Blockchain for sustainable apparel supply chains
- Distraction or disruption?

Blockchain technology application in industries ranging from finance, food and fashion seems to be the current buzz - without any breakthrough success stories being registered so far. With all the hype continuing around the technology the question remains: how useful is the technology effectively in face of the most pressing issues in apparel?

- A critical review on what the technology can and cannot fix for fashion.

The negative impact of the fashion industry is by all means undeniable and has reached the top of increasingly informed consumer minds. Facts and figures published in reports and media - such as the estimation that the textile industry produces as much emissions as aviation and shipping industries combined - are becoming increasingly common knowledge.

However, fundamental changes are still not taking place on the pace needed. Especially the question and lack of traceability and accountability for the negative impact of textiles remains widely unaddressed. Supply chains continue to be more or less of a mystery even to brands themselves with only a fraction of the industry tracing and publishing suppliers and their activities beyond the first tier. Verifying sustainability claims, act on the pain-points and avoid the greenwashing label in consumer minds remains a challenge.

Driven by the digital transformation that is touching upon different industries, emerging technologies promise the “quick fixes” for many of issues – including supply chain traceability and sustainability. Numerous start-ups have been popping up recently offering solutions integrating Blockchain technology into supply chains to easily and securely trace all products and processes from raw material to end of use in an astonishingly easy way. It is claimed that blockchain, acting as a distributed ledger, could easily replace centralized data bases in order to store and share verified information on a public, secured ledger and enable real traceability. On the first glance, these solutions sound highly promising and potentially disruptive. But it seems to be more complex than that.
First, Blockchain technology, that has been developed as the supporting technology behind the cryptocurrency Bitcoin, which promises secured data recording and sharing among other features, is still in its infancy and does not seem close to reaching maturity within the projected frame of 2019-2020.

It is certainly true that the characteristics of the technology seem suitable for the purpose of greater traceability in industries including fashion. Main features that could play a role hereby are data verification and immutability potentially preventing fraud and false sustainability or quality claims. On the other hand, there are several constraints that dampen the enthusiasm for the technology application. First of all, blockchain technology uses huge amounts of computing power and energy which pretty much works in the opposite direction of what the industry should actually do – act more sustainably. Secondly, the technology implies substantial investments which will leave smaller players behind which is especially critical considering that, what the industry really needs, is an inclusive, standardized traceability network and system. A cotton farmer in a remote area has neither the technology nor any incentive to register information on a device, if he owns any at all. Massive investments would be needed to ensure the implementation of a Blockchain infrastructure, which smaller companies are unable to – ever – afford. Thirdly, several concerns about data security, privacy and regulation on a global scale are appearing to be highly complicated. For the technology to unleash its potential, a suitable infrastructure would be indispensable but is not where near to be in place. It is likely that, in the course of its development, these issues might get solved and Blockchain technologies will become more affordable and available – but this, if at all, will not be in the near future.

However, numerous fashion brands and start-ups heavily invest time and resources into piloting and implementing the technology – without a break-through success story being registered so far. Facing the environmental emergency that we are in the midst of and the impact fashion supply chains have in this context, the question remains: can the industry really afford to wait for technology to fix traceability and sustainability flaws or should current resources be best used act immediately?