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Is green the new black? Sustainable supply chain management in the textile industry

The increasing complexity of where 'the stuff we buy' actually comes from has sparked interest in validating social and ecological quality as well as sustainability standards for consumer products. Making supply chains more transparent calls for new platforms like **sustainabill** – tools to uncover every step on the way from cotton to jeans, from raw material to final consumer product. Eventually, supply chain mapping enables companies to manage risks effectively, by answering central questions like

⇒ Which components in my product are produced in high-risk countries?

⇒ What is the exact material composition in my product?

⇒ What are the environmental impacts of my products?

⇒ How can I measure employee satisfaction and fair wages along the entire supply chain?

⇒ How many of my products contain cotton from a specific farm in India?

⇒ Which of my products are affected by the shutdown of a sub-supplier in China?

Is green the new black? A whitepaper for the textile industry

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The 2013 Savar building collapse in Rana Plaza cost 1,134 lives. A single pair of jeans uses 6814 litres of water in its production. That is more than nine years' worth of drinking water for one person.

Figures like these make it hard to believe that 60% of worldwide textile exports still come from countries known for environmentally hazardous and poor working conditions, well hidden from officials and labels. Supply chain transparency is the solution we were looking for.

A CALL FOR CHANGE

Most sustainability impacts of apparel and footwear brands occur very early in the supply chain. UNICEF (2015) reports 80% of textile factory workers are female, and despite recent successes in reducing child labour, problems persist. Quantis (2017) finds that 91% of a t-shirt's carbon impacts are caused by fertilizer application processes, irrigation energy, and pesticide and fertilizer production. That means, they occur within the t-shirt's production – the supply chain.

As technological advances are increasingly enabling the management of sustainability risks and sustainability performance improvements, companies must and should want to increase their supply chain transparency now. Accenture and the World Economic Forum find that supply chain transparency leads to

- Supply chain cost reductions of 9 – 16%
- Revenue uplifts of 5 – 20%
- Brand value increases of 15 – 30%
- And reductions of carbon emissions of 13 – 22%.

A highly complex task, only the most recent IT technology has been able to take supply chain transparency to a new level of accuracy previously thought impossible. In this white paper sustainabill illustrates how a state-of-the-art cloud platform helps to manage supply chains efficiently, thus creating added value for the entire company. The process can be divided into three steps.

## STEP 1: DISCOVERY

DISCOVERING THE CHAIN OF CUSTODY

The first step to achieving a transparent supply chain is to identify your product's supply chain.

As of yet, tracking systems are nearly non-existent in the textile industry when moving up the supply chain, and difficult to implement for simple components and raw materials.

Product labels confirming certain ecological or social standards are of little help, as most do not account for loopholes and fail to be complete in their assessment of a product's sustainability. A

fair trade label on coffee does not promise ecological sustainability while an ecological label on a banana does not guarantee fair working conditions.

Suppliers are not obliged to disclose their sub-suppliers, creating issues of unique complexity. Each step in the supply chain poses a potential risk of negative impacts such as labour conditions, child labour, and environmental degradation like toxic waste disposal or deforestation. Since most impacts a supply chain has lie beyond its Tier 1 suppliers, it is crucial for companies to map their supply chains as well as produce comprehensive assessments of their products' sustainability.

Tier 3 Suppliers

Tier 2 Suppliers

Tier 1 Suppliers

Buyer
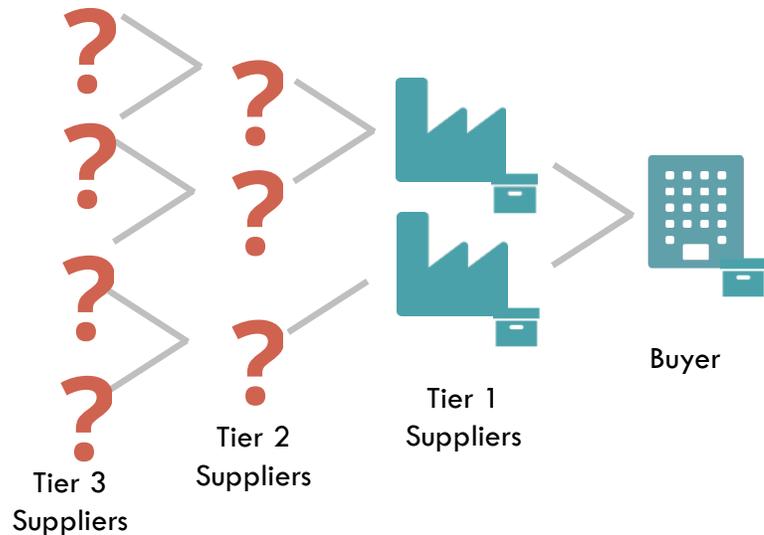
MAPPING THE SUPPLY CHAIN

In order to solve these conflicts and start building an ethical base – socially and ecologically – for your product, you have to start with basic supply chain mapping. Supply chain mapping identifies which production sites are involved in the entire supply chain, such as all actors involved in cotton turning into jeans.

Companies with little visibility beyond 'Tier 1' are better off starting with their most important suppliers. Supply chain mapping helps companies be transparent on three levels:

1. Business: which companies are involved in your supply chain?
2. Facility: where are the production sites and service providers involved in your supply chain located?
3. Product: what are the exact components of your product?

Supply chain maps break down the supply chain into smaller parts, and so its complexity becomes significantly more manageable. Supply chain transparency platforms allow users to disclose their supply chain beyond Tier 1 by mobilising suppliers to disclose sub-suppliers. Starting with the direct supplier, product information and production sites in questions have to be provided. This request is then forwarded up the tiers until the original source is reached.

CHALLENGES

Starting in Tier 1, textile supply chains often get very complex and specific. IT systems must be flexible enough to model any supply chain in such a way as to enable efficient and appropriate responses to data.

Sometimes suppliers refuse to provide data, for reasons including a lack of trust in data security and integrity, auditing fatigue due to using different platforms and score cards, as well as not being able to trace components back to a specific supplier themselves, as materials from different sources are mixed during the production process.

Knowledge about those potential challenges puts sustainabill in the unique position to

- assure security and possibilities to aggregate and make data anonymous in order to deal with possible confidentiality concerns.
- offer 'data export and import' possibilities to and from existing and future IT systems of labels and certificates to avoid double work.
- offer flexible allocation functionality to deal with a situation in which material from different sources is mixed in certain production processes.
- mapping a broad range of agents and dependencies involved in the supply chain, for example sub-contractors and service providers.

STEP 2: VISIBILITY

DATA COLLECTION

Once companies know their suppliers' production sites, they can collect and manage compliance and sustainability data. To prevent audit fatigue, suppliers must be able to share data already collected with different customers – supply chain transparency platforms enable this. At the same time, companies should still be able to ask for specific information that is not shared with others. Supply chain transparency allows the collection of relevant data from relevant suppliers while avoiding repeated data collection.

CERTIFICATES AND AUDITS

A centralised collection of data further allows companies to get fast insight into certifications and audits of their direct suppliers as well as the producers of raw materials. For example, certificates like the Better Cotton Initiative are employed at the first stage of textile production and through supply chain mapping its validity can be traced through the tiers. Supply chain mapping allows your company to directly access this information and communicate safety as well as ecological and social standards from specific suppliers to your customers – with the assurance of compliance with these standards from the first stage of the supply chain up to the sale of the finished product.

The same logic applies to the transmittance of specific information about materials, energy mix and consumption, and natural resources as well as facilities involved in the supply chain. In order to extract meaningful information for sustainability assessments, supply chain transparency systems combine this complex data within a supply chain to produce comprehensive yet clear insights on sustainability impacts of a product per unit, per batch, and per production site.
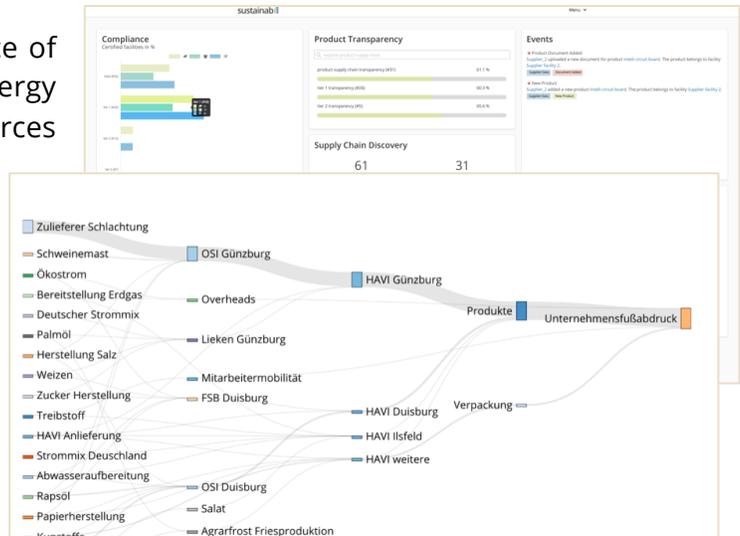
STEP 3: INSIGHTS

TURNING DATA INTO ACTION

Following the collection of extensive data, supply chain maps allow for analysis of sustainability aspects of your companies' supply chain, acting upon potential risk factors or problem areas as they appear and actively managing the sustainability of your products and services. Supply chain maps enable insights about sustainability risks of suppliers, products as well as materials, providing answers to the following questions:

- Which of your products or services are worst or most risky from a sustainability perspective?
  → Examples of particularly risky and environmentally hazardous areas in the textile industry include child labour, the use and emission of toxic chemicals in manufacture or waste, and pesticide use in cotton farming.
- Which materials, resources, product processes to change in order to improve your sustainability?
- Which suppliers are better or worse than alternative suppliers?
- Which of my products are affected by a potential incident?

Alongside these, complete transparency within the supply chain allows for the automatic calculation of greenhouse gas emissions as well as resource consumption and the production of well-rounded analyses that explore different perspectives on your supply chain. Supply chain maps visualise and highlight critical materials, greenhouse gas emissions, and water footprints, all of which are crucial aspects in order to benchmark accurately and facilitate accurate risk analysis as well as incident management.

BLOCKCHAIN?

Blockchain can be used by supply chain platforms in the context of traceability and transparency. Supply chain mapping is considered an important step to take before blockchain services can be used. Once the supply chain has been mapped, companies know what their risks and opportunities across the supply chain are, suppliers' supply chain technology is mature, and expectations have been communicated with all stakeholders. All these are requirements for a company's supply chain to become blockchain-ready. If these requirements are met, blockchain embodies potential benefits for the company, including enhanced security and authenticity. If any of these requirements are not yet met, a company may enhance their supply chain visibility and communications before taking advantage of 'the next internet' blockchain.

CONCLUSIONS:

Companies at every tier in the supply chain collectively perform better by decreasing negative impacts of production on the environment while saving money and improving their social and ecological sustainability performance and relationships with supply chain partners.

BENEFITS OF SUPPLY CHAIN MAPPING

- Understand the connections and relationships between suppliers, sub-suppliers, subcontractors and service-providers
- Identify potential risks early as well as beyond your Tier 1 suppliers
- Easier implementation of corrective and improvement measures
- Identify potential cost saving
- Manage and access all certificates in the supply chains
- Manage incidents relating quality, social and ecological issues
- Access footprints showing social and ecological impacts per product sourced/sold and measure scientific-based targets

This white paper was written by **sustainabill GmbH** – a cloud platform that provides supply chain mapping and transparency services. Request a demo and find out more at **sustainabill.io**.

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