Between Vertical Integration and Modularisation: Crossing Traditional Boundaries in the Strategic Management of Value Chains

ABSTRACT

This paper empirically examines the network structures chosen by German clothing producers as a way to adjust to changing market conditions. Field actors frequently claim that the partners in the value chain are now forming "vertical systems" without actually being vertically integrated to counter competition from the "new Verticals", but little is known empirically as to how such vertical systems are actually formed, how traditional boundaries are crossed, how they are managed and what kind of relationships are involved. By looking at in-depth qualitative data from ten successfully adapted clothing firms operating in different market segments, this paper presents some initial insights regarding these questions.

INTRODUCTION

The changes in the global economy are reflected in how the creation of value is organised and governed within it (Gereffi 2003). In the face of volatile markets, global competition for costs and ideas, and unstable institutional environments, firms are continuously restructuring their value chains and re-framing their boundaries in order to meet the ever-changing demands and conditions. Network structures seem to be particularly suitable to increase organisational flexibility and adaptability, and the "modular production network" has replaced the vertically integrated firm as the dominant industrial design (Faust et al. 2004). It is no longer enough to have the "right" strategy or the "right" product (if it ever was) – managers today have to meet the double challenge of creating enough stability to function in a volatile environment, whilst at the same time maintaining their organisation's ability to respond and avoiding an organisational or strategic lock-in.

Not only the driver of industrialisation, but also the first truly "global" industry, the textile and clothing industry has been operating under the above conditions for decades. Due to its easily dividable value chain, it has developed first regional and then global network structures long before the term "globalisation" has become an everyday expression, and in many ways the textile and clothing industry has always anticipated the developments affecting other industries. In a long and ongoing restructuring process with many casualties, the survivors in the textile and clothing industries of the industrialised countries are those firms that can somehow handle the simultaneous demands of low costs, speed, and innovation – and the way these firms organise their value chains may once again be of interest to those studying processes of industrial change today[1].

Whilst the story of the clothing industry is frequently told as one of comparative labour cost advantages and is used as a prime example of a global "race to the bottom" – production facilities and increasingly other functions are outsourced to developing countries, core competences of the industrialised world are "hollowed out" as these countries learn, imitate and upgrade, protectionism is frequently seen as the only sheet anchor to at least retain some jobs in the industrialised world (Rivoli 2005) – it can (and should) also be told as a story of successful management, innovation, and organisation. A closer look at the strategic behaviour of firms (e.g. Berger 2006) reveals that comparative advantage is not necessarily gained simply by reducing costs, but by skilfully managing supply chains, thus opening up multiple areas for strategic agency even in a declining or mature industry where exit is frequently seen as the only option (Harrigan/Porter 1983). Whereas famous cases such as Benetton (e.g. Camuffo et al. 2001, Mintzberg et al. 1995) or Zara (e.g. Berger 2006, Ferdows 2004) are quite well studied, little is known about how the large number of small and medium-sized firms in the industrialised world has restructured and how these firms are now involved in the governance of global production networks (with the notable exceptions of Courault/Doeringer 2007, Lane 2007, Lane/Probert 2006).

The following discussion will focus on the clothing industry and the German case only, as there are significant differences in structure and development between the clothing and the textile industry, as well as between different national systems (Lane/Probert 2006, Faust 2004).

TRANSITIONS IN THE MANAGEMENT OF VALUE CHAINS IN THE GERMAN CLOTHING INDUSTRY

The traditional clothing value chain was characterised by a clear division of labour between industry and retail and a strict two-season cycle of production. This landscape has over time been disrupted as frequent fashion changes have become the rule and markets have become more differentiated (Dicken 2007, Steffen/Ahlert 1999). With actors such as

ZARA and H&M setting the pace, these so-called "new Verticals" have become a new competitor and role model for both retailers and producers (Faust 2005). The power structure has shifted across the supply chain to the large retailers (Wortmann 2003, Camuffo et al. 2001, Gereffi 1999, Gereffi/Korzeniewicz 1994), and former manufacturers are severely struggling with the simultaneous demands for low costs and quick response times in meeting retail orders.

Along with this development, the traditional boundaries between production and retailing have gradually become blurred as retailers are increasingly involved in the production circuit sidestepping German manufacturers (backward integration), and clothing producers themselves have entered the retail market to escape dependency from retailers (forward integration). Parallel to this seemingly hostile process, however, traditional retailers and (particularly branded) producers are establishing closer links to meet the competition from the verticals by forming a "vertical system" without actually being vertically integrated themselves. Such a vertical system comes close to what is called a strategic network (Sydow 1992, Jarillo 1988) – despite the long history of a fragmented value chain still virgin soil for an industry traditionally characterised by fierce competition and great reservations about collaboration.

Strategic networks consist of legally independent but usually economically dependent organisations cooperating to realise competitive advantage by focusing on and then integrating their respective core competences within a strategically governed network. They are characterised by one or several focal organisations leading the network by defining strategy and markets and by coordinating the network partners. Strategic networks are thus frequently distinguished from regional networks or industrial districts characterised by more informal exchange relationships of small and medium-sized firms clustered within one region (Sydow 2001/1992). The now frequently talked about "modular production network" (e.g. Sturgeon 2002) would be one type of strategic network, as it is characterised by lead firms externalising their non-core functions to increasingly capable "turn-key" suppliers. It is, however, not the type of network required to form a vertical system and more representative of the traditional textile and clothing value chain with highly codified interaction and interchangeable, arms-length relationships (Faust et al. 2004).

Drawing on the case of Benetton, Lorenzoni and Baden-Fuller (1995) argue that in order to create value through flexibility and innovation, organisational networks must be guided by a strategic centre. In such a network, partnerships extend beyond simple subcontracting relationships and strategic centres build up their partners' ability and competencies to enhance their creativity. Strategic centres share their business ideas and strategic intent across the multiple levels in the value chain and manage to combine specialisation with large-scale integration of capabilities through horizontal and vertical linkages. They develop a sense of trust and reciprocity in the system and think of their partners as an integral parts of their organisation. In establishing such long-term and holistic relationships, they are able to avoid the common risks of partners exploiting information and turning into competitors.

This of course highly idealised description nonetheless captures many of the aspects required by a vertical system, but also fails to mention some of the core challenges. Vertical systems are steered from the "point-of-sale" (POS) in order to quickly respond to fashion changes and to be able to meet demand. Manufacturers therefore have to learn to think like a retailer and a consumer, and are dependent on the POS information from the retailer. Retailers, on the other hand, depend on the manufacturer's knowledge about the production process and its capacity to deliver quickly, including so-called "never-out-of-stock" (NOS) programs. Despite this mutual dependency, it is the big buyers and dominant retailers who usually "call the shots" in clothing production (Dicken 2007). At the same time, branded producers have themselves moved into retail by opening own retail stores, and competition and scepticism between the two groups is fierce. It also is by no means clear which part of the value chain should be the strategic centre of such a network, as both retailers and manufacturers could take on this role (Steffen/Ahlert 1999). Overall, delivering a more complex product range in shorter cycles is an organisational challenge for both retailers and producers, as usually a wide range of suppliers from different regions has to be integrated and new technology has to be implemented in order to manage such a complex global production network. This implies big changes in competences, attitudes, and organisation on both the retailers' and the producers' side.

It is typical for clothing and retail organisations to be simultaneously embedded in several types of networks and relationships – regional and global, arms-length and reciprocal, long- and short-term – and the question arises of how these are managed. Little is known empirically about how this transition from a clearly fragmented value chain to a genuine partnership is taking place. What are the transition points in sharing knowledge and establishing new competences? How is the interface between retailers and manufacturers organised? What are sources of inertia on both sides? How are the demands for creativity and innovation reconciled with the need to avoid escalating commitments and dependency? Is there a strategic centre and, if yes, who is it? How are risks and responsibilities shared between the partners? How are partners selected? How stable are the relationships and what are they based on? How does trust develop despite the unequal distribution of power and competition? How is value created and captured along the value chain despite the risks of imitation and upgrading? In order to address these questions, it is necessary to take up and organisational perspective and to study the changes in value chain strategies and management over time.

DATA AND METHODS

The sample of the present study is taken from a larger study on the German clothing industry analysing the transition of a variety of firms from the time of high demand and mass production after World War II to the present environment of shrinking demand and severe competition in terms of cost, speed, and innovation. Disregarding the large number of firms that has failed to adjust, the present analysis will focus on a sample of firms that have adapted successfully[2] to the changing competitive environment, but by following different strategies with respect to their product markets and value chain organisation. The sample was not designed to follow Yin's (1994) literal or theoretical replication logic. Rather, it was designed to maximise the variety of alternative strategies to be able to get a more complete picture. Table 1 below displays the sample for the present analysis:

Case	Founding	Product	Brand	Ownership	Turnover 05/06
aTEX	1948	Nightwear	Private Label	Family	9 Mio. €
bTEX	1934	Women's Outerwear	Own Brand	Investor	165 Mio. €
cTEX	1893	Underwear	Brand/License	Family	8 Mio. €
dTEX	1938	Outerwear	Brand/License	Family	70 Mio. €
fTEX	1895	Outerwear	Own Brand	Family	173 Mio. €
gTEX	1920	Outerwear	Own Brand	Family	92 Mio. €
mTEX	1928	Underwear	Own Brand	Family	70 Mio. €
oTEX	1951	Men's Outerwear	Own Brand	Family	84 Mio. €
sTEX	1948	Men's Outerwear	Private Label	Family	30 Mio. €
wTEX	1932	Outerwear	Own Brand	Family	70 Mio. €

Table 1: Sample of successfully adapted firms

All but one firms are still family-owned, and all of the firms were founded either before or shortly after the Second World War and thus had to go through a transition period. Three of the companies, aTEX, cTEX and mTEX, produce nightwear or underwear and belong to the knitwear sector. All the other companies produce outerwear, either specialised for men or women or serving both market segments. Two of the firms are so-called "private label" producers – selling garments to retailers without a brand identity, so the retailer can use his own brands on the products. This market segments has faced the harshest competitive pressure given that the value added is more difficult to define for non-branded products. Many of the other firms have started off as private-label producers after the war, but have then upgraded and established a brand image. Two of the companies have done so by taking on licensing agreements with famous designers or established brands[3].

Data come from about 40 qualitative in-depth interviews I have conducted with high-level executives in companies and business associations, with ministers, trade union representatives and other field experts. Whilst the focus was on traditional clothing organisations, some retailers and textile firms have also been contacted to complement the data set. Information has been triangulated with a document analysis of the major trade publication, *Textilwirtschaft*, since its inception in 1946 and a full archival analysis of the articles published on each of the cases (where available) in the major German newspapers and some local newspapers of the main clothing regions.

All the interviews were fully transcribed and coded with the Atlas.ti software. For the present analysis, several dimensions of network organisation have been selected from the literature and cases were compared along these dimensions. According to Faust (2004), network types can be distinguished along the dimensions of power distribution, division of competences and functions, and the standardisation of intersections. Further issues are the questions of whether trust emerges or is a prerequisite, and how the choice of locations is linked to the overall strategy, particularly with respect to Eastern European countries as a close-proximity location. Windeler (2003) proposes to classify networks according to their governance form (hierarchical or heterarchical), the type of strategy followed (deliberate or emergent, explorative or exploitative), and the embeddedness in time and space (continuous or discontinuous, global or regional). Finally, Sturgeon (2003) distinguishes four types of risks that need to be balanced in modular production networks: the intellectual property risk, the market entry risk, the inventory risk and the asset specificity risk. Whether or not the networks in the clothing industry are modular, all of these risks are an issue and need to be addressed.

Of course, all these dimensions are not only relevant for the relationship between producers and retailers, but also for the relationship between producers and their suppliers ranging from suppliers of fabrics to suppliers of ready-made products. Finally, an issue neglected by the modular production network literature, the embeddedness of the organisations in the financial system and regulatory institutions should be taken into account if one wants to look at the full production circuit (Dicken 2007). These dimensions were used for organising the information and were complemented by the additional dimensions of partner selection and the general failure risk of a collaboration due to quality or personal issues. This information was then used to address the questions posed at the beginning of this paper. The preliminary results of this analysis will be discussed in the following section.

DISCUSSION OF RESULTS

Network structures

In order to get an idea of the kinds of networks the firms in the sample were involved in, I initially looked at how the individual firms described themselves in terms of their core function and identity. For some of the branded "producers", it is clear that they are no longer a producer, but a retailer, or – as one person said – a "manipulator"[4].

> *"Even though people outside might still perceive us as a producer because of our high prices, bTEX actually is a retailer today. Of course, we still have a lot of production know-how compared to these new brands that have never owned a sewing-machine, and we have kept our technical staff. We do not just buy full-package products, we develop our products in-house, we set the quality standards, we specify all of the inputs, starting with the sewing thread, and a large number of technicians controls the production process by practically visiting each location almost once a week." (060719_T_U_wTEX: 52-63)*

> *"We are no longer producers, if you like. In the truest sense of the word, we are not. People in the industry now use the term 'manipulator'. A manipulator is someone who pretends to produce, but lets other produce. That was the idea. However, we still consider ourselves a producer because we do still produce the patterns ourselves, and we always buy the newest machines to keep our technology know-how up-to-date and, most importantly, to be able to consult our partners." (070226_T_U_oTEX: 403-409)*

It is interesting to observe that these two firms, who follow a similar high-quality brand strategy albeit with different products, struggle to clearly define their identity. Both have opened up their own retail stores in recent years and have shut down all of their own production facilities. At the same time, they are still much more than a retailer and are very aware of this. They possess a very complex set of skills and competences ranging from technological know-how to design, from the skill of managing a web of partners supplying high-quality products on short notice to the knowledge of how to sell and market these products. This knowledge is shared within the network. Both cases have invested heavily in upgrading their production partners, and have established long-term relationships, in many cases lasting more than 20 years. The knowledge transfer is therefore very specific, and the networks are much more than a "simple" modular production network with codified transactions and easily replaceable relationships.

An additional aspect mentioned in the second quote is the notion of being a "consultant" to the partners. This consultancy function is not only directed towards the suppliers, but just as much towards the retail side.

> *"We have two partners: the production partners and the customer as a partner. Both need the same amount of attention. And without the one, you cannot serve the other. Without the other, you cannot serve the one. Here we have a stalemate position." (070227_T_U_cTEX: 793-797)*

In contrast to oTEX, however, cTEX considers itself as a service provider rather than a consultant, which is probably related to the fact that cTEX has given up all production functions and only relies on full-package supplies now.

> *"Besides being a producer – this is how we see ourselves – we have become a service provider. We invest much in services. Over the last 12 months, we have invested millions of Euros in logistics, as this will gain even more importance in the future. Serving the customers is of utmost importance. The retailers can no longer afford big inventories. They want to have a new delivery every day. All of our salesmen are equipped with PDAs, so they can see exactly which order can be delivered when." (070227_T_U_cTEX: 1006-1012)*

It is still difficult to say, then, what kind of network logic such a vertical system follows and whether there is a clear strategic centre. In one sense, these very skilled, branded manufacturers could be seen as a strategic centre as they are the most knowledgeable part in the network and in that sense most capable for steering the entire value chain. In another sense, however, the networks are by no means as close-knit as, for example, in the Benetton case, where the entire value chain is geared towards Benetton's strategy. It is still somewhat modular, as customers and suppliers can change quickly (even though they frequently do not), and as both have several other customers and suppliers themselves and are thus involved in other networks. This lack of clarity is expressed in the somewhat mixed-up identities of the former producers that have now turned into designers, supply chain managers, consultants, service providers, and retailers all in once[5].

To some extent, the private label producers are less affected by this question of identity. They have, of course, also gradually reduced their own production sites in favour of outward processing trade (OPT)[6], but their main objective of providing good quality products as cheaply and quickly as possible to retailers has not really changed over time, and they have not moved into retailing themselves. They have benefitted from being among the few survivors in this segment, as their customers still need a home supply base for small-batch or short-notice orders to complement their direct buying activities in the Far East. Partners in their supply chain are replaced more frequently, and transactions are more codified than in the branded segment. The private label producers are thus more clearly a part of the traditional fragmented value chain rather than a part of a strategic network, at least from their perspective.

An outlier case in the present sample would be mTEX, a high-quality knitwear producer that has not transformed its vertically integrated structure into a network structure[7]. This vertical integration only extends to the production side, however, and mTEX has not integrated the retail function. mTEX thus has not really transformed its identity, but has built on its core competence of technological innovation, which is much in line with the traditional German model of production.

> *"Knitting takes many components. Thickness of the thread, the composition of materials, and the knitting technique. It is, perhaps, the secret of the knitter. Not everyone is doing it the same way. (...) And we have engineers to design that. This has always been our core focus: Always creating new and innovative quality products for the market." (070213_T_U_mTEX: 120-132)*

They are very successful, but also note themselves that there can no longer be a large number of firms like them operating in the top segment. mTEX owns three production sites in Southern and Eastern Europe, and is thus not really part of any network structure.

Locations and strategy

The locations and strategies chosen very much depend on the segment in which an organisation is operating. As already mentioned above, the private label producers maintain their position by being faster, more flexible, and more reliable than the Far East suppliers, and for that reason they exclusively source from Central and Eastern European (CEE) countries or Turkey. In the women's wear sector, where frequent fashion changes and the need to respond quickly are more important than in the men's wear sector, the organisations are also more likely to source from CEE countries. bTEX, the only exclusive women's wear producer and the second largest firm in the sample, almost exclusively sources from CEE (with the exception of a small percentage of full-package supplies from the Far East) and even from Germany via OPT – which is unusual for a firm this size. Where a premium is placed on technological innovation such as in mTEX, much of the activity is kept in-house (in this case, 95% of the knitting is still done in Germany).

Most of the branded producers follow a mixed strategy, in that they combine the cost advantage of Far East locations with the flexibility of CEE locations.

> *"Even though Croatia has by now become very expensive, it is the supplier that knows us best. He knows everything, he can do everything, and he is incredibly fast. The company can do new orders on top of old ones if the delivery date demands it. This means we can attract a lot of new orders, because we can be so fast in Eastern Europe." (070226_T_U_oTEX: 39-45)*

Value creation and innovation

Because all of the large retailers now themselves buy full-package supplies via agents in the Far East, the German clothing companies need the add value in other areas than price. When asked about what they would describe as their value added, most of my interview partners referred to a combination of factors: collection, innovation, quality control and reliability, NOS packages and other services for retailers, and quick response times are amongst the most frequently mentioned.

> *"Of course, we are very strong on marketing. But, like I said, no customers without quality, and no marketing without customers. It's a cycle, and every stage needs some meat, and only when the whole package is right, it's ok. What should I do with the best shirts, if I cannot deliver them on time? Or if the customer doesn't know that they are the best shirts? It doesn't work." (070226_T_U_oTEX: 534-544)*

Interestingly, only one of the organisations – one that has been producing as a licensee for a French designer brand since the 1970s and recently bought all the rights to brand – exclusively stressed the fashion aspect:

> *"Of course we have changed. We now think as a brand, and no longer as 'company dTEX'. We think as a brand. And this is the only core competence I can think of, there isn't a core competence of dTEX, it is merged with the brand. Our core competence is to sell likeable fashion with a French flair. Of course, the quality aspect remains important. But in the early days – my grandfather wanted to make a nice suit. Of course we still want to do that, but that's not important. Also because of the buying behaviour of our customers. (...) In the 90s, they were still enthusiastic about the collection. Now, they just look at their lists (...). Before, buying agents were tailors or specifically trained; today they are all business administrators. It's a different selling process. Marketing is important." (070518_T_U_dTEX: 322-351)*

For the other firms, brand and marketing has definitely become more important, but much emphasis is still placed on quality and innovation.

Value creation for the majority of firms takes place at several points within the network. First, many – even the private-label producers – stress the value added by the fabrics created and chosen. At this first stage in the value chain, they collaborate closely with textile firms in order to create unique fabrics for their collections. This has become necessary as the textile industry has itself been shrinking, and most of the creative work now comes from the clothing firms.

> *"We make 90% of our designs ourselves, because the textile industry doesn't really exist anymore and we cannot find the things we need. (...) Then you can either despair, or you can do something. And this is how we started to create our own designs. You can do this on the computer now, you can compose the designs, you can select the colours. We can then print out templates for our suppliers to get samples from them. (...) We also attach great importance to the fabric. There are not many fabric producers left in the world, but we try – probably more than others – to win them over to our side and offer the assistance of a German technician to produce better fabric, which initially is thought for us - but of course, we cannot stop them from changing their entire production. It gives us a competitive edge at least for a while. (070226_T_U_oTEX: 437-462)*

> *"We also develop a lot of our own fabrics. We thus do not just go to the fair and buy a fabric we like, but we say 'this checked pattern has too much red in it, we do not like so much red'. Or we sometimes also demand changes in the quality. We still buy a lot of fabric in Germany. (...) And then Switzerland, Italy for the blouses etc." (070307_T_U_bTEX: 205-217)*

Second, the ability to reliably sell only top-quality products by using strict quality controls at each stage of the value chain is also always mentioned as an area where value is added. The quality of the fabric is checked, the production process is controlled at each stage, and even the finished goods are tested before they are brought onto the market.

> *"Some go to Asia and buy in Asia. But then these firms have the same sources as their customers, so somehow they have to manage to be even cheaper. We are in Turkey. How should the buying agent fly to Turkey and work on the design, check the quality? It is not his trade. We are the producers, we know what is important, we can say: 'This is how this button-facing should be sewed'." (070308_T_U_aTEX: 441-449)*

> *"When we buy fabrics from all over the world, we check samples in our laboratory before sending the fabric out to the manufacturer. (...) In all of our supplier firms we have our own staff. Not just standing at the end of the assembly line and mustering the final shirts, but accompanying the process from the order to the cutting, the sewing, and the finishing." (070226_T_U_oTEX: 321-326)*

> *"We still keep our inventory here, because we really pay attention to the colours, to buttons*

and to accessories to ensure they are compatible. (...) Is it the right colour, the right quality? (...) Sometimes we even make wearing tests. One of our employees will take home a pair of trousers for the weekend and wear it when cleaning or whatever. To see how the product reacts." (070307_T_U_bTEX: 440-450)

In order to keep control over the production process, German clothing firms have been careful to hold on to their production know-how, but also to pass this know-how on to the suppliers. They have invested much in their partners, well aware that these relationships might end after a few years. As one of my interview partner states:

"But we need the technology to be able to consult outside. Even if it is only for quality improvements. An old machine may need a changeover or may need to be replaced. And this is also a precondition for selecting or partners. They have to be prepared to do this. And if we look at our partners – many of them also work for other customers, many of them very well-known, because they have improved so much by working with us. That's the way it goes." (070226_T_U_oTEX: 421-427)

This competence, usually supported by the clothing firms' own pattern making facilities, naturally opens the way to process innovation and cost control:

"Of course, we have production facilities here for making patterns and the initial batch. Then the technicians come and say, 'well, this looks great, but of you change three millimetres here or there, we can cut production time by one minute. And it would be more comfortable to wear.' So we have a discussion forum between the technicians and the creative. (...) This way we can say we don't need 65 minutes to produce these trousers, but 38. So if we give it to Romania, they should also be able to make it in 38 minutes. And if they say, '30 minutes? We need 70!' then I am sending a technician to modernise the factory." (070313_T_U_gTEX: 530-554)

The third area for adding value are the services offered to the retailers. These range from the speed, quality, and reliability aspects already mentioned to the idea of forming a vertical system outlined in the introduction. One way of achieving such a sales partnership is via shop-in-shop systems[8]. Shop-in-shops are retail areas rented out to branded producers, who are then solely responsible for managing the sales and distribution processes. For the brand, this means gaining valuable research knowledge and a more focused and visible presentation of their products to the end customers. For the retailer, it means higher profits from a systemised area (Lutterbach 2006). This development, of course, again shifts additional responsibility to the producer – but all of my interview partners that have a shop-in-shop system said they benefitted from the additional control and flexibility. This opening up towards the retail side and the joint planning process makes it easier for both partners to address customer needs and to reduce risks.

"We invite the buying agents of our top customers for regular panel talks. We show them our collection, and then we get a sense of: Do they like it? And of course they are eager to be well ahead and to know who will offer what: So we have five buying agents together, and they think: Well, am I really going to offer dark green men's trousers next spring? And then they have to decide, and we have a sense of whether we should produce or not. This is even more important for the women's sector. We need to have different price levels to advance our fashion items, and then we need to ask the KaDeWe guy: 'Can you sell these flower patterns in our shop or not? Do you have the right sales personnel?' (...) We are in the same boat, and they often have very young buying agents who buy for millions. The responsibility is immense. If he's wrong, he's gone." (070313_T_U_gTEX: 700-709)

The other elements of a sales area partnership are the aforementioned NOS systems and EDI (electronic data interface) connections. These require a huge investment from the producer's side, but again, the benefits seem to outweigh the costs.

"There are partnerships, usually with a larger group of retailers, in which a so-called NOS-package is defined, usually for standard products or products that can be supplied easily. The retailer commits to keeping these products in the sales area, and we commit to continuously re-supply. This is how it works: The weekly sales data are transmitted from the retailer's PC to our PC during the weekend, and we have the orders here on Monday morning. We commission these orders straight away and send them out in the afternoon. (...) This was a big investment, but we were amongst the first to do it, and this gave us many advantages." (070226_T_U_oTEX: 493-511)

It is interesting to observe that all these areas of innovation and value creation take place at the interface between different partners along the value chain, but are always very much steered from the producer's side. Product innovation takes place in collaboration with the textile firms, process innovation in terms of cutting lead times and costs takes place in collaboration with the suppliers, and sales and marketing innovation takes place in collaboration with the retailers. In all of these areas, technology and expertise plays an important part.

In some sense, this adjustment process fits very well with the traditional German industrial system, and the fact that Germany has never really stood for "fashion". German clothing producers are known to have always focused more on production and technology than on marketing. To describe these companies as locked into a typically German path of diversified quality production (Streeck 1991), however, would not do them justice. They have built on and extended their core strengths, but have at the same time added new layers in a way that is compatible with their identity and core strengths. For dTEX, the more radical break with the past was possible because they had the resource of the French brand.

For others, such a radical move was simply not possible and they have instead adjusted step-by-step.

> *"We have become much more modern and flexible and faster. But in the past, well, a small enterprise can never be as flexible, as it usually doesn't have the financial resources to do everything. You can take one step at a time, and I think it was right to take some time with this development. That we didn't try to suddenly be the number one player in Germany, that we were patient. (...) Years ago, a competitor said 'We have strongly underestimated oTEX.' We like to hear that. Maybe we did not make so much noise, but then convinced with our performance." (070226_T_U_oTEX: 622-636)*

In path dependency terms, it would be more suitable then to describe these firms as "path extenders" rather than path breakers or creators (Sydow et al. 2006), adjusting step-by-step without radically breaking with the past.

Risks and trust

Whilst the relationships sought are usually trust-based and long-term, they are always accompanied by an imbalance of power and all the partners are very aware of the fragility and the risks involved in sharing expertise.

Taking into account the quality risk and the general risk of not getting along with a new partner, the organisations emphasise the need to move forward in small steps, which requires having a fall-back option.

> *"There are many who chose to relocate too late. If you try to relocate in a state of emergency, it is too late. No matter how well you prepared your decision, your partnership can always turn out to be a fiasco, and you have to stop after a few months. Then you separate again peacefully, and that's ok, but if you have to find the right partner under pressure, this just worsens your situation. And that's not the solution. (...) When we looked for a new partner, we always started with easy models and then gradually moved on to the more complicated ones, if it worked out well." (070226_T_U_oTEX: 724-735)*

Having a mix of partners is also used as a strategy to manage costs and to retain flexibility.

> *"We have a premium producer for the best products. Then we have a good one, and one we are training. Always three. And when the best one becomes too expensive, the good one will be good enough to be the best. And then we look for new suppliers." (070518_T_U_dTEX: 177-182)*

The relationships to retailers are just as fragile, and many companies have gone bankrupt simply by loosing one major customer. Using a network of suppliers is therefore not only a strategy to ensure high quality production at a good price, but also a strategy to be flexible enough to balance out the risk of loosing customers.

"Today we are in the position that, should we loose 20% of our sales volume, we simply would have dismiss one of our suppliers. (...) You should never put all your eggs in one nest. Just as much as you should distribute your customers you should have at least two sourcing partners for each product that you are selling. This is business, and it is what life teaches." (aTEX: 190-193, 244-249)

Just as much as the suppliers have to bear this risk of loosing a customer, the German buyers also risk investing in a location and then being pushed out, either by higher prices or because they are being bought out by a competitor. The risk of giving away intellectual property is prevalent. At the same time, the organisations say the have no choice but to continuously innovate, and to always try to be ahead of time, and this requires sharing knowledge with your partners. In reality, most of the relationships were quite long term, and the investment has paid off despite the potential and actual risks.

Because of the precariousness of the relationships, trust is an important issue. It is both a precondition for entering a relationship, and is built up gradually with time, as the following quote illustrates.

"When we went to Indonesia, we initially entered very complicated negotiations with a large supplier with thousands of employees. But as soon as we had reached a breakthrough, we have established a very intensive and fruitful partnership. Today, this is our largest supplier. Since 1989, and without any contract. If you had a contract, and needed to clarify something: What would you do? Which court do you want to turn to? Where do you want to fight for your rights? How? Do you want to go to court in Jakarta? Do you want to sue them here and do what? Trust is the only foundation that counts. But both sides carry the risk. And that's a start. You approach each other and do something together. If it turns out that the chemistry is right, that you fit together and you can benefit from each other, you come closer. And at the end, this cannot be separated anymore." (070226_T_U_oTEX: 111-134)

For the retailers, trusting their (German) suppliers has also been an issue. An executive of a big German retailer admitted to me that they have been very reluctant to disclose their inventory figures, and that it took years until the NOS systems were completely synchronised with their suppliers. He also mentioned, however, that implementing such a system meant that the relationship would be long-term due to the high investment costs. This is again an area where the German clothing firms were able to gain stability in an otherwise very unsteady environment by investing in their partners.

CONCLUSION

The above discussion shows that the networks and relationships found in the clothing industry cannot easily be classified. It is clear that these networks have to be managed strategically to be able to compete with the vertically integrated firms on costs, speed, and fashion, and on adding the quality dimension. My impression is that there are several implicit strategic centres involved. The German "manipulators" at least in the branded segment are clearly a strategic centre in the network for their own product line, as they by now manage the entire process from fabric production to selling in their own stores. At the same time, they are part of a larger network managed by the retailers, themselves connected to a large number of foreign and local suppliers and managing their own product lines as well as buying branded products.

As most of the potential for innovation lies at the interfaces, putting more emphasis on purposefully creating a strategic centre as Lorenzoni and Baden-Fuller (1995) propose may necessary, and in my view, some of the branded producers would have the most potential to take on this role due to their diverse skill set and expertise. This contrasts with the common question of what is left for German manufacturers after they have outsourced all their production, and after China – as representative for all developing countries – has reached the same level of expertise and creativity. Managing these heavily fragmented value chains on a global scale still requires expertise, planning, and control, and it is perhaps not surprising that at the moment the "new Verticals" with their strategic centres are the most powerful and successful actors in this environment.

REFERENCES

Berger, S. (2006): How We Compete. New York, Doubleday.

Camuffo, A./Romano, P./Vinelli, A. (2001): Back to the future: Benetton transforms its global networks. MIT Sloan Management Review Fall 2001: 46-52.

Courault, B./Doeringer, P. B. (2007): From hierarchical districts to collaborative networks: The transformation of the French apparel industry. Socio-Economic Review Advance Access: 1-22.

Dicken, P. (2007): Global Shift. Mapping the Changing Contours of the World Economy. London, Sage.

Faust, M. (2005): Reorganization and Relocation in the German Fashion Industry. Paper presented at: Organisational Configurations and Locational Choices of Firms: Responses to globalisation in different industry and institutional environments, University of Cambridge, UK.

Faust, M./Voskamp, U./Wittke, V. (2004): Globalization and the Future of National Systems: Exploring Patterns of Industrial Reorganization and Relocation in an Enlarged Europe. In: M. Faust/ U. Voskamp/ V. Wittke (Eds.) European Industrial Restructuring in a Global Economy: Fragmentation and Relocation of Value Chains. Göttingen, SOFI Berichte.

Ferdows, K./Lewis, M. A./Machuca, J. A. D. (2004): Rapid-fire fulfilment. Harvard Business Review November 2004: 104-110.

Gereffi, G. (2003): The global economy: Organization, governance, and development. In: N. Smelser/ R. Swedberg (Eds.) Handbook of Economic Sociology. Princeton, NJ, Princeton University Press: 160-182.

Gereffi, G. (1999): International trade and industrial upgrading in the apparel commodity chain. Journal of International Economics 48: 37-70.

Gereffi, G./Korzeniewicz, M. (Eds.) (1994): Commodity Chains and Global Capitalism. Westport, Praeger.

Harrigan, K. R./Porter, M. E. (1983): End-game strategies for declining industries. Harvard Business Review July-August: 111-120.

Jarillo, J. C. (1988): On strategic networks. Strategic Management Journal 9(1): 31-41.

Lane, C. (2007): National capitalisms, global production networks: An analysis of their interaction in two global industries. Socio-Economic Review Advanced Access: 1-34.

Lane, C./Probert, J. (2006): Domestic capabilities and global production networks in the clothing industry: a comparison of German and UK firms' strategies. Socio-Economic Review 4: 35-67.

Lorenzoni, G./Baden-Fuller, C. (1995): Creating a strategic center to manage a web of partners. California Management Review 37(3): 146-163.

Lutterbach, W. (2006): The perfect network. The Fashion Business: 110-114.

Mintzberg, H./Quinn, J. B./Ghoshal, S. (1995): Benetton S.p.A. In: The Strategy Process. Bath, Bath Press.

Rivoli, P. (2005): The Travels of a T-Shirt in the Global Economy. Hoboken, NJ, Wiley.

Staber, U. H. (2001): The structure of networks in industrial districts. International Journal of Urban and Regional Research 25(3): 537-552.

Steffen, M./Ahlert, D. (1999): Industrielle Maßkonfektion: Massenmarkt oder Nischenmarkt? Strategische Netzwerke bilden. bw-spezial: cad + cam 16: 36-38.

Streeck, W. (1991): On the institutional conditions of diversified quality production. In: E. Matzner/ W. Streeck (Eds.). Beyond Keynesianism. The Socio-Economics of Production and Full Employment. Aldershot, Edward Elgar: 21-61.

Sturgeon, T. (2003): Exploring the Risks of Value Chain Modularity: Electronics Outsourcing During the Industry Cycle of 1992-2002. Industrial Performance Center, Special Working Paper Series.

Sturgeon, T. J. (2002): Modular production networks: A new American model of industrial organization. Industrial and Corporate Change 11(3): 451-496.

Sydow, J. (Ed.) (2001): Management von Netzwerkorganisationen. Wiesbaden, Gabler.

Sydow, J. (1992): Strategische Netzwerke. Evolution und Organisation. Wiesbaden, Gabler.

Sydow, J./Windeler, A./Schubert, C./Möllering, G. (2006): Organizing Collective Institutional Entrepreneurship for Path Creation and Extension: The Case of Next Generation Lithography. 22nd EGOS Colloquium, Bergen, Norway, 6.-8. Juli 2006.

Windeler, A. (2003): Spuren im Netzwerkdschungel: Typen von Unternehmungsnetzwerken und Besonderheiten ihrer Koordination. In: H. Hirsch-Kreinsen/M. Wannöffel (Eds.) Netzwerke kleiner Unternehmen. Praktiken und Besonderheiten internationaler Zusammenarbeit. Berlin, edition sigma: 35-60.

Wortmann, M. (2003): Structural Change and Globalisation of the German Retail Industry. WZB Discussion Paper, SP III 2003-202b.

Yin, R. K. (1994): Case Study Research. Design and Methods. Thousand Oaks, Sage Publications.

[1] Even though the industry is so frequently studied, it is usually not studied from a strategic management perspective. Much of the research today is focused on knowledge-based industries (Hirsch-Kreinsen et al. 2005), but in my view much can be learned from studying traditional industries, especially as they went through a transformation from a manufacturing to a service or creative industry.

[2] Successful adaptation is defined here as managing the transformation process without having to use insolvency as a way to cut assets (an option used by quite a few firms still on the market today). Successful firms in this sense are firms that are still on the market today (even though, of course, using the exit strategy in a shrinking market due to, for example, not having a successor may also be considered a successful strategy), and that have been able to increase their annual turnover in most years (this modification is necessary as many firms have had a drop in turnover during the restructuring years), especially in recent years.

[3] There are more strategies available than this - two of the companies in my original sample have, for example, followed a niche strategy. One has specialised in tailor-made suits, and the other in delivering special sizes. Due to the different demands posed by niche production, however, these firms are not included in the present analysis. I also analysed some successful firms specialised on producing ties. These are not, however, very interesting with respect to network management aspects.

[4] All the following quotes are taken from my interview transcripts. I have translated them from German myself.

[5] For lack of a better expression, I will continue referring to them as "producers" for now, even though a better term needs to be found.

[6] A process of sending all inputs to an offshore manufacturer for finishing and only paying custom fees for the value added by the assembly process.

[7] Vertical integration in general is more common in the knitwear sector as the knitting process is capital rather than labour intensive, but many of the knitwear firms, such as cTEX, have nonetheless given up all their production facilities.

[8] Once again, it was Benetton who first introduced the shop-in-shop idea in Germany as it could not find a suitable store on Frankfurt's major shopping mile "Zeil".