

Creativity at Work:

# The apparel industry in West Europe

*By: Jan Hilger*

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# Abstract

The Apparel Industry was one of the first globally operating industries. Already in the early 1970ies did European fashion companies extend their manufacturing workbenches into lower cost neighbouring countries, making it one of the first industries to have a globally distributed network. In the first decade of the 21<sup>st</sup> century, the conditions for clothes manufacturing has changed considerably. The Sourcing Share of Asia increased dramatically especially since Chinas participation in the WTO in 2005 which led to the abolition of quotas. India, Vietnam, Bangladesh, Malaysia and the Philippines also play a major role in the Asian Textile and Garment Market. But even so, West Europe, the Mediterranean Rim and the East European Countries still play an important role on the global textile and apparel market, maybe no longer from the volume perspective but in terms of variety, complexity and product quality, particularly for the more demanding markets. Latin America has seen a significant decline over the last decade but is developing similar strategies like Europe to compete through quality and speciality niche rather than volume. Does this mean that the West European Apparel Industry is dead? The European Textile and Garment industry has undergone a severe decline since 1970 which nearly made it extinct in some of the EU founding economies. The labour intensive manufacturing segment which is almost not existent in Western Europe today particularly suffered. The only uncritical area where specifically one country in Western Europe is still defending its share, possibly due to changed sourcing practices and a recently increased presence on the global marketplace is the textile sector in Italy, which has even seen a rise in both volumes and employees over the last decade.

# Keywords

Apparel industry; fashion industry; clothing industry; production; business

# Author

Jan Hilger is the global operations manager in Escada and D.B.A. candidate in the Department of Intercultural Communication and Management at the Copenhagen Business School.

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## The apparel industry in West Europe

The Apparel Industry was one of the first globally operating industries. Already in the early 1970ies did European fashion companies extend their manufacturing workbenches into lower cost neighbouring countries, making it one of the first industries to have a globally distributed network. In the first decade of the 21<sup>st</sup> century, the conditions for clothes manufacturing has changed considerably. The Sourcing Share of Asia increased dramatically especially since Chinas participation in the WTO in 2005 which led to the abolition of quotas. India, Vietnam, Bangladesh, Malaysia and the Philippines also play a major role in the Asian Textile and Garment Market. But even so, West Europe, the Mediterranean Rim and the East European Countries still play an important role on the global textile and apparel market, maybe no longer from the volume perspective but in terms of variety, complexity and product quality, particularly for the more demanding markets. Latin America has seen a significant decline over the last decade but is developing similar strategies like Europe to compete through quality and specialty niche rather than volume. Does this mean that the West European Apparel Industry is dead? The European Textile and Garment industry has undergone a severe decline since 1970 which nearly made it extinct in some of the EU founding economies. The labour intensive manufacturing segment which is almost not existent in Western Europe today particularly suffered. The only uncritical area where specifically one country in Western Europe is still defending its share, possibly due to changed sourcing practices and a recently increased presence on the global marketplace is the textile sector in Italy, which has even seen a rise in both volumes and employees over the last decade.

One of the effects of these changes is that all Apparel products are starting to look the same.

The consolidation of the apparel industry and the decline of the traditional regional apparel clusters in combination with the growing demand has increased the order quantities for major apparel manufacturers particularly in Asia. Companies with a customer portfolio of over 200 Fashion Brands are no exception. If a manufacturer produces at least 4 collections per year with a different product variety multiplied with over 200 different Brand Philosophies that are not always necessarily differentiated it is always in the likelihood of the possible that the final products show a high degree of similarity. However, this high degree of standardization ahs also brought opportunities to European designers and tailors who cater to the educated, demanding and wealthy consumer by combining tailoring know-how and in-depth material and finishing technology in individual products.

By its very name the fashion business epitomizes the conflict between an intangible and volatile good on one side and the tough and measurable world of business on the other. Fashion is not so much a physical tangible product as a moment or a glimpse in time or a moving target that's ephemeral and elusive.

Fashion can range from clothing to electronics such as MP3 players up to products that are experienced such as music, travel and sports. An individual's understanding of the term fashion changes the possible content in terms of history, rules, mechanisms and prospects.

Business, by contrast, is the measurable world of turnover, profit-margins and market-shares; it is generally defined as any particular occupation or employment of being engaged in for livelihood or gain including activities such as financial dealings; buying and selling, traffic in general or mercantile transactions.

When we zoom in on the part of the fashion business that is devoted to the production of clothing the apparel industry is the most inclusive term. The apparel industry is defined as the the whole physical chain of value adding from the first design sketch to what the end consumer carries home in a shopping bag, including all related activities from the designer's input , the product development, sourcing, manufacturing, logistics, distribution and retailing.

The textile industry, by contrast, refers to the combination of all industrial activities ranging from the making of the yarn, to the weaving or knitting of the two dimensional cloth or the predominantly machine driven three dimensional product which is created without a great deal of sewing such as in Knitwear, Jersey, Body wear, Hosiery or Socks.

A third concept is the the garment industry, which describes the complete value chain from the cloth to the delivered garment and consists mostly of the activities involved in garments which are sewn out of woven structures such as suits, coats, shirts, blouses, sportswear and pants. In addition, shoes and leather goods industries, which is characterized by their primary material - leather, are also part of the family of industries which make up the fashion business. .

The major difference aside from the focus on different steps in the value chain is the level of manual labour in the these industries. The textile industry is predominantly capital intensive whereas the garment industry, the shoe industry and the leather goods Industry are to a wide extent labour intensive.

## From Customization to Standardization

Prior to the Middle of the 19<sup>th</sup> century no sewing machine or mechanical aid to manufacture apparel existed and therefore all garments were produced entirely by the hand of either a skilled family member or a tailor. The competency of the tailor ranged from the craftsman basically putting together the cloth to the artisan highly skilled in the art of garment tailoring. The customization factor was still at a 100% as every single garment was destined to a waiting consumer. With the appearance of the sewing machine suddenly mass-manufacturing

became possible and in combination with repeatable pattern and layout techniques and ready-to-wear size scales the customization level decreased year by year, reaching its lowest point through 2004.

Before the Haute Couture was founded, every garment was produced where it was designed and where the pattern was made, in most cases close to the customer in small workshops. After the rise of the sewing machine and line-manufacturing, the single worker labor cost effect became a crucial part of manufacturing cost calculation and – from the late 1960ies onwards – became a global manufacturing performance and price indicator. From that time on the industry moved from country to country always pioneered by a technical staff of trainers and engineering consultants and followed by a wave of operations and supply chain experts and finally a group of corporate lawyers.

The Apparel Manufacturing Automation Trend began with the increasing Industrialization from the beginning of the last century with regards to mechanical and technological innovations of the assembly industry in general which improved the efficiency of production lines year by year. But in contrast to the globalization and industrialization of the global apparel market, the automation of garment making in particular started to decline from 1997 onwards. The tri-annual apparel machine exhibition IMB in Cologne is an indicator for this trend. In the last fair in 2006 the main focus of all leading machinery suppliers was on basic and flexible lock-stitch and chain-stitch sewing machines. Innovations were concentrated on small devices like guides, presser feet and control units that enabled rapid tool changes and fast reactions to changing production needs. The current production needs in Europe in particular, which used to be the main market for this type of machine, no longer have the ideal conditions in terms of volumes, materials and model varieties which are essential for the efficient use of automats.

To understand the mechanisms of the apparel industry it is necessary to go back in time and look at the evolution of the industry, from another distant perspective. From the outside the history of the whole apparel industry from development to material sourcing, product manufacturing to the product delivery and presentation to the final customer looks like an evolutionary chase between supply and demand always repeating process sequences between designer and customer.

In just over 160 years the business complexity increased from the one man company, dominated by the artisan tailor to a multinational corporation – still keeping the same essential worksteps, but spreading them over different departments, locations, countries and continents.

As the industry grew and developed, so did the organizational division of the process steps. Always according to size and a maximum number of divided worksteps, each model has the same end – customer and vendor, the only difference being the steps and the increasing distance in between. If in the past the vendor was also the tailor who measured his customer and created an individual garment based on the customer's body-measures and the

specifications of the same, in today's global lifestyle companies there's a huge gap between the fashion designer or art-director and the final addressee on the fashion market.

Following the high interdependence between the vendor and the market - whenever one side gave the impression of being settled the other side went through abrupt changes.

### **The Artisan Tailor Period (before 1754)**

The first, and longest, stage in the process described above was dominated by the artisan tailor. From the moment human beings first dressed until the mid-18<sup>th</sup> century, the Business Model was simple. Every garment produced was basically drafted, designed, modeled and crafted by the same tailor or a group of craftsmen working on one entity. The contact from customer to vendor was face to face and every garment was custom made. This business model remained basically unchanged even beyond the end of this chapter.

The main difference between the garments for the masses and those for the wealthy was the quality of the materials used, the craftsmanship, the mocking up and the details in differentiation in terms of pattern and design.

As there was no or little mechanical support, the cutting and sewing was done by hand, either by the tailor himself or by his team of devoted seamstresses and apprentices.

### **The Sewing Mechanisation Pioneers (from 1755 to 1829)**

This whole period describes the span from the first patent that had vaguely to do with the industrial sewing machine until the moment before the invention of the first industrially usable sewing machine. During this period, the sewing machine had not yet been invented and sewing operations were done by skilled hands, however the thousands of years dominance of the tailor as the sole provider of clothing and apparel began to get the first cracks. Tailors thinking out of the box at that time could have already realized or envisioned the change their profession was about to embrace.

In the beginning of this period the first humble and coincidental inventions were made by craftsmen and cabinet makers who rarely had a direct connection to the apparel making.

In 1755 the first patent ever related to mechanical sewing was granted in Great Britain to the German immigrant Charles Weisenthal. Interestingly, Charles Weisenthal invented the needle which made mechanical sewing possible, even though a sewing machine had not yet been invented. He did however, lay the foundation for further research in a field that did not revolutionize but start a whole industry. Thirty-five years later in 1790 the first machine was patented being able to do something comparable to a mechanical stitch. This patent was granted to the English cabinet maker Thomas Saint. Around this invention there is the rumour and criticism that this machine never

actually physically existed but only as a sketch on paper. A test done ninety years later in 1880 following the drawings of Thomas Saint, starting with a one-to-one reproduction of his invention proved that without drastic modifications the machine shown in the sketches would never have been able to produce something close to a usable stitch. This period ended with many different inventions that were – isolated and seen individually – not usable for a complete sewing system. But the foundations were there to begin the next period with innovations in the direction of the first mechanically realized machine stitch.

### **The Rise Of Mechanical Sewing (from 1830 to 1859)**

The first functional sewing machine was invented by the French tailor, Barthelemy Thimonnier. The patent was granted by the French government in 1830. Thimonnier's machine used only one thread and a hooked wooden needle which made the same chain stitch used in embroidery. Actually it is said to be originally invented as a support for embroidering. He was also the first one to use his invention for the serial production of garments, as he received an order from the French government to set up a factory for producing the uniforms for the French army, he installed around 80 machines in a factory close to Paris. Not so different to common behaviour today, his new direction was not embraced by the people who feared change. Consequently the inventor was almost killed by an enraged group of French tailors who burnt down his garment factory because they feared unemployment as a result of his new invention. History showed that in the end their assumption was correct, at least accounting for the volume markets. Thimonnier escaped and started again setting up a factory in another location improving upon his original machine that already was an improvement compared to the original patented invention. Having received the sympathy of the tailoring guild already once, again the tailor mob managed to get hold of him and attacked his factory once again. Receiving no support, not even from the French authorities he fled to England taking one machine with him. He achieved three milestones in the apparel Industry, firstly, by producing the first functioning and practicably usable sewing machine, secondly by organizing the first commercial sales of sewing machines to Business-to-Business Customers and thirdly by establishing the first industrially oriented Garment Factory. In spite of his achievements, he died in poverty in England in 1857, There had been a parallel development in the United States, when Walter Hunt invented a machine 1833, three years after Thimonnier, and following a comparable concept, but with no proven connection of knowledge transfer between them .

From a market perspective this period is dominated by Shop floor Sales. As nearly all garments were either made by tailors or home sewn, in most cases the tailor/craftsman was also the designer, pattern maker and producer in one person.

When Charles Frederick Worth founded the first Fashion House in Paris in 1857, in the same year that Thimmonier died, he possibly had no idea that what

he initiated became the starting point of a whole industry and a new philosophy on how apparel was brought to the customer until that time. Charles Frederick Worth pioneered in showing his clothes not on the customer as it was usual at that time but by presenting his outfits using fashion shows and mannequins. Initially this approach was directed to a circle of a selected group of people; it was not yet a “one-To-many” approach.

### **The Industrial Apparel Revolution (from 1860 to 1950)**

The sewing machine started not only a mechanical and industrial, but also a cultural revolution and led to the near extinction of a whole profession – the Tailor.

Without it any industrialization in the making of apparel would not have been possible. From that moment on the manufacturing of apparel was no longer limited to the individual customer, but available to the anonymous masses. A trend which still today continues to grow exponentially. This period can also be categorized as the pioneer stage of the apparel industrialization, even though the industry received its refinement only from 1920 onwards.

The rise of the industrialization had an impact on the previously tailor driven apparel manufacturing. Following the principles of the Scientific Management, which also became more popular under the name Taylorism, garment making was converted into chains of sequential and separated work steps, where the formerly important highly developed and trained hand skills of the individual sewing operator became a second priority. The efficiency development and the output of the production line was measured by produced units per time unit. The quality and the diversity of the product became secondary.

In Europe and in the U.S. the first apparel factories following the state-of-the-art Fordist manufacturing model were set up. The organization of “in-line” factories brought a new unskilled labour force to an industry that was previously in the hands of skilled craftsmen.

People who were not trained to assemble tailored clothing were employed in high numbers to compensate the demand of the growing share of ready-to-wear clothing. To accomplish the rapid growth in units a high degree of specialisation was fostered. Operators were trained to do only one or a few operations as the priority was on high-volume through-put rather than on the overall qualification. A high degree of standardization with low complexity in model variations was a major driver for line manufacturing as a benchmark for industrial efficiency. Basic math was applied that the ideal conditions for a plant to run at low consumption was by receiving high order quantities in as few variations as possible. This was made possible by the use of standardized materials. The original formula for ideally balanced and efficient industrial assembly lines is influenced by the count of worksteps, the number of variances (complexity) and the variety and span in used materials.

With the growing distance to the consumer and the continued decrease of individualization the branding of fashion products as well as the brand by itself became more and more crucial. In this period many companies began in applying Logos or Labels on their products. In 1933 Henri Lacoste was the first designer who used a symbol to visualize the Lacoste-Brand on each item – the famous crocodile embroidery which is still in use to today.

### **The local Apparel Industry (1951 to 1970)**

This period is determined by the start-up of a whole new breed of Fashion Houses that brought Fashion not only to an exclusive few, but to nearly everybody who could afford branded apparel. The first Fashion Brand Logo appeared already in the 1930ies yet it wasn't until the 1950ies when Brands as we know them today became recognizable to the masses and available not only to an exclusive few. Many leading Fashion houses, that play a leading role in the beginning of the 21<sup>st</sup> century were founded in the period between 1950 and 1975.

The ever increasing offer in ready-to-wear apparel offered the possibility for a wider audience to access more variety in their wardrobes. With an increased density of Points-of-Sale from the 1950's onwards the demand for quantities continued growing and subsequently order quantities and production lots grew. Ever more, concepts were developed to increase production efficiency and optimize the apparel production pipeline. Over the following decades, the retail prices decreased as the globalization of apparel continued resulting in lowered cost of goods. In turn, profit margins rose.

### **The distributed Apparel Supply Chain (1971 - 1995)**

The growing consumption and the escalating competition on the Fashion Market demanded an increase in the production of textiles and apparel. The rising labour cost and the increasing margin-expectations led to growing cost of goods which drove the industry from the established textile and apparel regions in the western economies into neighbouring countries in the southeast and in the east of the geographical European region and into Asia. Especially Hong Kong, Vietnam, Malaysia, Taiwan, India, Bangladesh and the Philippines profited from the product sourcing needs, which predominately came from the United States and West Europe. In this period the quota system was established. It was intended to protect the domestic industries in Europe and the US by regulate import of fibres, textiles and clothing by requiring exporting countries to hold quotas. While originally import was regulated through bilateral agreements, in 1974 a general system was established, the so-called multi-fibre arrangement, which expired in 2005.

As imports from cheaper-labor regions increased, the textile and the garment manufacturing industry in the Western European, Northern American and other developed economies started to feel the consequences for their own business increasingly from the 1970ies on.

During this period, the Western European Textile- and particularly the labour intensive Garment Industry was on a continuous decline. A good example to demonstrate this historical development is Germany being one of the strongest export-nations in Europe. The situation has developed in a more or less similar way among other comparable Western European economies like the UK, France, Benelux, Denmark, Portugal or even Spain. In Germany, there were almost 2,500 registered textile companies in 1970, but less than 1,000 in 2004. There were 500,000 employees in the textile industry in 1970, but less than 100,000 in 2004. There were 300 apparel companies in 1970, and less than 500 in 2004. There were almost 400,000 employees in the apparel industry in 1970, but less than 50,000 in 2004. Whether we measure the number of textile companies, the number of employees in the textile sector, the number of apparel companies or the number of employees in the apparel sector, the figures show a dramatic drop in the 1970s and a continued downward curve into the first decade of the 21<sup>st</sup> century. The only time the curves shift upwards was in 1992 is explained by the addition of the former Eastern German Companies/employee statistics into the until then Western German data. From 1995 a different clustering was used based on the full integration of the former eastern German textile and apparel data into the merged statistical data pool, which in any case does not influence the drastic and clear picture the shown results are demonstrating. This loss of the manufacturing base is increasingly seen as one of the major threats to future competitiveness, especially when it is as intertwined with knowledge intensive institutions and processes, as it is in the fashion business.

This period also defined the starting point of an increased clustering. Through a mixture of mergers and acquisitions, close-downs or strategic alliances and joint-ventures, there was a distinctive change from a sector consisting of a large number of different and independent small to medium sized companies to a smaller number of bigger corporations. This change affected the whole value chain from yarn providers to retailers.

Three major trends were visible from the 1970ies onwards: firstly, companies that specialized in a niche were able to establish a solid and reliable customer base interested in long term relationships. Secondly, companies that concentrated on lower level mass production serving the needs of department stores, catalogue business and bottom end fashion brands and retailers established global networks to gain leverage and growth. Thirdly, companies which failed to serve either the specialized niche or the general mass market were either sold, merged into larger companies, or closed down.

### **The Global Supply Network (1996 - )**

Since 1996 The Fashion Market has become more and more competitive and more difficult to supply. International borders have blurred and the traditionally strong specialized regions have diffused their strengths or disappeared. For example the Body wear, Hosiery and Knitwear region on the southern German Alb area between Hechingen and Albstadt has nearly

disappeared. When the Huguenots settled in the Suebian Alb they brought the sheep breeding and the knitting knowledge with them from France to the region which as a result flourished and continued to grow over a century peaking in the early 1980ies. From still having been a major employer in the 1970ies and an industrial sector bringing wealth to many southern german families and towns 20 years later it became the industrial wasteland it is today. The same can be observed for the once rich silk region in the area of Como, Italy. Many famous historical names, houses with a long history and heritage have disappeared in the last few years or are currently going through economically hard times.

European and US clothing demand continues to grow. Sales through clothing, accessory, department stores and superstores were especially buoyant in 2006. Western and Eastern European as well as Northern Afric producers strongly felt the effects of the participation of China in the WTO. Even though rapidly established import quotas attempted to replace the export quotas in order to slow imports from China, the protective effect can only be seen as temporary and enough loop holes were already found to go around the import barriers.

The EU trade deficit worsened in 2005 immediately after the global elimination of quotas, but the industry's prospects looked brighter in early 2006 as output ceased falling and orders picked up. Exporters are achieving success in East European markets such as Russia and Ukraine, and the surge in imports from China has slowed since quotas were imposed in mid-2005. One effect of the sudden domination of the global Apparel Market by China is that EU companies were forced to re-think their business models and seek other strategies to save a competitive edge against the Asian competition - at least as long as prices are subsidized and comparably low.

There has been an increasing gap within the EU between the fashion companies that concentrate on high fashion and luxury segments or and those that are in the fast fashion segment. On the manufacturing side the trend is to concentrate on low-minimum orders, a high-service level and on specialization in selected areas of garment making. Also, European Textile companies in particular is to invest in more technological areas such as textiles for interiors and technical textiles for medical, construction and industrial purposes for example.

### *The new sourcing landscape*

In 2006, even though Chinese exports surged as exporters looked to alternative markets such as Turkey, Mexico, Macau and South Korea in order to maintain growth in the face of US and EU quotas. Output and foreign direct investment continued to grow strongly. China's clothing import market also expanded in 2006, reflecting the re-emergence of coproduction schemes in Hong Kong and Macau to avoid quotas against Chinese goods that were established from various traditional textile and apparel countries to protect their industry.

India's textile and clothing export sector has grown substantially since the elimination of quotas in the EU and US markets. On one side with Government help through modernisation and subsidies to the textile and garment sector but also through a shifted focus away from volume into specialized areas which should improve the competitiveness especially as an alternative to East European Sourcing.

India's neighbour Pakistan is also experiencing an overall growth in its sales to the EU in particular. In Sri Lanka growth was more modest as the country still has to suffer not only for its high dependence on raw material imports. Together with Bangladesh Sri Lanka was regularly facing issues with social compliance and with ethical labour standards. Bangladesh has performed better than Sri Lanka in the post-quota era, despite justified fears of increased competition from China and India. Helped by duty-free access, the country has even raised its share of sales to the EU and the US market. But the low wages, which on one side are the reason for the growing sales, have caused labour riots in the country on the other.

After 2005 Indonesian clothing exports for example expanded mostly thanks to strong demand especially from the United States. Foreign direct investment also rebounded, although overcapacity remains a danger. Indonesia's vertical industry and commitment to labour rights and customer service bode well for the future.

Malaysian exporters chose a pattern similar to be found in Turkey and Eastern Europe and are trying to gain an edge over cheaper competitors in the region by focusing on branding, quality, reliability, social compliance and increased customer focus. Clothing exports from the Philippines have done well in the USA and the EU.

Thailand's garment makers have enjoyed a resurgence in early 2006 and hope that a trade deal will boost their exports to Japan. Vietnamese exports to the US and European Market have risen in 2006 in anticipation of the quota elimination with Vietnam joining the World Trade Organisation.

Traditional Central and Eastern European Sourcing regions like Poland, Romania, Bulgaria, Hungary and Turkey as well as the northern African countries Morocco, Tunisia and Egypt have all felt this massive growth and competition by the Asian countries stated above.

### *Sourcing models*

The CMT (cut, make and trim) is the classic Subcontracting Model that has been widely used in Western Europe. All raw materials used during the value chain always remain in the property of the Fashion Company. The patterns and the technical documentations as well as the Bill of materials are usually provided by the customer. In many cases the outsourced Garment Manufacturer is responsible and paid for his Cut-Make-Trim services.

In contrast to this is The Full-Package Sourcing Model, in which the supplier delivers the whole finished product to the Fashion Company. All used raw materials are sourced by the Vendor, which in most cases also take care of patterns, documentations and Bill of Materials. Very often the companies following this business model.

What characterises the European Apparel business in the first decade of the 21<sup>st</sup> century is a shift away from the traditional two sourcing models CMT Subcontracting and Full-Package Sourcing to countless variations between those two extremes.

A 2007 Kurt Salmon Associates study on Fashion Supply Chains notes three main trends in current apparel supply chains to be noted: Firstly, diversification: A thoughtful and adaptable network strategy in terms of selection of business partners and regional distribution. Secondly, control: Being it rigid contract regulations or agreements on social compliance or ecological standards, more and more sourcing networks are contractually tied to each other to at least being able to prove a bulletproof organization and gaining a high degree of influence over suppliers or at least their orders. Thirdly, transparency/visibility: The development in process automation and monitoring software tools is increasing the transparency along the supply chain and also continuously reducing the danger of legal, fiscal, product quality or financial import/export surprises.

### *Speeding up product cycles*

In the period of custom-made clothes, new collections were offered during the period when society events dictated the need for new outfits and were therefore the timeframe when new designs had to be shown to the consuming audience.

With the appearance of the Ready-To-Wear Movement the annual product distribution calendar of the whole Apparel industry became more and more static, partly driven by the need to have some regularly repeated fixed spots where textile collections could be presented. As the collections were driven by the four seasons with a main focus on the extreme seasons summer and winter, the fairs to prepare the corresponding collections were scheduled at the turn of the seasons -- in February year one to show the coming summer year two and in September year one to show the coming winter year two.

Starting from the late 1980s fashion companies went from the traditional two season concept in a direction to show two additional intermediate seasons to the markets. The Spring/Summer and Autumn/Winter Collections were split to show the market separate programs for spring - summer - autumn - winter. Very often the added intermediate seasons were called Special Programs or Pre-Season Programs as in most cases they were seen as Add-on Collections with much lower volumes than the following-up main collections.

From the middle of the 1990s more and more splits were added and more and more collections were added to the delivery calendar. This counted not

only for a horizontal direction regarding frequency but also in a vertical direction regarding product diversification.

The importance of the Internet for the Fashion Business became more significant year by year. Not only in terms of retail but for all aspects of the apparel value chain. The new technologies supported the higher frequency delivery demands from the market side and enabled the supplying service providers to monitor and control the processes more accurate and focussed.

New experiences were rising and bombarding the well informed and challenging market. Online Shops gave the consumer more possibilities to customize or even become an integrated part of the product. Many sites started to offer a “My ...” space and give the customer the feeling to order or even to create something specially customized or individually made.

These changes have huge effects of the management of the supply chain and on the actual cost of the product. A continuously growing variety of products shipped in higher frequencies leads to an uneconomic usage of capacities worldwide. The negative effects do not only bear financial risks, but also higher dangers in terms of reliability and continued and sustainable product quality. In fact, the product life-cycle-speed is leading to a shelf-life that is faster than the loyal customer shop-visit frequency. Many products are already removed from the shelf before they even get the chance to be spotted and tried by a potential consumer. This is leading to an increase in inventory, increase in mark-downs and write-downs and as a consequence a reduction in product quality to balance the negative inventory effects on the product margin.

In the early days of industrially produced clothing, every collection consisted of fashion items which belonged to a fashion theme or outfit. Basics were basics and sold separately. In most cases the Fashion items were displayed and sold with the outfit and the basics were sold in speciality stores or departments and looked like basics.

By contrast, in the beginning of the 21<sup>st</sup> century, each Fashion Brand decides based on its appeal and reception on the market which products should be considered basics and which products to be considered the fresh injections. Depending on price point and market position the frequency is a strategic decision.

The limit to this strategy will be how many fresh inputs per year a customer still understands or is willing to accept.

But drastically increased number of different styles is increasing the complexity for a supply chain also and could potentially lead to an operational collapse. As the higher frequency in collection turns does not increase the total annual sales volume accordingly, the implications for the whole textile and apparel supply chain are dramatic.

The decision on Fashion cycles has to be made with the awareness of various dimensions driven from the market presence and position, inventory, quality, margin and logistical perspective.

**Market drivers:** The decision on how often the product offer should change to the eye of the consumer depends much on the target customer group. First of all depending on the Market Position of the Brand there is a major difference between luxury and the fast fashion segment. In the Luxury category no customer would expect a weekly product change whereas in the fast fashion world a weekly turn of the POS-offer is crucial to be part of the game. In the premium fashion segment a monthly or bi-monthly turn might be adequate.

**Inventory drivers:** The higher the number of sales per sku (stock-keeping unit), the higher the number of different styles in a comparable number of total sales, the higher the inventory risk will be if the same forecasting mechanisms as before are in place. Which in the end leads to higher amounts in writedowns and reduced profit-margins.

**Quality drivers:** An increased frequency in product changes bears a high number of potential problems occurring especially when dealing with a globally distributed network of vendors that serve many customers at the same time. As for an unaligned supplier/producer network it is nearly impossible to carefully follow the rapidly changing requests and instructions and requires a perfect and system-supported organization.

**Margin drivers:** The ideal order-volume-scenario for an apparel or textile product from a production perspective is a basic product in one size preferably in a plain texture and a regular material in a high volume. The higher the climb on the fashion ladder goes, the less these conditions can be found. If already reduced volumes combined with a high material diversity mix even with a high count of order quantity splits or low volume orders, the productivity of an apparel manufacturer reduces with every increasing effect in one of the mentioned dimensions. If instead of one large order with a simple material and model many small orders with a high complexity in materials and models are ordered, the possible manufacturing prices are developing in the opposite direction of the needs.

**Logistical drivers:** The higher frequency in inventory turns leads to an increased number of shipments with lower volumes which leads in linear consequence to higher logistical costs. A weekly turn setup requires a completely different logistical setup than a two season concept.

## Outlook for Europe

From 2006 there has been an increasing split between two main fashion markets and production systems. On the one hand, the volume driven mass-retail markets, that operates a fast turning, low margin and price aggressive product philosophy where optic, freshness, commercial success and easy, fast acquisition are more important than product quality, fit and material composition and origin. Fast fashion retailers have been flooding the market with permanently and rapidly changing low-quality products with a expected life of less than a year. On the other hand, designer-collections serve as source

of inspiration for the regionally re-established metropolitan tailors. The designer fashion market, which is beginning to return to both custom-tailored, individual products as well as seasonal couture and high fashion collections. In the first decade of the 21<sup>st</sup> century, the increased competitiveness which was a consequence of the uniform appearance of fashion products started a series of bankruptcies, hostile take-overs and buy-outs in the fashion industry as we once knew it. Is it possible that the two business models will find some kind of balance in the future?

Labour will become more expensive and in some countries or regions a rare and sought after resource. The labor cost development for most apparel manufacturing countries in Europe, Central-/South America and Asia is continuously growing. The new EU-member states in particular are struggling with the over proportional salary cost increases.

The main challenge for European Apparel manufacturers already today is how to attract skilled workers. Since years a migration into other industries and services has taken place and has not even come to an end yet. The high price pressures, loss of orders and reduction in capacities as well as the higher demands for social security and insurance in line with European standards has not favoured this downturn at all.

In addition the availability of skilled workforce is – especially in Central and East Europe – increasingly diminishing due to the lack of workers in general and the lack of willingness of young people to seek their professional future in textiles and apparel.

Reasons for this negative trend are for example the growing attractiveness and higher pay in other manufacturing or service professions that compete on the local labour market, the continued rise in salaries and social expenses and especially in the countries that entered the EU just recently increasingly high administrative and legal barriers for entrepreneurial activities in alignment with Western European standards.

In Romania already today most of the apparel manufacturing plants moan over the average age in their workforce which is above the age of forty.

The cost of labour in Asia will increase further and more dramatically than it does in the apparel manufacturing countries in the eastern region of Europe and in the eastern and southern Mediterranean countries.

Since 1997 the Apparel Machinery Industry has reduced their spendings in Automation developments. Assuming that this serves as an indicator for current and future developments and innovations in the textile and apparel machinery industry the message seems to be quite clear. The labour cost effect in particular for the garment industry remains and increases to be the main driver for future sourcing decisions.

A piece of apparel like for example a classical pleated menswear pant that took 60 minutes to produce in the eighties of the 20<sup>th</sup> century might still take 56 minutes today and might take 53 minutes twenty years down the road. The

diversity of materials, the shrinking order lots and the increasing variety of fashion companies already today doesn't allow automation to be used efficiently, unless it's for basic items with repetitive materials and shapes - like car seats or furniture upholstery.

In contrast the Fashion Business today requires a vast variety of fabrics, models and colours and increasingly the possibility to customize or to tailor the product of choice.

Serial production needs and ideal scenarios for automation on the other side are completely opposing this requirement. To achieve a production line efficiency of 85% - an ambitious value for many apparel manufacturers anyway - a good balance between quantity and a repetitive range of qualities/complexity is essential.

For these reasons, it is likely that trained and skilled capacities with sustainable consumer market proximity will increasingly become rare.

In 2007 the leading apparel sourcing expert and consultant David Birnbaum formulated the scenario that in 2020 70% of the global apparel supply will be managed by 50 globally operating Textile and Apparel Giants.

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