



## **Sustainable Entrepreneurship in the Apparel Industry**

Plieth, Hanna; Bullinger, Angelika C.; Hansen, Erik Gunnar

*Published in:*

The Journal of Corporate Citizenship

*DOI:*

[10.9774/GLEAF.4700.2012.sp.00009](https://doi.org/10.9774/GLEAF.4700.2012.sp.00009)

*Publication date:*

2012

*Document Version*

Publisher's PDF, also known as Version of record

[Link to publication](#)

*Citation for published version (APA):*

Plieth, H., Bullinger, A. C., & Hansen, E. G. (2012). Sustainable Entrepreneurship in the Apparel Industry: The Case of Manomama. *The Journal of Corporate Citizenship*, (45), 121-134. DOI: 10.9774/GLEAF.4700.2012.sp.00009

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Sustainable Entrepreneurship in the Apparel Industry

The Case of manomama

Hanna Plieth\*

*HHL – Leipzig Graduate School of Management, Germany*

Angelika C. Bullinger

*Chemnitz University of Technology, Germany*

Erik G. Hansen

*Leuphana University Lüneburg, Germany*

During the last decade, pressure on companies to transcend the focus on economic success and technological innovation in order to address more ecologically and socially desirable outcomes has increased. Commitment to sustainability-oriented innovation is still rare in the textile and apparel industry, but there exist first case examples of highly eco-innovative companies. This article presents an in-depth case study of the sustainable company manomama which manufactures individualised clothes for women, men and children in Southern Germany. Ecologically harmless and thereof mostly organic material is procured only regionally and highly experienced workers from the ancient textile region have been provided with secure, full- and part-time jobs. The article discusses the major challenges of manomama when entering business (knowledge and experience, site and machinery, suppliers, staff and supporters) and presents the innovative solutions the founder identified to address these. In addition, the article derives implications for traditional companies.

- Sustainability-oriented innovation (SOI)
- Sustainable fashion
- Apparel industry
- Regional sourcing
- Sustainable entrepreneurship
- Business model innovation
- Small and medium-sized enterprise (SME)
- Social business
- Age-diversity

Hanna Plieth is a doctoral candidate and research associate at HHL – Leipzig Graduate School of Management. She studied international business at the School of Business and Economics at the University Erlangen-Nuremberg and Ecole de Management Strasbourg. Her research focuses on open innovation in demographic change.



✉ HHL – Leipzig Graduate School of Management, CLIC – Center for Leading Innovation & Cooperation, Jahnallee 59, 04109 Leipzig, Germany

📧 [hanna.plieth@hhl.de](mailto:hanna.plieth@hhl.de)

Dr Angelika C. Bullinger holds the Chair of Human Factors and Ergonomics at Chemnitz University of Technology. She is a permanent visiting researcher at the University of Pennsylvania. Dr Bullinger is engaged in the field of IT-based technology management, and her primary interests are the interplay of open innovation and collaboration.



✉ Chemnitz University of Technology, Erfenschlager Strasse 73, 09125 Chemnitz, Germany

📧 [awi@mb.tu-chemnitz.de](mailto:awi@mb.tu-chemnitz.de)

Dr Erik G. Hansen is a research associate at the Centre for Sustainability Management (CSM) at Leuphana University Lüneburg, Germany. His research interests are innovation and strategic management in the context of sustainable development. Dr Hansen teaches in these fields in graduate, postgraduate and executive programmes.



✉ Leuphana University Lüneburg, Scharnhorststr. 1, 21335 Lüneburg, Germany

📧 [erik.hansen@uni.leuphana.de](mailto:erik.hansen@uni.leuphana.de)

\* This research was partially supported by the German Ministry of Education and Research (WiPOD, 01HH11055, and TANDEM, 01HH11091). We are very grateful to Sina Trinkwalder and her team at manomama who provided us with much information, time—and coffee.

**D**URING THE LAST DECADE, AN increased pressure on companies from regulation as well as stakeholders to transcend the focus on economic success and technological innovation in order to address more ecologically and socially desirable products (Horte and Halila 2008; Hansen *et al.* 2011) has been witnessed. Sustainability-oriented innovation (SOI), by using a set of additional, sustainability-oriented criteria, can thus be described as innovation which is more sustainable when compared with alternative solutions (Paech 2007; Hansen *et al.* 2009) or simply as 'better managed innovations' (Wagner and Llerena 2008).

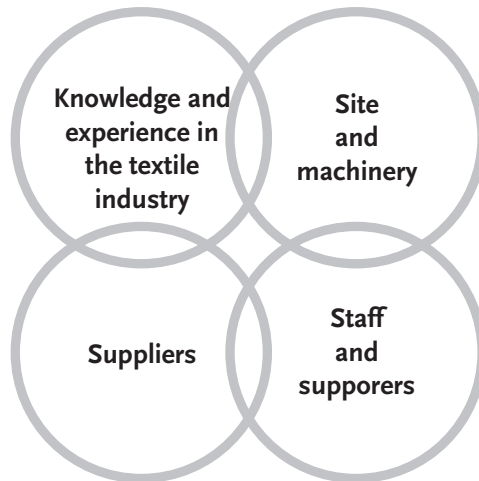
On the one hand, SOI can follow a path of incremental innovation by aiming at reducing the negative impact of conventional products (e.g. through eco-efficiency, biodegradable materials). On the other hand, SOI also aims at addressing societal challenges by developing radical new technologies, product-service systems and business models (e.g. electric vehicles, car-sharing infrastructure, ride-sharing services; cf. Hansen *et al.* 2009, 2010). Concerning the latter, organisations have realised that SOI can be a key to opening new markets and opportunities (Hansen *et al.* 2009; Wagner 2009; Schaltegger and Wagner 2011). Often the incremental and the radical paths towards SOI are related to two different types of company, which Hockerts and Wüstenhagen (2010) call 'emerging Davids' and 'greening Goliaths'. While greening Goliaths are large, established companies improving their sustainability through mostly incremental improvements (e.g. through implementation of environmental management systems), emerging Davids are small companies, often new ventures operating in niche markets, which make sustainability the core of their mission and business model. While both types of company can be considered as sustainable entrepreneurs (Hall *et al.* 2010; Schaltegger and Wagner 2011), in this paper we focus on emerging Davids as sustainable entrepreneurs.

Despite these potentials, commitment to sustainable entrepreneurship is still rare in the apparel industry where cost-effective production and logistics mostly dominate managerial decisions. Most of the larger studies focus on rather incremental environmental innovation in the industry (e.g. Søndergård *et al.* 2004). Some case studies on sustainable entrepreneurs exist, but focus on only the ecological dimension of sustainability, such as the case of California-based outdoor apparel company Patagonia (Fowler and Hope 2007) or the case of Germany-based organic apparel company, hessnatur (Schaltegger 2002). This paper uses a case study approach to present the highly innovative company, manomama, which has incorporated both ecological and social aspects into its core business strategy and can thus be considered a sustainable entrepreneur.

The paper is organised as follows: first, the research method is explained and then the case of manomama is presented along with four interrelated challenges which the founder, Sina Trinkwalder, had to answer when starting her eco-social business (Fig. 1). The first challenge is the revitalisation of disappearing knowledge and experience in the production of garments. Second, is the challenge of site and machinery, including efficient production and transport of products as well as the required machinery for the production of apparel nearly non-existent in Germany. The third challenge is the identification of local suppliers

for ecological materials. Fourth, the staff and voluntary supporters needed to start and run the business are described as a challenge.

*Figure 1* Four challenges




---

## Research method

---

### Research design and context

This paper is based on a case study research design (Yin 2003). We conducted a single case study in the German apparel industry. The apparel industry is characterised by high market volatility and intensive global competition (Vila and Kuster 2008). As labour-intensive industries, the apparel and textile industries are traditionally driven by costs minimisation (Taplin 2006). A global shift of the production of apparel to low-cost countries led to a decline in German textile production (Adler 2004). Remaining jobs within the German textile and apparel sector are not production-related, but managerial and coordinative (Taplin 2006). Traditional production forms were abandoned in the 1980s, therefore also ‘the ability to use traditional production know-how has faded into the background’ (Adler 2004: 310). Also, the remaining blue collar jobs within the German apparel industry have changed from pure sewing labour towards warehouse and transport labour (Adler 2004). From 1980 to 1995, employment in the textile sector decreased by 47% and within the clothing sector by 40% in Europe (Stengg 2001).

## Case selection

We selected manomama for an in-depth case study. The sustainable entrepreneur manomama is successfully counteracting the general trend observed in the traditional but, throughout recent decades, declining textile region of Southern Germany. Manomama designs and manufactures clothes for women, men and children exclusively from regionally sourced and ecologically sound (and mostly organic) material. Being truly sustainable, the impact of manomama goes beyond eco-related product innovations by also providing a socially desirable manufacturing environment with secure, full- or part-time jobs for local sewers. Appreciation of employees is a central aspect of the social business, together with a comparably high salary for the employed sewers. Thus, manomama follows the model of effort–reward imbalance by Siegrist (1996), who lists money, esteem and status control as occupational gratifications. Related to that, the company has received several prizes from both NGOs and public offices and it enjoys a rich and dependable relationship to a loyal customer base. This is mainly driven by the transparent way the company discusses design and other decisions with its stakeholders and customers both online and offline.

## Data collection and analysis

Data collection is based on triangulation of various data sources (Yin 2003). First, semi-structured interviews with the founder and entrepreneur, Sina Trinkwalder, and other company members were utilised. Interviews were transcribed and coded using MaxQDA software for qualitative data analysis. Further, the company's publicly available weblog and Trinkwalder's personal Twitter and Facebook accounts were analysed. Also extended site visits were used as data sources. Finally, participatory research was also utilised. The first author spent about 60 hours in the company (for example, the author was involved in the designing, production and packaging of apparel). A trustworthy relationship was established between the first author and the founder of manomama. As a consequence, data collection also covered a huge amount of internal and often informal data (e.g. press shootings, coffee table discussions, internal documents and presentations).

---

## manomama: Better for all of us

---

Sina Trinkwalder founded manomama GmbH in April 2010. Her motivation to found the company stemmed from two targets: first, she wanted to revitalise the textile region around the South German city of Augsburg; and second, she wanted to create jobs in Germany for disadvantaged people. Today, manomama produces 100% ecological apparel and accessories in a regional value chain in South Germany and, thus, distinguishes itself considerably from other textile

manufacturers. When Sina Trinkwalder decided to start manomama, she and her husband were owners of the Augsburg-based advertising agency *dplus neue medien GmbH*. A newcomer to the field, she did not have any experience or knowledge concerning the process of creating clothes and was even unaware of the necessary resources (e.g. machinery, equipment). Her only (financial) resource at the time was her and her husband's retirement provision.

Today, manomama produces more than 70 different garments for children, women and men, as well as accessories and handbags. Products for women include tops, T-shirts, dresses, skirts, trousers, blouses and coats. Men can choose within a product range of T-shirts, shirts, hoodies, jackets, trousers and coats. For babies and children, baby bodies, shirts, trousers, hoodies and skirts are offered. Concerning accessories, scarves, belts, bags and jewellery can be purchased. A vast majority of the products can be individualised in terms of colours, sizes and garments. Manomama sets new standards in terms of production, sourcing and processing of materials. In this regard, manomama processes only organic material for the manufacture of all garments described above: organic cotton, sweat, spandex jersey, elastane, hemp, merino new wool, vegetable tanned leather, etc. Moreover, colours, prints, appliqués, sewing threads, etc. meet the manomama standard. Only a few parts are not yet 100% ecological, but these are specified on the label. For instance, no ecological alternative for zip fasteners could be developed, but they are sourced within Germany. Production cycles are very fast, with only three weeks from order placement to production of the garment, i.e. knit and dyed. Cutting, grading and sewing as well as pre-washing is done in-house at manomama.

This article focuses on the most relevant challenges manomama had to deal with during the first 18 months in business. By analysis of the data, we identify challenges closely related to four resources which are of particular importance for the company: knowledge and experience, site and machinery, suppliers, and staff and supporters.

---

## Knowledge and experience in the apparel industry

---

The most critical challenge the company manomama is confronted with is the rapid disappearance of knowledge. Trinkwalder summarises her experience as follows: 'I had never thought that in some areas so little know-how [on apparel manufacturing] still exists' (01:10:48-3, 11 July 2011).

As Sina Trinkwalder does have no background in the apparel industry, she had to find people with the respective knowledge and experience. Due to the delocalisation and outsourcing of nearly all production steps in the German apparel industry, this represented an extremely difficult task. Trinkwalder assumes: 'The knowledge will still exist for about five to ten years, after this it will be gone' (00:40:18-9, 11 July 2011).

In addition, education and training of people in Germany today is no longer designed for the industrial production of apparel from a first design to the final product. This problem also illustrates the uniqueness of manomama, as stated by Trinkwalder:

Nobody does what we are doing here. We are making cuts on paper, digitalise them, grade them manually and print them; nobody is doing this here anymore. But in fact, this is what fun is. Nevertheless, none of them is able to do it: fashion designers, pattern cutters. I have worked with all of them, but they are not able to do it (00:57:39-4, 11 July 2011).

However, in mid-September 2011 manomama obtained an official training licence and the first trainee started her vocational education at manomama.

The sewing of apparel and the weaving of textiles used to be done in Augsburg in the 19th century until the mid-20th century when the city was still a textile centre. Today, it is the older people who possess the corresponding knowledge. One example is Raphael Wilhelm, who was a mechanic for sewing machines and owned a contract sewing shop in Augsburg in the 1980s. In the 1990s, he had to close his company because of the fierce price competition, especially from Asia. In order to preserve his knowledge, he started collecting historical sewing machines, and now owns about 500. Today, the 60-year-old expert is the repairman of, and even more important, an adviser to, manomama. He provided Sina Trinkwalder with her first industrial-scale machine and trained her to use it correctly. Furthermore, he is advising her concerning new acquisitions and is responsible for changing tools on machines.

Preservation of knowledge goes beyond the site of manomama as the supply chain also requires ancient skills and competences. For instance, the proprietor of the last mill in Europe spinning natural wool has promised to pass on his skill to one of manomama's employees before he retires, probably in 2014. This is Trinkwalder's only possibility to continue the production in Germany. In order to retain and build on the experience of manomama's stakeholders, Sina Trinkwalder tries to document ancient knowledge. This collection is the central asset of her company.

---

## Site and machinery

---

The location of the company as well as the machinery for the production of apparel were crucial related aspects for the foundation of manomama. First, the reasons for choosing the site and, second, the acquisition of machinery will be presented.

## Site

Manomama is located in the South German city of Augsburg. This geographical location is crucial for the business. As Trinkwalder puts it: 'What is interesting is that what we are doing here can, all over Germany, only be done in Augsburg and nowhere else. You no longer find garment manufacturers in any other German federal state' (01:04:12-9, 11 July 2011).

Furthermore, as founder of a social and transparent business which is financed only by private capital, Sina Trinkwalder does not have the financial resources to pay the rent for a production hall. Therefore, the lunchroom of her husband's advertising agency had to give way to machines, fabric rolls and new employees of manomama (Fig. 2).

**Figure 2** Production hall at manomama

Source: Picture taken on 21 July 2011 by the authors



While this was a good solution for the initial months, today the room does not provide sufficient space for seven employees who manufacture an increasing number of products. Here, the former textile company Martini GmbH & Co. KG offered a solution. Having 175 years of experience in the apparel industry, the company is today engaged in real estate and now sponsors room for the production of sustainable apparel. At the beginning of 2012, manomama moved into this new production hall which will also allow for future growth.



## Machinery

Most of the machinery which is used today by manomama was used at a time when Augsburg was still known as a textile centre. Today, it can no longer be purchased. Sina Trinkwalder found the weaving loom for the production of denim, the material jeans are made from, in the textile museum of Augsburg (Fig. 3). Today, the machine runs not only for short demonstrations, but continuously for the production of denim which is then processed by manomama into *augschburgdenim*, a type of jeans which is not pumiced, etched, stone washed, etc.

**Figure 3** Weaving loom producing denim in the textile museum of Augsburg

Source: Picture taken on 21 July 2011 by the authors



Sina Trinkwalder also searched for these machines outside the area of Augsburg. Some of the machines were even sent to her by foreigners who want to support manomama and the idea behind it. While the acquisition of these machines was complicated, the usage of old (i.e. mechanically driven) machines offers an important advantage: they can be repaired more easily, in contrast to electronic machines. In the future, manomama will also acquire equipment from suppliers. For example, manomama's local supplier for organic merino new wool, the last of its kind in Europe, is expected to close down his spinning mill, probably in 2014. Manomama plans to acquire all of the machinery to

be able to continue the production of local wool once the supplier goes out of business.

---

## Suppliers

---

Manomama sources its entire material locally. Sina Trinkwalder knows all her suppliers personally.<sup>1</sup> Most of them are family businesses located within 1 to 1.5 hour's drive from Augsburg. However, two kinds of material are an exception with regard to the location of suppliers. First, the yarn is produced from certified organic cotton from Turkey. Second, the organic twisted yarn is sourced from a small spinning mill in north Italy. According to Sina Trinkwalder, the Italian supplier is the last of its kind in Europe. In case this supplier stops production, manomama has to source ecological twisted yarn outside Europe or begin production itself.

Some of manomama's suppliers have adapted their production to the needs of the sustainable company, including the modification of machines and development of new production technologies for the processing of organic and more ecological materials. For example, one supplier developed and implemented a new process for dyeing materials in a more environmentally friendly way and biological digital printing, where screen printing ink based on renewable raw materials is used. Moreover, the supplier developed an environmentally friendly elastic band made out of 100% organic cotton. Most of the solutions have only been developed for manomama. Regional sourcing and in-house production are an important competitive advantage for manomama.

---

## Staff and supporters

---

Because of the financial constraints manomama faces, it is of particular importance for the company to rely on the effort and help of both employees and others who help the company voluntarily. First, the focus lies on the paid employees and, second, on the voluntary supporters of manomama.

### Staff

Today, manomama employs two groups of people: production workers as well as sales staff. Because of the central role of the sales staff, these employees are coined 'manomamas' and 'manopapas'. Within manomama, the well-being

---

<sup>1</sup> The regional value chain Sina Trinkwalder developed over the last 18 months is today the capital of manomama. Therefore, none of her suppliers can be named in this case study.

of employees is considered to be very important. In particular, manomama emphasises that employees should feel that their colleagues and customers, as well as Sina Trinkwalder herself, value their efforts. According to van Vegchel *et al.* (2002), esteem is the most important reward indicator, followed by job security and salary with the lowest effect on employee health. As a result, respect for the daily work of manomama employees is expressed especially through appreciation. Besides intra-organisational appreciation, manomama customers are encouraged to directly thank the sewer who is indicated by a small label in every product with his or her first name. Also the salary of employees at manomama is considered more than just a reward for their work. In contrast, it is a signal to the employees that manomama is grateful for their commitment and effort. Therefore, the sewers in production receive a gross wage of €12 per hour (which is above the average gross wage in the apparel industry in Germany) and the distributors are paid on a transparent commission basis. The following quote from Trinkwalder summarises the relationship between manomama and its employees: ‘Money is an instrument to show appreciation’ (02:18:56-1, 11 July 2011).

The sales staff at manomama enjoy considerable freedom with regard to the way they organise their work, both for the time used and in the way they design their sales activities. For instance, some employees organise so called ‘manomama-Mitmachtreffen’, an offline event where potential customers meet with a salesperson to inspect cloth samples and products and to design personalised apparel. Others just tell their friends or colleagues about manomama. Whichever way each sales person chooses, he or she receives a fixed percentage of the selling price each time a customer names him or her as salesperson.

## Supporters

Additionally, manomama only exists thanks to the support and voluntary work of many parties. These include for instance the director of the textile museum of Augsburg who supports the production of denim on the machines in the museum (Fig. 3). Two other important voluntary workers are the museum guides, retired weavers, who produce the material for manomama within the museum. Another example is the former textile company Martini GmbH & Co. KG, who sponsors room for the growing business. The unique relationship with the advertising agency dplus also needs to be mentioned in this context. In addition to the above described usage of the former lunch room, individual employees of the agency contribute to the company in a special way: the head of software development is in charge of financial accounts and the head of training and education can be described as Sina Trinkwalder’s most important reference person.

Furthermore, a university in the German state of Baden-Württemberg, a former weaving school, conducts research for the development of 100% ecological materials without any financial support.

Volunteer supporters are appreciated, especially through special articles published in the manomama blog. Mojza *et al.* (2011) describe the potential of

volunteer work activities to offer a break from paid work and to regain strengths. The volunteer work by employees of the advertising agency is therefore supposed to have a positive impact on their performance in their main job, too.

Besides the direct voluntary support described above, the 3,784 fans on Facebook and 7,365 followers on Twitter need to be mentioned.<sup>2</sup> As a social business, manomama cannot afford to invest in classic marketing. Therefore, Sina Trinkwalder outsourced nearly all of the marketing to social media networks. Different activities actively include and address the online community and contribute to the success of manomama. For instance, within the framework of the activity 'menschen 2.0',<sup>3</sup> Sina Trinkwalder asked the online community to take pictures of the content of their handbags and to upload them. During the first round in 2010, 155 people participated. People were then asked to guess to whom the contents of the handbag belongs. Extraordinary positive responses further spread the brand of manomama.

---

## The future of manomama

---

Within the first 18 months, manomama developed a solid customer base mainly out of online communities. One of Sina Trinkwalder's goals for the near future is to bring manomama to the awareness of the broader public, beyond social media networks. First experiences with classic marketing have shown the power of these instruments. In July 2011, three short reports about Sina Trinkwalder and manomama were broadcast in the morning programme of the German television network, Sat 1 (Sat 1 2011)—the resulting interest in manomama immediately crashed the company's server. Sina Trinkwalder defines growth as an important goal for the future of manomama. She wants to enter the mass market with her sustainable apparel to offer more attractively priced products, summarised with the following quote: 'It can only be reached through growth. At the moment, I cut and sew one shirt in the corresponding size. With 100 orders I could cut 100 shirts at once in layers and the shirt suddenly becomes €30 cheaper' (01:04:31-8, 11 July 2011).

According to Sina Trinkwalder's personal evaluation, manomama will need an additional two years to turn into a profitable business. In the meantime, she follows many short- and long-term goals. For example, she wants to retain more people in employment, to broaden the product range (including first ideas about shoes, accessories, etc.) and to enable more people to buy her products thanks to an increased time-efficiency leading to lower prices.

---

<sup>2</sup> The numbers of fans on Facebook and followers on Twitter were correct on 11 May 2012.

<sup>3</sup> See [www.menschenzweinull.de/html](http://www.menschenzweinull.de/html) (accessed 9 May 2012) for more information.

## Discussion

With its innovative products and production technologies as well as an innovative organisational concept (Schaltegger and Wagner 2011), manomama is a pioneer of the sustainability-oriented transformation of the apparel industry. According to Schaltegger and Wagner (2011), customers of such 'bioneers' focus on the environment in their consumption and are characterised by a high ability and willingness to pay, as well as a substantial market and product knowledge. This definition describes the business development of manomama up to the time of data collection. Future development of the company from an emerging David operating in a limited niche market towards the mass market might bring the company closer to true sustainable entrepreneurship which influences the whole market towards sustainability and therefore influences the whole society (Schaltegger and Wagner 2011). The case of manomama is also an example of a new 'technological niche' in which, in contrast to the globally operating established industry, apparel is produced with a local value chain under socially desirable conditions with the lowest possible environmental impact. Whether this and other niches ultimately lead to changes in the sociotechnical regime remains to be seen (Geels 2005).

However, there is a set of reasons which limit imitation and should be tackled by further research as well as industry endeavours in the field: First, spillover effects from manomama to other apparel companies are very limited. Suppliers of manomama found that their other customers mostly reject innovative ecological production solutions. Their assumption is that the small price difference is still too big for the price-sensitive apparel industry. This assumption should be further investigated by future research. Second, acquisition of the necessary resources in a nearly extinct textile region has proved very difficult for manomama and is probably putting off potentially interested entrepreneurs in the field. Third, manomama goes beyond environmental considerations in its business philosophy. The company and its founder are particularly dedicated to the employees and translate a strategy of sustainability into a mission of respect. According to the founder: 'Sustainability is nothing more than another word for respect' (00:44:13-2, 18 July 2011). Finally, the founder of manomama and her personal commitment to the company as well as the set of supporting volunteers she identified are strong drivers of the company's success.

From this case, it seems that a set of dedicated persons is required—and able—to significantly increase sustainability in the apparel industry. Further research should hence look into the characteristics of individual sustainable entrepreneurs who make statements such as the following:

It is not only to believe, but to know. I know that it will turn out well. I am not doing this based on the feeling that I think I could do this, but that I know it will be good. This is the big difference. And then you can move things ahead because you are not worried about failing (02:04:03-5, 11 July 2011).

---

## Conclusion

---

This paper used a case study approach to present a highly innovative company which has incorporated sustainability into its founding mission and related business model. The company can thus be considered a sustainable entrepreneur. Our study shows a successful example of realising sustainability-oriented innovation in a region where technical knowledge and skills are dying out because production has been relocated to developing countries. However, those who may want to follow this approach need to be aware of the challenges in the field. In particular the question of transferability of results to other areas needs to be carefully assessed.

---

## References

---

- Adler, U. (2004) 'Structural Change: The Dominant Feature in the Economic Development of the German Textile and Clothing Industries', *Journal of Fashion Marketing and Management* 8.3: 300-19.
- Fowler, S.J., and C. Hope (2007) 'Incorporating Sustainable Business Practices into Company Strategy', *Business Strategy and the Environment* 16.1: 26-38.
- Geels, F.W. (2005) 'The Dynamics of Transitions in Socio-Technical Systems: A Multi-Level Analysis of the Transition Pathway from Horse-Drawn Carriages to Automobiles (1860-1930)', *Technology Analysis & Strategic Management* 17.4: 445-76.
- Hall, J.K., G.A. Daneke and M.J. Lenox (2010) 'Sustainable Development and Entrepreneurship: Past Contributions and Future Directions', *Journal of Business Venturing* 25.5: 439-48.
- Hansen, E.G., F. Große-Dunker and R. Reichwald (2009) 'Sustainability Innovation Cube: A Framework to Evaluate Sustainability-Oriented Innovations', *International Journal of Innovation Management* 13.4: 683-713.
- , M.L. Gomm, A.C. Bullinger and K.M. Möslin (2010) 'A Community-Based Toolkit for Designing Ride-Sharing Services: The Case of a Virtual Network of Ride Access Points in Germany', *International Journal of Innovation and Sustainable Development* 5.1: 80-99.
- , A.C. Bullinger and R. Reichwald (2011) 'Sustainability Innovation Contests: Evaluating Contributions with an Eco Impact-Innovativeness Typology', *International Journal of Innovation and Sustainable Development* 5.2-3: 221-45.
- Hockerts, K., and R. Wüstenhagen (2010) 'Greening Goliaths versus Emerging Davids: Theorizing about the Role of Incumbents and New Entrants in Sustainable Entrepreneurship', *Journal of Business Venturing* 25: 481-92.
- Horte, S.A., and F. Halila (2008) 'Success Factors for Eco-innovations and Other Innovations', *International Journal of Innovation and Sustainable Development* 3.3-4: 301-27.
- Mojza, E.J., S. Sonnentag and C. Bornemann (2011) 'Volunteer Work as a Valuable Leisure-Time Activity: A Day-Level Study on Volunteer Work, Non-Work Experiences, and Well-Being at Work', *Journal of Occupational and Organizational Psychology* 84: 123-52.
- Paech, N. (2007) 'Directional Certainty in Sustainability-Oriented Innovation Management', in M. Lehmann-Waffenschmidt (ed.), *Innovations Towards Sustainability: Conditions and Consequences* (Heidelberg, Germany: Physica Verlag): 121-40.

- Sat I (2011) 'Porträt: Das Modelabel Manomama stellt nachhaltig her und handelt auch fair', [www.sat1.de/ratgeber\\_magazine/ffs/video/clips/clip\\_gruene-mode\\_195869](http://www.sat1.de/ratgeber_magazine/ffs/video/clips/clip_gruene-mode_195869), accessed 23 November 2011.
- Schaltegger, S. (2002) 'A Framework for Ecopreneurship: Leading Bioneers and Environmental Managers to Ecopreneurship', *Greener Management International* 38: 45-58.
- Schaltegger, S., and M. Wagner (2011) 'Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions', *Business Strategy and the Environment* 20.4: 222-37.
- Siegrist, J. (1996) 'Adverse Health Effects of High-Effort/Low-Reward Conditions', *Journal of Occupational Health Psychology* 1.1: 27-41.
- Søndergård, B., O.E. Hansen and J. Holm (2004) 'Ecological Modernisation and Institutional Transformations in the Danish Textile Industry', *Journal of Cleaner Production* 12.4: 337-52.
- Stengg, W. (2001) *The Textile and Clothing Industry in the EU: A Survey* (Enterprise Papers No 2-2001; Brussels: European Commission).
- Taplin, I.M. (2006) 'Restructuring and Reconfiguration: The EU Textile and Clothing Industry Adapts to Change', *European Business Review* 18.3: 172-86.
- Van Vegchel, N., J. de Jonge, A.B. Bakker and W.B. Schaufeli (2002) 'Testing Global and Specific Indicators of Rewards in the Effort-Reward Imbalance Model: Does it Make any Difference?' *European Journal of Work and Organizational Psychology* 11.4: 403-21.
- Vila, N., and I. Kuster (2008) 'Success and Internationalization: Analysis of the Textile Sector', *Journal of Global Marketing* 21.2: 109-25.
- Wagner, M. (2009) 'The Links of Sustainable Competitiveness and Innovation with Openness and User Integration: An Empirical Analysis', *International Journal of Innovation and Sustainable Development* 4.4: 314-29.
- and P. Llerena (2008) *Drivers for Sustainability-Related Innovation: A Qualitative Analysis of Renewable Resources, Industrial Products and Travel Services* (Document de Travail n° 2008 – 22; Strasbourg, France: Bureau d'Économie Théorique et Appliqué).
- Yin, R.K. (2003) *Case Study Research: Design and Methods* (Thousand Oaks, CA: Sage Publications).

