

## **FROM EXTRACTIVE TO GENERATIVE SOURCING: MAKING REGENERATIVE AGRICULTURE WORK**

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### **ABSTRACT**

This paper considers a case study of a co-created local climate related response by students and academics at De Montfort University to the temperature warming stripes framework created by Professor Ed Hawkins at the University of Reading in 2018, (Hawkins, E. 2018).

Using the warming stripe temperature data for Leicester, the project created an exhibition using pre-loved clothes and textiles in blues and oranges, to represent the temperature change in the city from 1860 through to the present day. Long time thinking was encouraged through the additional challenge to contemplate future decades predicting the nature of the warming stripes through to the year 2040.

Students and academics participating in the project were allocated a year in the time frame and agreed to donate a pre-loved piece of clothing or textile in the appropriate colour for their year. These pieces were curated across a number of rails and displayed in a showcase setting at the University. The challenge to predict warming stripe trends to 2040 provided the opportunity to considering the environmental situation beyond the immediate time frame and elicited a series thought provoking responses.

This project has provided additional motivation for participants and viewers to consider the impact of over consumption of fashion and textiles on climate change from a local context. It has also provided design and buying students with the opportunity to think about the long-time impact on the environment of overconsumption and their potential to influence change, encouraging positive environmental choices to create change.

Through examining the certainty of rising temperatures, this project offers an opportunity for the next generation of creative professionals to consider the value of long-time contingency planning.

### **INTRODUCTION**

In recent years, there has been a growing recognition of the benefits of regenerative agriculture in the fashion industry, with companies like Patagonia, Candiani, Citizen of Humanity, and Kering leading the way. Using regen-

erative fibres however is not as straightforward as it might seem. The agricultural sector needs to make profound structural changes to adhere to the requirements, and textile producers are expected to help with financial security and long-term commitment. Now financial security and long-term commitment are exactly what is lacking in the fashion supply chain, which needs to largely work on credit and to be flexible and reactive to market changes. Engaging in regenerative practices hence asks for creative solutions not only in the management of supply chains, but also in the creation of radically new business models.

This developmental paper's aim is to come up with possible solutions for creating long-term commitment; It is structured as follows. First, we will give a short introduction of the topic highlighting advantages and disadvantages for the stakeholders involved and highlight major hindering factors. After that we refine the findings from the literature using the explorative case study of the Italian renowned company Candiani, a denim producer which has invested in sourcing regenerative fibres to come up with possible changes in the existing business model to accommodate for these hindering factors.

## **REGENERATIVE AGRICULTURE**

Unlike organic farming, the practice of regenerative agriculture considers the entire ecosystem and aims at an overall regeneration of the land. This makes cultivated land more resistant to external influences such as floods, diseases, pest, and droughts.

This is crucial as resource scarcity is a growing concern for many companies, leading to rising prices. Furthermore, the far-reaching environmental and social effects of regenerative agriculture, such as improving biodiversity, soil health, water, and carbon cycles, align well with increasing consumer demand for sustainable business practices and products and offer an attractive marketing opportunity.

Currently, the production of regenerative fibers is however not sufficient to reap real and scalable benefits. Cultivating these fibers is more complex than conventional methods, as there is no one-size-fits-all approach to doing this in an economically viable manner. Producers need to learn and implement the practices of regenerative agriculture, which are not yet widely taught in traditional agricultural education. Additionally, the transition to regenerative practices requires a conversion period of two to four years to allow the soil to adapt. These challenges are often too significant for individual agricultural producers to overcome without support. The textiles sector can help, and doing so can actually generate new value also for fashion producers.

## **LITERATURE REVIEW**

To fully realise the advantages of sustainable practices, and also regenerative fibers for the fashion industry, cross-sector collaboration is essential (Chen and Lee 2018); by collaborating with a regenerative agriculture company and sourcing regenerative fibers, fashion brands can make their supply chain more resilient, and the agricultural company can benefit from secured demand, especially in the long term. Collaboration is however not straightforward: the agricultural sector cannot guarantee quantity and process control, especially in the first few years of converting from conventional to regenerative agriculture, as these are largely dependent on natural conditions. Conversely, textile and fashion chains need to be flexible and responsive as demand is typically more uncertain than in other sectors.

Conditions for Interorganisational and cross sectoral integration

Especially in the context of cross sectoral collaboration long-term contracts lead to goal alignment, shared responsibilities, and managerial commitment, providing a sense of safety and trust, in turn promoting further transaction specific commitment (Smith 2019). For the raw fiber producer long-term contracts are a vital safeguard, ensuring the protection in case of crop failures, crop surpluses or other uncertainties. Additionally, they can offer financial

security and market stability contributing to the possibility of future investments. For the fashion brand, long-term contracts can secure a consistent supply of regenerative fibers, ensuring continuity in production processes and meeting eventual sustainability targets and/or marketing claims (Guerrero and Hansen 2018, Brown and Jones 2020, Kim and Park 2019, Rodriguez and Martinez 2018).

Overall, long-term contracts create certainty for both parties. Long term commitment intention, willingness to share sensitive information as well as the willingness to make transaction specific investments, hinge upon four main factors: shared goals, mutual trust, managerial commitment and prospective economic satisfaction (Mossinkoff and Stockert 2008).

#### Goal alignment

Throughout the collaborative process a shared understanding of the problem, objectives and desired outcomes are essential (Bryson et.al. 2015, Davis and Wilson 2017). All involved parties should agree on the purpose, goals, and expectations of the collaboration. Clear objectives provide a common direction and help achieve mutually beneficial outcomes. Thereby the establishment of clearly defined roles, processes, and responsibilities is a crucial antecedent factor promoting goal alignment. (Karaosman et. al. 2023) The development of norms and rules for the collaboration, in order to render a transparent collaborative process are hence crucial. Overall, aligned processes and responsibilities ensure clarity, efficiency, but also accountability within the collaboration. (Karaosman et. al. 2023)

#### Managerial commitment

As discussed, for agricultural and textiles firms to engage in regenerative sourcing involves changing the business processes quite radically. That is not only a functional issue, but a strategic one. Therefore, a most important determinant of successful long-term collaborations is managerial commitment to establish personal relationships (Luthra et. al. 2022; Erakovich & Anderson, 2013) A solid personal relationship offers a valuable base for a long-term collaboration, as it facilitates transparent communication, the frequent sharing of information, challenges and process updates which promotes mutual understanding, alignment, commitment, and trust, which are all important factors for a successful long-term collaboration. (Bryson et.al. 2015) Managerial commitment also allows for constant learning and improvement and helps in establishing trust and conflict solving.

#### Trust

The creation of mutual trust, which can be a consecutive effect of managerial commitment, needs to be stressed in specific, as it is a critical element for long-term collaborations. (Ireland & Webb, 2006) Trust nurtures a supportive environment where individuals can share knowledge, sensible information, and work towards common objectives with confidence. Trust must be created in the beginning and needs to be maintained throughout the whole collaborative process in order to secure a solid base for any kind of collaboration. (Jia & Yang, 2019) Mutual trust also allows for an appropriate balance of power between the collaboration parties based on the circumstances in which they find themselves. In return, a fair balance of power promotes commitment and performance throughout the chain. (Maloni and Benton, 2000)

#### Prospective economic viability

Last but not least, it needs to be said that to achieve successful long-term collaborations, economic feasibility plays a pivotal role in ensuring their longevity and viability, especially between private enterprises (Smith 2019). Collaborations must be economically viable over the long term to encourage continued investment and participation. Even if all parties of a collaboration share the same goals, operate in mutual trust, and enforce each other's capabilities, a collaboration might not be sustainable and successful if it does not make sense for either of the parties in terms of economical outcome. At least there must be some prospects of economic feasibility, directly or indirectly. All kinds of resources need to be allocated efficiently, enabling partners to maintain their commitment to regenerative fibers and to reap the associated benefits. (Erakovich and Anderson, 2013; Guerrero and Hansen, 2018)

That might however not be enough in our context, as in the case of a complete transition to the use of regenerative fibers, brands are, depending on the negotiated contracts and management methods, to a large extent dependent on and exposed to the risks of a farming business, due to unforeseen crop failures, crop surpluses, etc., wherefore brands must develop the ability to react with flexibility. In the case of uncertain future technological and market conditions, but also of supply, the ability of thinking of and implementing new ways to add value, or new business models, might be a way out (also in: Johnson and Garcia 2016). That is the question we have explored in an explorative case study of a firm which managed to partly start off with regenerative supply practices. Following we present preliminary results from experiential and interview data.

### **CASE STUDY: CANDIANI'S PILOT**

Candiani sees itself as an initiator of innovation within the denim industry. Usually, Candiani requests new products from traders, who then embark on the search for these requested items. If the trader is unable to find the product, Candiani collaborates with the trader to explore alternative solutions. This may involve persuading suppliers to adjust their production methods to meet the desired product specifications. A similar procedure applied regarding the implementation of regenerative fibers. According to S. Giuliani, the company's marketing director, Candiani played a significant role in initiating the implementation of regenerative fibers in the industry and anticipates that regenerative fibers will soon become more widely requested and thus more available. In this case, other brands will have the possibility to source regenerative fibers not directly via the producer but across a trader. Thereby, brands are not affected by the risks associated with fiber production and do not have to cooperate directly with the agricultural sector. However, according to S. Giuliani, demand can be very high and availability lower, especially in the first years when growers are converting to regenerative agriculture. This means that brands may have to accept very high prices for sourcing regenerative fiber through a trader, which asks for long-term collaborative efforts. According to S. Giuliani, in this type of like-minded partnership it is relatively easy to align goals and work with farmers because both parties already have similar innovation-led backgrounds. Farmers who are collaborating with Candiani for the production of regenerative fibers, have had to deal already before the start of the collaboration with innovative agriculture methods, such as regenerative agriculture, due to the prolonged extreme weather conditions. The relatively simple alignment of goals, in the case of Candiani, fuels a rapid creation of trust and commitment among the managers. Trust does play a vital role therein. According to S. Giuliani, it is built upon experience and tangible results. Candiani's reputation, long history and track record of successful collaborations and investments in the area of innovation and sustainability contribute significantly to establishing trust with partners.

### **RESULTS AND DISCUSSION**

Tentative results show that possible strategic choice that could lead to a high level of commitment aimed at generating new value are the following.

**Commitment to harvest volumes:** committing to specific harvest volumes at the time of planting, which is usually long before collection planning begins. This would provide certainty to farmers as the risks during the planting phase would be shared and mitigated between the fiber producer and the fashion company.

**Flexible production planning:** While a well-planned "Plan A" for collection prior to the start of seeding is critical, it is equally important to create backup plans (Plan B, C and D) to manage potential issues such as crop surpluses, crop losses or failures. This adaptability ensures that brand owners can respond effectively to unforeseen circumstances and maintain a consistent supply of regenerative fiber.

**Rethinking fiber diversity:** limiting the variety of different fibers in upcoming collections could help brands to plan their fiber supply in the longer term. This could also ensure the integration of fiber surpluses into future collections.

**Rethinking traditional fashion seasons:** to deviate from the traditional fashion calendar and instead align the planning and production of the collection with the natural seasons. In this way, the company could start planning and

size of the collection, on the basis of which the prices will also be set.

Our aim is to further explore the implications of these strategic choices in the context of regenerative agriculture through further explorative and possible explanatory research approaches based in case studies and expert pool methods.

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