic, social, and environmental sustainability and is on a mission to build closed-loop businesses that give back to the planet.

KARAN KUMAR

Programme Officer (Materials) at Laudes Foundation

Karan Kumar is a Programme Officer in the Materials vertical at Laudes Foundation, which catalyses systems change in specific industries through philanthropic capital, expertise, and connections to build towards a climate positive and inclusive economy. He focuses on making the textile & apparel industry sustainable by supporting the transition to a restorative, regenerative, and just material system. His expertise lies at the intersection of sustainability, technology, and innovation for social good.

SPEAKERS

DR. DEEPTI GUPTA

Professor, Department of Textile Technology, IIT Delhi

Dr. Deepti Gupta is a Professor in the Department of Textile Technology at IIT Delhi. She has over 30 years of teaching and research experience and has published more than 100 papers in national and international journals of repute. Her specializations include the finishing of textiles using eco-friendly materials, design and engineering of functional clothing, and textile chemistry, including surface functionalization and multifunctional finishes using natural materials.

GAURI SHARMA

Organizational Development Manager at Shahi Exports

Gauri Sharma is the Organizational Development Manager at Shahi Exports, one of the largest apparel manufacturers in India. She has experience working with all stakeholders in the supply chain to deliver innovative solutions to pressing social and environmental challenges. She has a Master's in Sustainability Leadership from the University of Cambridge. In her thesis, she evaluated buyer-supplier collaborations to understand the challenges in the industry's transition to a circular economy.

KEY THEMES OF DISCUSSION

1. Defining circularity -

Speakers discussed the definition of circularity from a technical perspective. Ms. Gauri Sharma defined it as a regenerative system in which resources, inputs, and energy are minimized. Ms. Priyanka Khanna added that waste is a key component. It's essential to eliminate waste from the process, recapture value, and make new materials out of waste or have existing processes use that waste. Mr. Karan spoke about the concept of value and how changing the value of things that are already being used is very useful, Ms. Deepti spoke about how circularity is more in the hands of the consumer than the manufacturer.

2. Landscape

Speakers took us through various startups in the circular technology for fashion field and highlighted what technologies are in demand in the industry, namely chemical and mechanical recycling, especially of cutting waste, from sustainability and profitability perspective. Some categories of promising materials innovation: chemically recycled textile waste into materials, post-agri waste into materials, extracting carbon from pollution and making ink for the dying and printing process.

3. Innovation in Natural Dyes and multifunctional finishes :

Dr. Deepti Gupta highlighted that waste materials can be used for natural dyes and multifunctional finishes but they require investment in a completely different ecosystem. The strong antimicrobial properties in many dyes give multifunctional finishes. Eg. Wastes like chitosan (a polycationic molecule in waste shells of crustaceans can be a substitute for synthetic antimicrobial agents. Some natural materials used for dyeing also have medicinal properties, protect people from harmful sun rays and are anti ageing.

4. Financing the transition is a key challenge

Ms. Priyanka Khanna and Mr. Karan Kumar highlighted the need for tests and pilots to identify the right tech. Brands are usually driven by policy push, and then industry push drives the supply chain to be more sustainable. Ms. Gauri Sharma and Dr. Deepti Gupta spoke about the need for long-term commitments to innovation projects between brands and suppliers in an atmosphere of trust to move to a circular economy in fashion.

QUESTIONS

1.On one hand, brands are promoting sustainability and circular fashion, the fashion consumers, on the other hand, are still inclined towards fast fashion. SHEIN, for example, should be an eye-opener as it surpassed H&M, ZARA and others in USA to become the largest fashion brand. Why so? Why circularity is still more of a market gimmick?

Priyanka Khanna: Lack of policy plays a huge role. When you see brands that are based out of areas where policy is starting to push them towards circularity targets they have to work towards adopting technologies. No one has moved away from the core business models, but they are trying to indulge in policy-based work. For example, if the policy says 20% recyclable is considered recyclable, then the brands will do their best to adopt that.

Slowly they are going to increase this practice. More than a marketing gimmick, this is to encourage more sustainability in the industry. There are policies that say 10% recyclable can be marketed as recyclable which gives brands an incentive to do so. But there are no technologies developed enough to create 100% recyclable products which should ideally be the case. So it is not a marketing gimmick but more like brands adopting what is best available to them at the moment. The bigger challenge is to look at areas that don't have any policies whatsoever because not every brand has a system of self-regulation.

2. Are there any authenticated test reports / methods established we can offer to the international buyer on the natural dyed fabric or natural dye stuff printed fabric?

Dr. Deepti Gupta: Issue of authentication is one which has been faced all along since when the companies came forward making natural dyes. At its peak in the 90s there were much more materials that were sold claiming to be natural dyes, most of which were not. There are spectroscopic methods available to check the authenticity of these natural dyes; however none of these methods found till now are non-destructive. Also none of them can be carried out at the point of sale. They can be done in labs, but not for a customer to find that out at the point of purchase, the best way to work would be to provide certifications for the same.

3. We as brand and fashion label can work on multiple factors but majority of the customer is still not into sustainable practice and it is very difficult to sell products. How can we make it more acceptable and accessible?

Priyanka Khanna: This goes back to consumer awareness. Consumers are becoming more conscious but that number is not enough to make a change at the moment. Therefore brands are not increasing prices because consumers don't have the appetite to buy that just yet. The education being provided to students at university level and even adults, about circularity and sustainable fashion Is definitely helping. This is a longer-term game though. It is something you have to push for but not expect results immediately.

Selling sustainability only works till a certain point, beyond that it depends a lot on other tactics brands have to adopt to sell their business. It is definitely not easy to run a sustainable brand since that is not the consumer's top priority but building out other attributes of the brand like designs, values, and also the way they communicate with their consumers, and packaging can be helpful. Everyone is looking for ways to ensure that sustainable garments match upto conventional garments. The brands and manufacturers play an important role in scaling these technologies because without scale you can't get to the level of comparison that you need which is currently about 60 million tonnes of polyester. To match that the brands, as well as the consumers, have to have a collaborative effort to encourage sustainable alternatives to become more accessible.

4. Is it viable for the technology to be in open source, creative commons space

Karan Kumar: It is. Open source is the way to go, it is how nature works. The way businesses have been built however every technology needs to be protected and not everything can be open-sourced. There is no clear-cut path for the innovators that have built something and are protecting it from reaching the open common space. This would be one of the more interesting aspects to look out for if we will be able to achieve it at some point forward!

5. What advice would you have for policymakers when (if?) they're designing these interventions?

Gauri Sharma: One has to have a general atmosphere of trust. Which is lacking currently. If you want to say sustainable fashion it has to be defined at the top level as to what the policy has to be and then everything further will be decided following from that. Legislation plays a very important role.

Dr. Deepti Gupta: Yes,there has to be clear-cut distinction between things that are banned and what are not. Things chlorine-based and phosphorus-based have been banned but are being used continuously. There is no legislation to control this. There are so many plants being shut down in various areas because of pollution but at the same time there is also no clarity regarding what can be done to prevent this.

ABOUT THE ORGANIZATIONS

FRIEDRICH EBERT STIFTUNG

The Friedrich-Ebert-Stiftung is a non-profit German foundation committed to the values of democracy and social justice

www.india.fes.de/

CHINTAN ENVIRONMENTAL RESEARCH AND ACTION GROUP

Chintan is a non-profit that works on sustainability through the lens of solid and hazardous waste, and air pollution.

www.chintan-india.org/

TAMARIND CHUTNEY

Tamarind Chutney is a sustainable and ethical fashion brand that aims to improve artisan livelihoods and reduce textile waste in India.

www.tamarindchutney.in/