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Dealing with the Textile Industry's Dilemma between Efficiency and Sustainability - a Resource-oriented Approach

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Abstract

Besides producing and marketing goods, businesses increasingly face another challenge: maintaining their long-term survival. In most cases, the businesses' use of resources is determined by the efficiency rationality. But, the exclusive pursuit of efficiency rationality sooner or later leads to a complete depletion of resources and endangers the survival of the company.

Our essay shows that textile companies are currently eating into their resource basis without investing sufficiently in securing their long-term resource supply. Most companies in the German textile industry are confronted with strategic problems stemming from scarcity of economic, social and ecological resources. We analyse strategic challenges that arise from shortage of economic (shrinking sales volume), social (legitimacy of purchasing practices) and ecological resources (natural resources used for fibre production). By analyzing the textile industry from a resource perspective we show, how the textile industry deals with these resources and highlight content references between seemingly independent strategic problems. The advantage of this approach is the integrative consideration of economic, social and ecological resources, leading to an understanding of the complex and circular interactions between a company and its environment. Some of textile industry's sustainability strategies targeted to secure resource supply were found to be ineffective, because they a) were not targeted at the bottleneck resource, b) did not consider the resources' laws of reproduction, or c) neglected to balance out efficiency and sustainability efforts.

The essay outlines a management approach that is strategically balanced between efficiency and sustainability – the two antipodes of textile industry's strategic dilemma. Following both rationalities - efficiency *and* sustainability - leads to innovative strategic solutions allowing a (re-)building of the textile industry's resource base. In this way, the core task of the strategic management, maintaining the company on a long-term basis, can be fulfilled a lot easier.

Keywords

sustainable resource management; textile industry; sustainability; efficiency; strategic management; system-environment-relationship

1. Introduction

Companies can be described system-theoretically as open systems, depending on the supply of resources provided by their environment (Ulrich 1968). Taking this as a basis, the strategic importance of resources has increasingly been the subject of discussions in resource-orientated management theory for a few years now (Schreyögg 1999). This can be attributed to the growing understanding that some of the environment's resources are not unlimited and also to the fact that there are no factor markets for many important immaterial resources. Furthermore, the internal resource basis of the firm gains a crucial importance against the background of an increasingly dynamic environment, as growing planning insecurity calls for means which can be used in a flexible way. A good example is the change of view within personnel departments. Here, the former factor of production "man" is meanwhile known as a "human resource", ever since it gets obvious that he is the key to future and yet unknown problem solutions (Remer 1997).

In order to prevent economic activities from eating up basic resources, companies have to use their resources in a sustainable way. Sustainability in this context is interpreted as an economic rationality, which is already successfully used by businesses when dealing with financial resources. Profits are only shown in the books when the invested capital has been transferred back into the company by write-offs. By using capital resources in such a sustainable way, the company´s ability to produce and invest remains intact (Müller-Christ 2001). In order to transfer the term "sustainability" into strategic management theory, Müller-Christ & Remer (1999) define sustainability as the ratio of supply to consumption of resources. The objective of a sustainable resource management is to maintain the company's resource basis.

In most cases, the operational use of resources is determined by efficiency rationality. But the exclusive pursuit of efficiency rationality sooner or later leads to a complete depletion of resources and endangers the survival of the company. Therefore, following efficiency rationality *and* sustainability rationality means an important stimulus for strategic management theory (Remer 2002).

Many companies in the German textile industry are confronted with strategic problems stemming from a scarcity of vital resources. This essay analyzes how the textile industry deals with a few selected environmental resources and shows content references between seemingly independent problems. The advantage of a resource-orientated perspective is the integrative

consideration of economic, social and ecological resources, leading to an understanding of the complex and circular interactions between a system and its environment. With its functional areas marketing (customers), procurement (suppliers) and environmental management (nature), most textile companies have three important interfaces with the environment. By using those three interfaces it can be shown, how managements' own rationality of decision making affects the strategic problems of the company. Moreover, a sustainable resource management leads to innovative solutions allowing a (re-)building of the economic substance. In this way, the core task of the strategic management, maintaining the company on a long-term basis, can be fulfilled a lot easier.

2. Theoretical framework of sustainable resource management

Sustainable resource management stems back to the economic-ecological theory of the firm (Müller-Christ 2001). The latter forms the company-environment-relations into mutual resource exchange relations. Within this perspective, the environment turns into a resource reserve that supplies the company with material and immaterial resources and enables it to carry out its tasks: the production of goods for sale. According to this theory, companies and their environment build a community that is orientated towards preservation of their mutually used resources. Building up and maintaining this community follows the sustainability rationality. Companies that actively secure supply of their resources, invest in their own survival at the same time.

A resource management is sustainable when supply and consumption of material and immaterial resources are balanced out. Just like the market is an institution that balances demand and supply; this resource community is the virtual place where resource consumption and supply are balanced out. For businesses this implies two different definitions of success (Hülsmann 2003): Companies have to be successful in the market (be profitable) and to maintain their vital resources (be economical).

According to Müller-Christ, Bastenhorst & Berry (2005) resource dependent systems have to manage three tasks in order to deal with their resources in a sustainable way:

- secure supply of resources on which they are depending
- maintain the functionality of the systems on which they are depending
- use their resources efficiently

The precondition in order to fulfil the first two tasks is knowledge about the resources laws of reproduction. Only a thorough knowledge about the way how resources are reproduced can protect the reproduction circle from disruptions. But, sustainable resource management can do

even more than to avoid disruptions. In order to stabilize their long-term resource supply, companies can deliberately invest in enhancing the functionality of the system that produces their resources (Müller-Christ 2004).

3. Describing the textile industry from a resource perspective

In the following, the German textile industry is described as a resource-dependent system. In this context, the term resource means all latent and/or abstract means which are needed by a company in order to carry out their tasks within their line of business.

3.1. The economic state of the German textile industry

As used here, the term “textile industry” encompasses all parties involved in the textile and clothing market and therefore comprises the textile industry, its retail trade and customers (Reckfort 2001).[1] The German textile industry has been on a downward trend for many years. This shows in diminishing profits, insolvencies and declining employment rates. This development effects both the textile industry and as well the textile retail. The reason for this ongoing decline is mainly the saturation of the German textile market (Grömling & Matthes 2003). The customers’ preferences have changed in the last years. Consumers prefer to spend their money on leisure, healthcare or telecommunications (Kerbusk,Tietz & Tuma 2004). Moreover, sales react very sensitively on economic developments. In years with little economic growth, the demand for textile goods falls disproportionately, without growing above-average during an upswing (Grömling & Matthes 2003).

Retailers doing business in the German textile market are mostly affected by this saturation. The overall spending for textiles only made up for 4,9% of the overall private spending of all households in the year 1998, which is down from 10,3% in 1960 (Grömling & Matthes 2003). Despite a decreasing demand, the supply of textile goods and the quantity of sales areas has constantly been increased. This led to an enormous increase of competition within the mass market.

3.2. Present strategies in dealing with resources

Companies in the textile industry can only survive as long as the resources which are needed to maintain their problem-solving ability are reproducing. If companies fail to balance out consume and supply of resources their problem-solving ability is endangered. The most obvious symptom for the current crisis in the textile industry is the diminishing influx of resources

from sales. The relevant *economic source*s for this resource stream are private households. The volume of industry-wide textile sales depends on the households' *propensity to consume* textiles as well as on their financial *ability to consume*. While the households' ability to consume can easily be calculated by their real income minus the costs of fixed expenses for life (it is equivalent to the households' discretionary income), their propensity to consume depends on various factors, e. g. general expectations about future economic development, interest in new fashion trends or preferences of the relevant reference group. Thus, the generation of consumers' propensity to consume is intertwined in a very complex process.

Textile companies numerous activities in the field of *Corporate Social Responsibility* show that well-known companies believe that an important *social resource* is scarce: their social legitimacy. In the last couple of years many companies have been publicly criticised for their suppliers' inhuman working conditions, especially in developing countries. Very often, the brand name of companies dealing with such suppliers has been damaged by such headlines. As social legitimacy has a controlling influence on resource streams from consumer and capital markets, companies are well aware of the necessity to invest into the maintenance of their social legitimacy.

There is also a looming scarcity in *ecological resources*, the latter being the basis of all added value processes in the textile industry. Also, this resource basis is endangered on the long run. Though cotton itself is a renewable resource, the soil in many cotton fields ends up heavily depleted and can hardly recuperate. Another important natural resource of the textile industry is oil, a non-renewable resource, already running scarce due to a high demand of the world market and its gradually decreasing output.

Owing to the current and future threats which stem from the scarcity of above mentioned economic, social and ecological resources, the following chapters will examine which rationality the textile industry pursues at the moment in dealing with vital resources and to which consequences this will lead.

3.2.1. Dealing with economic resources

Private households are the end-customers and therefore the crucial source of economic resources in the textile industry. The volume of sales generated from households depends on households' *propensity to consume* textiles as well as on their financial *ability to consume*. Currently, one can observe two prevailing strategies which are used to overcome a crisis that has gripped the textile industry 15 years ago.

- Pricing strategy: Sinking retail prices are to increase the households´ relative *ability to consume*. With growing numbers of sold products the industry hopes to increase turnover. This strategy is based on the micro-economic presumption of a rational demand function. An indicator for the high relevance of this pricing strategy is the falling average price in textile retail (BTE 2005, Metzger 2004). Discount fashion shops pursue their strategy of constantly low prices and managed to increase their market share in the last years. Other retailers like department stores mainly give discounts in order to lower their prices on a short-term-basis. This led to the fact that nowadays many fashion stores offer their products on reduced prices, even long before the actual sales season starts (Weber 2005).
- Dynamization strategy: Mainly vertically structured fashion companies offer an attractive and frequently varying range of goods, in order to increase households' propensity to consume textiles. By using the dynamization strategy, the traditional bi-annual collection cycle (spring/summer and fall/winter) is accelerated more and more, so that new collections are launched in increasingly shorter cycles, e.g. on a monthly basis (Steilmann 1998). Another characteristic of dynamization strategy is the acceleration of the value chain processes. While it takes 60 to 90 days in order to design and deliver a new fashion style in a traditional value chain, it only takes 12 to 15 days for vertically integrated companies like *Zara* (KPMG 2003).

Assessing both strategies with regard to the exchange relation between textile companies and households it shows, that discounts as such increase the households´ relative ability to consume, but do not necessarily lead to higher turnovers. Contrary to the assumption of many retailers that the households´ sinking ability to consume is the main reason for decreasing textile sales (Kern 2005), statistic data about consumer behaviour reveals that households continue to increase their consumption, but mainly in areas outside retail, e.g. telecommunications or leisure (Kerbusk et al. 2004).

Basically the *price strategy* does not take into account that consumers' *propensity to consume* does not rise proportionately with their *ability to consume*. The high discounts which set in earlier in the season as well, have negative repercussions on consumers' propensity to consume, as customers tend to lose their faith in retail's fair pricing. Relationship marketing has realized that building up customer trust depends mostly upon the continuity and reliability of a company´s performance, while enormous price fluctuations rather lead to a loss of customer trust (Belz 2005).

It can be empirically proved that German fashion customers are increasingly price-conscious (KPMG 2003). When customers focus on maximising their transaction utility, they can almost always increase their individual utility by changing to different rather than their usual shops and therefore profit from the competition in the fashion market. The consequence for the textile companies is a decreasing customer loyalty towards shops and brands, as well as a further increase of price competition (Rudolph, Schweizer & Kotouc 2005).

Compared to that, the low price strategy is more successful, as customers are meanwhile full of trust as far as discount fashion shops are concerned. This can be ascribed to their continuity of performance and, the coherence of their prices with their overall performance. Consumer studies show that consumers tend to judge prices less on the basis of short-term price reductions, but more on reliable prices which are valid for a longer period of time (Rudolph et al. 2005).

An evidence for the positive effects of the *dynamization strategy* is the market success of vertically structured textile companies which are able to generate a strong demand for fashion among their customers which can be ascribed to their superior problem solving ability (KPMG 2003). The key for this success is encouraging consumers' propensity to consume by offering a varied and attractive range of fashion.

Summed up, only the dynamization strategy can be interpreted as sustainable, because it enhances consumers' propensity to consume and thus, boosts the flow of economic resources towards the fashion companies. On the other hand, when using the pricing strategy, the relative ability to consume is increasing, but – as higher spendings on non-retail goods show – this does not represent the bottleneck. The success of discount shops results from a zero-sum-game within retail trade that materializing from companies fight for market share in the shrinking fashion market. But, compared to discounts that lead to a higher price sensitiveness of consumers and a sinking customer loyalty, the low price strategy builds up consumer confidence, which has a positive effect on consumers' propensity to consume.

3.2.2. Dealing with social resources

In order to show, how the textile industry handles its social resources, we take a closer look at the resource "social legitimacy". The social legitimacy of many textile companies has been questioned by non-governmental organizations (NGOs) many times in the last couple of years by publicly condemning the violation of social minimum standards in textile production. NGOs have a strong impact on the public opinion and therefore are a crucial source for the legitimacy of procurement activities within the textile industry. To maintain their legitimacy, many companies in the textile industry issued *Codes of Conduct* which are supposed to guarantee social minimum standards (Wick 2005).[2]

But the opinions about effectiveness of Codes of Conduct vary enormously. While many German textile companies consider their measures to be a successful contribution to a sustainable development in their supplying countries; NGOs claim that those codices are mainly image-boosting actions which so far did not improve the working conditions in any considerable way (Oxfam 2004).

The reasons why those codices only have such a small effect and fail to really improve the working conditions in the supplier countries vary, but can be basically put down to the fact that those ethically motivated initiatives fail to fit into businesses' efficiency rationality: Executives in the supplying companies are well aware that the purchasers' demands for low prices and tight shipping deadline have a higher priority than following the purchasers' *Codes of Conduct* (Oxfam 2004). The difficulties implementing those codices within the supplying chain can mainly be ascribed to the current decision rationality of the purchaser. This puts the supplier in a contradictory situation.

Choosing the suppliers is one of the most important competence tasks within the textile industry. The purchasers have to be able to change their suppliers on a flexible basis in order to react on current fashion trends. The freedom to choose one´s supplier is therefore a very important principle in the fashion industry and long-term business relations with one supplier are an exception (Back 2003). This leads to a high competitive pressure between the suppliers which undercut each others prices and delivery deadlines. The consequences of this enormous competitive pressure have to be endured by the employees of the suppliers. As there are often tight delivery deadlines, employees frequently face excessive overtime hours while their wages are hardly above the absolute subsistence level. Oxfam says that western textile companies follow two contradictory principles when it comes to dealing with their suppliers:

"Companies demanding faster, more flexible and cheaper production in their supply chain are undermining the very labour standards which they claim to be promoting (Oxfam 2004)."

This quote shows that ethically motivated measures like implementing Codes of Conduct which are supposed to function as a "corrective element" to efficiency rationality fail to work (Müller-Christ 2005). Therefore, the social legitimacy which depends on crucial improvements of the working conditions, can not be ensured. It is rather necessary to take further steps like active supplier improvement and management development programms implemented by the purchasing companies. This would lead to a resource-strategic consideration in favour of employees in the supply chain and also in favour of their advocates, the western NGOs.

3.2.3 Dealing with ecological resources

German textile companies typically concentrate on parts of the value chain that are located before and after the production process, e.g. design, supply chain management and marketing (Fissahn 2001). The actual manufacturing is performed by many different suppliers who in turn source from a large amount of specialized sub-suppliers. As a result, detailed information about environmentally sensitive steps in the production process is rarely available. This *black-box situation* is a main obstacle when introducing ecological process innovations into textile value chains (Back 2003). Due to these organisational barriers, caused by a highly differentiated and segmented value chain, environmental management of German textile companies generally addresses the following tasks:[3]

- Reduction of negative environmental impacts from corporate sites
- Development of ecologically friendly niche collections (ecologically optimized production processes)
- Reduction of CO_2-Emissions from transportation logistics
- Monitoring of supplier compliance to ecological minimum standards, especially to prevent use of harmful substances

In textile industry eco-efficiency is an important definition of environmental management's success (Inditex 2004, Otto 2004). During the last decade, eco-efficiency of transport logistics and corporate sites improved substantially. Nevertheless, environmental management's focus on economical and ecological win-win situations neglects textile industry's essential natural resources. Productivity and resilience of natural resources is limited; whereas worldwide demand of textiles is growing at rapid rates. A closer look at textile industry's two most impor-

tant natural resources– cotton and oil – highlights current shortcomings of environmental management.

Although cotton is a renewable fibre crop, world cotton yield is not able to keep up with the growing demand of textile fibres. Ideal conditions to grow cotton are in regions without frost, ample sunshine, high temperature (about 30 °C) and a dry climate (Eyhorn, Ratter, Weidmann, Baruah & Ramakrishnan 2004). During the last 50 years, cotton production area remained fairly stable (Lenzing 2005). In the future, driven by the essential needs of a growing world population, many fields that are presently cropped with cotton are expected to be allocated to food production (Paulitsch, Baedecker & Burdick 2004). In the last decades increases in cotton production were accomplished by higher yields per hectare (ICAC 2004), brought about by intensive use of agro-chemicals (pesticides, herbicides, fertilisers), irrigation and - recently - biotech cotton. But, negative ecological impacts of intensified cotton production in monoculture can be observed in many regions, e.g. near the Lake Aral, the Nil, the Indus and in Israel. In these places soils suffer from salinisation, soil erosion and decreasing soil fertility (Grundmeier 1996).

Unlike conventional cotton farming, organic cotton cultivation is able to conserve soil fertility and to grow cotton sustainably. By using crop rotation, organic fertilization and preventive pest management, yields can be as high as from conventional production (Grundmeier 1996). Additionally, the long-term production capacity of soil, that - in our terminology - is the source of the resource cotton, can be retained.

Nevertheless, world market share of organic cotton reaches only 0.2% (Otto 2004). Possible reasons for this are: weak end-consumer demand for textiles made of organic cotton, higher prices for organic cotton (15-25% above world market price) and higher complexity of supply chain management due to special buying and processing routines for organic cotton (Back 2003, Goldbach & Seuring 2003).

The most important non-renewable ecological resource in textile industry is oil which provides the raw material for production of synthetic fibres. At present, synthetic fibres have a share of 57% of the fibre market (Lenzing 2005). Furthermore, oil and other fossil fuels supply energy which is used for production, transportation and selling of textiles. In the near future, global demand of oil will increase more rapidly as supply. As a consequence, textile industry will be faced with erratic price increases, in particular for energy-intensive processes, such as fibre production, textile finishing and air transports.

Supply of oil becomes increasingly scarce; whereas textile industry's oil dependency continues to grow. To satisfy global fibre demand – which has risen from 39,9 million t (1993) to 57,7 million t (2003) – global production of synthetic fibres increased from 20,3 million t (1993) to 35,1 million t (2003) (IVC 2004). In the future, synthetic fibres will become even more important. Forecasts predict that global fibre consumption will increase at annual growth rates between 3-4% (Lenzing 2005). As production of cotton and other fibres will not be able to keep up with such growth rates, market share of synthetic fibres is highly likely to increase.

In order to reduce their dependency on oil, textile companies need to invest in substitute materials for synthetic fibres and in resource efficient production technologies. Oil consumption for production of synthetic fibres could be reduced significantly by industry-wide recycling networks that employ synthetic fibres from used textiles as raw material for the production of new fibres (Grundmeier 1996). Yet, recycling of synthetic fibres plays only an insignificant role in clothing industry. Diekheuer & Hasselmann (2001) estimate that only 2% of textile waste materials in Germany are recycled in a closed loop process. Reasons for low acceptance of recycling processes are high recycling costs and increasing organisational complexity for textile companies.

In conclusion, it can be said that German textile companies' current efforts to preserve their ecological resource basis are inadequate, because investment in supply and productivity of their two most important natural resources - cotton and oil - is very low. Up to know, consumers are not calling for value-chain processes designed to preserve natural resources, and commodity markets signal continual availability of resources. However, on a mid to long term basis, textile industry will experience increasing competition for natural resources from other industries that might result in shortages in supply.

3.3. Conclusions concerning textile industry's strategies in dealing with resources

The analysis of textile industry's dealing with selected resources illustrates that solely following the efficiency rationality re-enforces effects that threaten companies' long-term survival. Single interventions targeted to secure supply of strategic resources often lack in efficacy because they insufficiently consider the resources' principles of reproduction and/or do not fit into the dominant efficiency rationality. The last three chapters examined textile industry's

dealings with economic, social and ecological resources separately. Our next step is to analyse the interplay of companies' strategies regarding resources in these three areas.

German textile companies serving the mass market compete mainly on fashion and price. The current situation of intensive competition in the apparel market forces companies to progress on their internal efficiency. As the low-price strategy brings gross margins under pressure businesses will increase their efforts to keep costs down. Furthermore, companies are striving to increase speed and flexibility of their supply chain processes in order to increase their ability to adapt to quickly changing fashion trends.

As shown above, the two major ecological resources, cotton and crude oil, are not managed sustainably, because textile industry utilizes these resources without investing sufficiently in regenerating capabilities (cotton), in supply of equivalent substitutes (oil) or in efficient use of resources (e.g. recycling technologies). It can be expected, that textile companies' prevailing marketing strategies will further accelerate consumption of natural resources, and thus, countervail their ecological objectives.

Price-cuts force businesses to sell more products in order to keep their sales at least stable.[4] Consequently, throughput of natural resources in relation to sales increases. The acceleration of fashion cycles amplifies this trend, because frequently changing fashions result in an "artifical obsolence of resources" (Steilmann 1998). As garments quickly fall out of fashion consumers will renew their wardrobe more frequently. At the same time, it is highly likely that businesses increasing pressure to cut costs will result in lower investments that are targeted at securing long-term supply of resources. As many textile companies' economic survival is at stake, they will give investments that are not directly focused on efficiency gains low priority. Thus, textile industry's current business strategy unintendedly accelerates depletion of strategic natural resources.

The outlook on textile industry's social resources shows a similar picture. Efficiency and sustainability rationality clash with each other without any mediation. To supply chain management, increasing focus on efficiency gains means shorter production lead times and lower purchasing prices. This puts suppliers and their workforce under growing pressure. Due to weak institutions in many garment exporting countries and suppliers' often poor production management, this pressure is passed on to the weakest link in the supply chain: the workers (Oxfam 2004). For this reason, social legitimacy of German textile companies that are close to the public eye will increasingly be at stake.

Even though, this chapter only cursorily outlined the complex effects of business strategy on ecological and social resources, it was shown that efficiency alone does not suffice to maintain company's long-term survival. Strategies targeted at efficiency gains exclusively, often result in increased stress on vital resources. As shortages in resource supply can hit the company rather unexpectedly (e.g. damages of the brand name, rocketing oil prices) management needs to increase their range of options, in order to reduce risks that threaten company's survival. Exclusively following efficiency rationality restricts managements' range of options, because provisions aimed to maintain long-term supply of resources often hamper efforts to increase efficiency. Therefore, textile industry's current situation can be described as "efficiency trap".

4. Strategies to manage resources sustainably

Modernising management rationality is an important prerequisite for maintaining companies' long-term survival. Remer (2002) shows that the tension between efficiency rationality and sustainability rationality can be tackled by corporate strategy. Companies that rely on the same resource can find cooperative sourcing solutions to secure their resource supply; whereas, at the same time, both firms continue to compete fiercely in marketing (Nalebuff/Brandenburger 1996).

Over the past years, first advances of sustainability-driven cooperation could be observed in textile industry. The two well-known outdoor brands *Vaude* and *Sympatex* jointly initiated the ECOLOG-Project in order to reduce their oil consumption. The ECOLOG-Project is a closed recycling cycle for polyester fibres, starting off with recycling friendly design of outdoor garments. By using pure polyester fibres as raw materials the recycling process is economically viable and runs without quality losses. Retail plays a key role in the ECOLOG-Project as customers can bring back their used garments to their vendor, who in turn initiates the return shipment to the fibre manufacturer (Morana and Seuring 2005). However, on a larger scale, recycling is still economically not viable as most clothing articles are manufactured of fibre mixtures. To foster recycling of synthetic fibres textile companies have to constrain themselves to materials that are suitable for recycling. Furthermore, they need to invest in improved recycling technology and in the build-up of an industry-wide recycling network.

The two Swiss companies *Coop*, one of Switzerland's leading retailers, and *Remei*, a yarn manufacturer and retailer, teamed up to manage the resource cotton sustainably. The partners jointly produce and market an ecologically optimized clothing collection that is manufactured

of organic cotton. Key part of the cooperation is a long-term and exclusive agreement of both partners to cooperate in the field of organic cotton. Based on this agreement, *Remei* was able to enter into long term purchasing contracts with cotton farmers in India and Tanzania. Given a long-term perspective the cotton farmers were willing to turn to organic cultivation, even though, this involved lower yields and earnings during the obligatory switching period from conventional to organic farming (Meyer 2001). In 2004 *Coop* sold 1 million pieces of clothing that were made from 1.000 t organic cotton.[5]

In 2002 a group of German textile retailers and manufacturers - KarstadtQuelle, Otto Group, Peek&Cloppenburg, Metro, C&A und Steilmann - initiated a public-private-partnership project aimed at protecting labour standards.[6] Throughout the project that is supported by the German government and the GTZ – a German organisation that conducts international development projects - they audited and partly certified suppliers from 15 countries on labour standards. Unlike in many other auditing schemes, suppliers were actively coached on how to meet the standard and how to improve their management skills. Thus, the project might be a first step to establish a closer connection between textile companies and their suppliers, which is a prerequisite to jointly foster their economical and social objectives.

In order to solve the problem of decreasing propensity to consume, textiles businesses can offer new solutions to solve fundamental problems of their customers. Just as the dynamisation strategy enhances company's ability to react quickly to new fashion trends, textile industry can tackle further unsolved problems in the market. This could be innovative solutions for fitting problems (mass customisation), textile care (nanotechnology coatings) and problems of an ageing population (comfortable *and* fashionable clothes). Generally, it can be said that product quality is key to increase customer satisfaction and propensity to consume (Herrmann, Huber & Wricke 2003). A trading-up policy increases companies' profitability and allows also for measures to protect natural and social resources. A prerequisite for successfully implementing a quality strategy is to improve customers' ability to evaluate quality. By deliberately investing in customer competence, businesses can increase their customers' ability to judge quality, and thus, strengthen customer retention (Hennig-Thurau 1999). This kind of relationship marketing is also able to stabilize the mutual exchange relationship between textile companies and their critical source of economic resources – the customers.

5. Conclusion

Our essay showed that textile companies are currently eating into their resource basis without investing sufficiently in securing their long-term resource supply. We analyzed the textile industry's strategic situation from a resource perspective and highlighted acute and foreseeable shortages of the resources "propensity to consume" (economic), "social legitimacy" (social), cotton and oil (both ecological). Some of textile industry's current strategies targeted to secure resource supply were found to be ineffective, because they a) were not targeted at the bottleneck resource, b) did not consider the resources' laws of reproduction sufficiently, or c) neglected to balance out efficiency and sustainability efforts.

The advantage of a resource-orientated perspective is the integrative consideration of economic, social and ecological resources, leading to an understanding of the complex and circular interactions between a company and its environment. As shortages in resource supply can hit the company unexpectedly management needs to increase their range of options, in order to reduce risks that threaten company's survival. In contrast, exclusively following efficiency rationality restricts managements' range of options.

To solve the problem of securing long-term resource supply, we conceived sustainability as an economic rationality. Sustainability rationality *and* efficiency rationality are two definitions of success which can not be put down to each other. Companies have to meet both challenges: being competitive and securing survival. Some textile companies tackled this dilemma successfully by balancing sustainability and efficiency. Although being competitors in the marketplace they cooperated in supply chain management to order secure influx of vital resources.

Notes

[1] This essay deals with the clothing market in the first place, whereas the market for technical textiles and home textiles is neglected.

[2] Wick (2005) gives an overview of German textile companies' Codes of Conduct.

[3] Based on sustainability reports of *KarstadtQuelle AG, Otto GmbH & Co. KG, Metro AG und H&M Inc.*

[4] Between 1999 and 2004 sales of women's and men's clothes decreased by 6.9%. In the same periode the amount of products sold was down by only 1.3%. See http://www.twnetwork.de/upload/HMLMarktEntwicklung.pdf, 12th December 2005.

[5] Please see also http://naturaplan.coop.ch, 29th August 2005.

[6] For more information see http://www.social-standards.info/, 14th December 2005.

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