# The diffusion of sustainable cotton: Sustainable entrepreneurship, industry transformation and the role of standards

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## **INTRODUCTION**

Recently the concept of 'sustainable entrepreneurship' has gained increasing attention (Hall et al. 2010; Hockerts & Wüstenhagen, 2010; Schaltegger, 2002, Schaltegger and Wagner 2011). It can be understood as "an innovative, market-oriented and personality driven form of creating economic and societal value by means of break-through environmentally or socially beneficial market [...] innovations" (Schaltegger and Wagner 2011). Both entrepreneurs and intrapreneurs can engage in sustainable entrepreneurship, however, they belong to different kinds of organizations which play different roles in the transformation of industries. Entrepreneurs establish pioneering companies, they make sustainability an integral part of their mission and business model and introduce products and services with very ambitious sustainability characteristics; initially they have only low market share. Intrapreneurs are situated in large, established organizations operating in the mass market, which in most cases only slightly improve sustainability characteristics of their products offering. Hockerts and Wüstenhagen (2010) call these two types of organizations "Emerging Davids" and "Greening Goliaths".

Whilst both types of companies can ultimately become "sustainable entrepreneurs" and are important units of analysis, we want to focus on the transformation of the industry covering the interactions of both Davids' and Goliaths' (Fig. 1). This *dynamic* process of industry transformation with a focus on these interactions has been conceptually developed (Wüstenhagen1998; Hockerts and Wüstenhagen 2010; cf. also: Schaltegger 2002; Schaltegger and Wagner 2011), but is empirically under-researched.

We look at the apparel industry as an example of industry transformation. We focus on the diffusion of more sustainable forms of cotton as indicator for a firm's (and subsequently entire industry's) sustainability improvements. Replacing conventional cotton is important as it has very high environmental and social impacts. (e.g. synthetic fertilizer and pesticide use; genetically modified plants; monocultures).

Several studies from the apparel industry exist. Most of them look at only one type of actors, i.e. "Davids" (e.g. Fowler & Hope, 2007; Plieth et al., 2012). An important step towards the analysis of the current industry transformation has been done by Villeger et al. (2000) who present a case study on the Swiss/German textile industry by *comparing* large and small companies - however, it is empirically largely outdated. Iilge & Preuss (2012) give a more recent look at sustainable cotton initiatives: they chose two representative cases, Hessnatur as emerging David and H&M as greening Goliath. By focusing on two representative companies they are able to sketch the overall process of industry transformation, however, they are unable to present the more fine-grained processes and interactions amongst the larger set of industry peers.

In the present paper it is thus our aim to present more detailed empirical data on sustainable cotton initiatives covering the most important players in the German apparel industry (both niche and mass market). Our ultimate aim is to further illustrate the transformation of industries through the lens of sustainable entrepreneurship.

## METHOD AND PRELIMINARY FINDINGS

This paper is based on an historical analysis of the German apparel industry. It is a longitudinal case study with two units of analysis: first, the overall industry (transformation) and second, the individual companies and their interactions provoking the industry transformation processes.

We selected the apparel industry because, as explained in the introduction, it is related to significant social and environmental challenges.

Data collection of the historic analysis is based on secondary sources and thereby particularly scientific and industry reports, corporate archival data, as well as media reports. The data collection phase started in 2012 and is ongoing.

Our preliminary findings show that the diffusion of sustainable cotton is growing rapidly. Pioneering small eco companies have developed important industry eco standards which are now being applied by large incumbents. However, this is not a linear process, but rather a dynamic process characterized by incumbents' entry into and exit from sustainable apparel markets. The details of these dynamic industry processes are described and discussed.

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