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ENTREPRENEURIAL COUNTERINTUITIVE STRATEGIES FOR OPERATIONS AND GLOBAL SUPPLY CHAIN MANAGEMENT. A STUDY OF THE BENETTON GROUP

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ENTREPRENEURIAL COUNTERINTUITIVE STRATEGIES FOR OPERATIONS AND GLOBAL SUPPLY CHAIN MANAGEMENT. A STUDY OF THE BENETTON GROUP

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1. Introduction

This paper analyzes the Benetton case, an Italian multinational apparel corporation. Established in Italy in 1965, Benetton operates in 120 countries with 18 factories (12 in Italy) and has a network of around 6500 retail points selling good quality garments at medium price. This case illustrates how Benetton has gradually increased its supply chain vertical integration through a "Dual Supply Chain" system that, leveraging on both push and pull-focused demand, improves performance objectives. This process is critically illustrated by references to relevant academic literature.

2. Benetton's operations strategy

2.1 Review of the literature

Operations strategy is a set of general principles adopted by organizations for decision making to reconcile market requirements and operations resource capabilities within an operation (Slack *et al.*, 2007). It represents a subset of the overall supply chain strategy, and focuses on the firm's long-term competitive capabilities. It differs from operational activity whose time horizon is less extended (Boyer *et al.*, 2005). Operations and business strategy are integrated, the role of the former to "operationalize" the later.

Anderson et al. (1989) maintains that the theoretical approach to operations strategy is two-fold, mechanical and behavioural, the former being more prevalent. It describes decision makers as highly rational in their operations strategy decisions, while the behavioural approach views decision processes as bounded by external factors.

Whosever view we adopt, operations strategy is shaped by four main forces (Slack *et al.*, 2007): a more hierarchical top-down; the opposite bottom-up; market requirements and operation resources capabilities. Top-down's main idea is of learning from experience and continuous improvement. Market requirements stress importance on competitive factors. Firms can win competition leveraging on "order-winning" factors or simply access a market by having "order-qualifying" factors (Hörte and Ylinenpää, 1997). Nevertheless, due to increased international competition, a major related issue deals with trade-offs among competitive goals (Anderson *et al.*, 1989) and their impact on costs either at firm or business level (Tang, 2006).

Moreover other scholars (Barney, 1991; Rosenzweig and Roth 2004; Vickery *et al.*, 1994) have underlined the Resource-Based View of the firm. Grounded in the strategic management field, they have argued that a firm's competitive advantage depends on the non-duplication, non-substitutability and rareness of its resources and capabilities. Notwithstanding, their development

over time could constrain firms' expansion (Teece and Pisano, 1994). Nowadays, technology also impacts on firms operations and performance (Williamson *et al.*, 2006).

Operations strategy aims at the improvement of firms' competitive strength and business performance, measured by the five main performance objectives of cost, speed, flexibility, quality and dependability (i.e. delivery of a product when promised); main decision areas of operations strategy research (Slack *et al.*, 2007; Anderson *et al.*, 1989).

In a world where competition is more and more based on delocalization and low cost production systems, firms tend to invest focusing more often on process rather than on product innovation. "Strategic–fit", another operations strategy perspective, acquires relevance (Prasasd and Babbar, 2000). Anand and Ward (2004) maintain that operations strategies should adopt different choices according to different competitive and environmental conditions. Firms are indeed transforming into lean production organizations to cope with these dynamic conditions (Sohal, 1996).

We must now consider the practical implementation of operations strategy. Academics and practitioners have both elaborated different models (Platts and Gregory, 1990), but the majority of them lack the required flexibility to properly fit the reality of business activities (Tachizawa and Thomsen, 2007). Indeed they consider an operations strategy implementation as a structured sequence of steps to be accomplished in logical order. Since they do not help to determine priorities among different strategic performance objectives, they do not represent the emerging nature of strategic implementation (Mintzberg and Waters, 1995) and hence prove little practical utility.

Benetton's operations strategy is grounded on the above discussed theoretical perspectives. In the fashion knitwear industry, success against competitors depends mainly on two interrelated factors: brand reputation (and fashionable image) and ability in market responsiveness to adapt to emerging trends (Rovizzi and Thompson, 1992). This proves the importance of production planning that influences the rate on which materials enter the operation; the more efficient the higher customer attraction and retention (De Toni and Meneghetti, 2004). Demand and cost factors have then shaped Benetton's operations strategy decisions as it will be now illustrated in detail.

2.2 Focus on the Benetton case

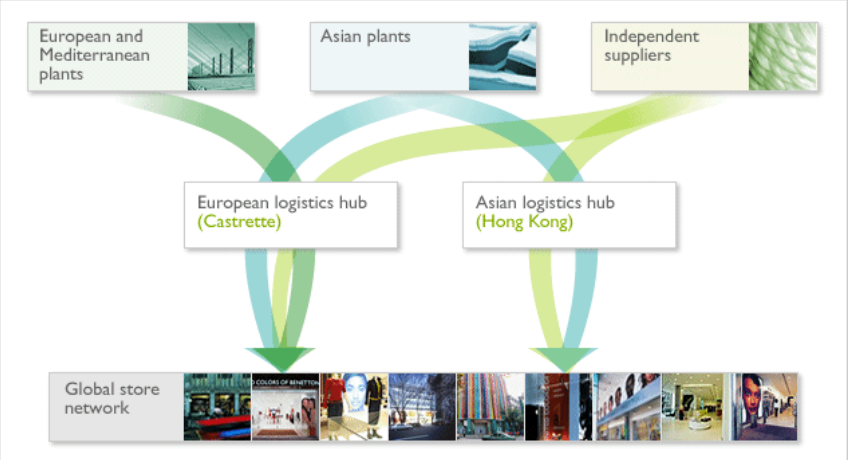
Benetton's innovative and almost pioneer operations strategy was the key of its success for almost three decades until late 90's. A mix of unique resources and competences, acquired and constantly improved over time started being imitated by emerging global competitors (Zara's sales are now four times Benetton's). Rovizzi and Thompson (1992) argue that in apparel industry process and product innovations are not a sustainable source of competitive advantage as they are easily imitable. Indeed IT technology and production machines are easy acquirable on the market (Chase and Garvin, 1989).

Benetton was ahead in dyeing, but was far behind in designing. Upstream vertical integration was offset by a retail strategy relying only on franchisees. It then reshaped its operations strategy by focusing on speed and quality, reduced time-to-market of its more than 100 collections per year

from two months to two weeks, and now promises a least 7% annual sales growth over the next ten years (Economist, 2007).

In describing Benetton's actual operations strategy, we focus on the main changes occurred in product design, supply and production, distribution and retail.

Fig. 1 – Benetton's Operations Business model



Source: www.benettongroup.com

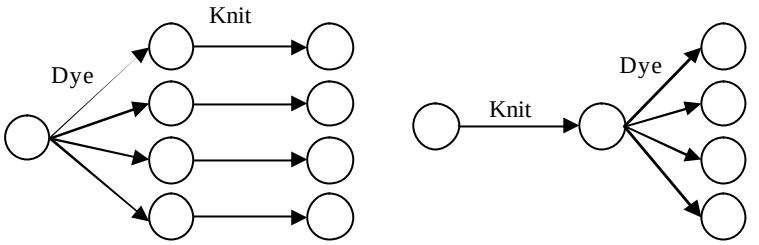
Product design

Up until 2000 Benetton used to launch two main seasonal collection per year (spring-summer and autumn-winter), which did not effectively meet customers satisfaction by providing the latest fashion trends, as competitors like Zara were already doing. Benetton reduced the number of pieces by 30% in the standard collections and introduced new "flash" collections during the season according to the latest fashion trends and customer preferences. The products re-design also involved a streamlining of brands by eliminating some previous, and a rationalization of collections, now divided by age in four groups (men, women, children and expectant mothers).

Supply and production

In order to better meet customer latest tastes, in 1964 Benetton introduced the postponement technique that basically reversed the traditional dye-first-knit-after mode into knit-firs-dye-after (Jarillo, 2001). The garments are first knitted in natural colour and then stored until information about latest colour trends are provided from the retailers.

Fig. 2 - Operations reversal at Benetton: single product style with four colors choices

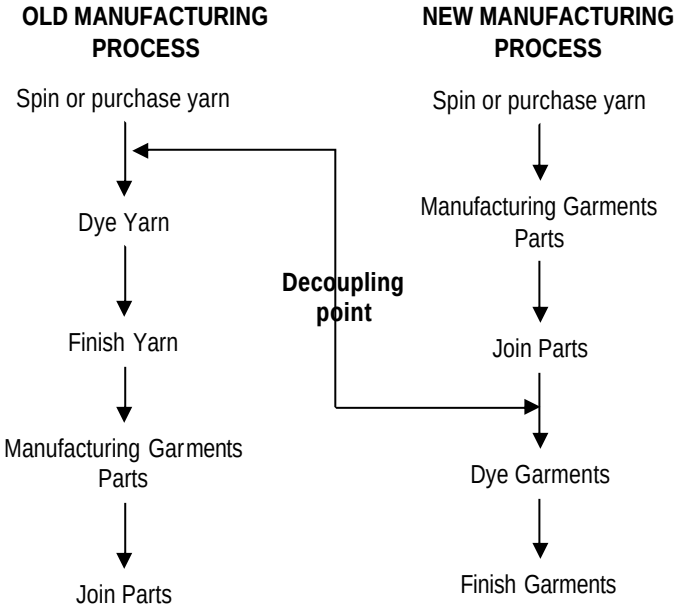


Source: Lee and Tang, 1998

Doing so Benetton extended the concept of "just-in-time" production from the supplier-to-final assembler to the manufacturer-to-retailer stage (Bennet, 94). However, Lee and Tang (1998) have contested the absolute benefits of this system compared to the traditional one in the case of increased product types/specifications and knitting time reduction related to technological improvements.

The postponement strategy delayed the decoupling point and increased the efficiency and effectiveness of the supply chain (Yang and Burns, 2003). Notwithstanding a minimum obsolete inventory, Benetton requested to place orders 8 months in advance did not allow to catch upcoming fashion trends. Only the development of the dual-supply chain system would have solved these drawbacks.

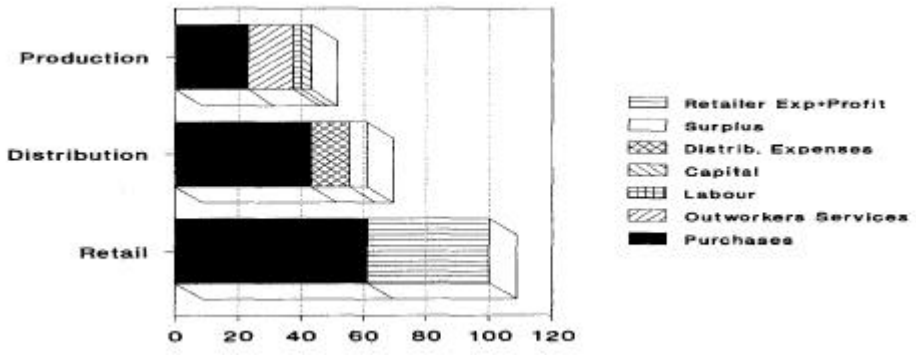
Fig. 3 – Postponement application in Benetton



Source: Yang and Burns, 2003

Moreover, in the mid '90 Benetton opted for centralization and internalization of critical phases (like CAD design, cut and dyeing) by creating a big production pole (10.000 sq.meter) in Castrette (Italy, near the company's headquarters). Despite the fact that most competitors have no in-house production, this hub-and-spokes structure plant processes 120 millions items/year and its model has been replicated abroad. The core in Castrette established a produce-to-order model that outsources to contractors (small and medium firms) according to their specific competences (Ferdows, 1997). These then autonomously decide how to allocate the activities to other sub-contractors (400 in total).

Fig. 4 – Benetton's Value Chain:



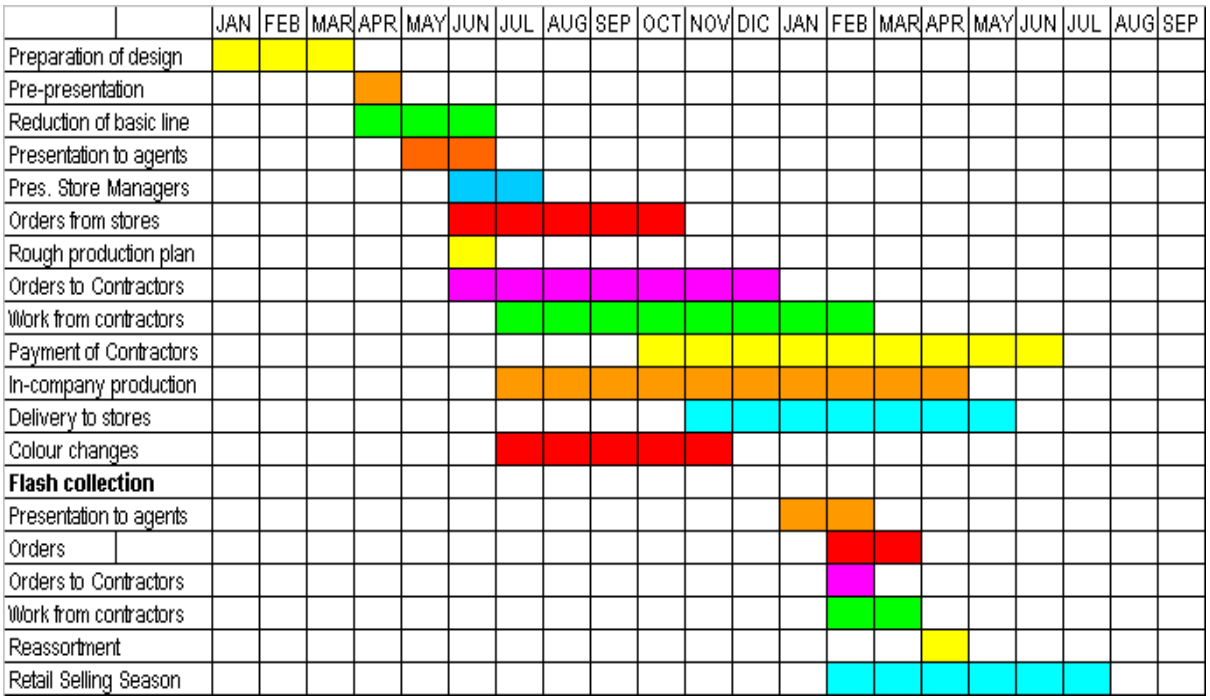
Note that if in 1992 outwork cost accounted for 15% of the purchase price, while internal production only for 2,5%, it is likely to have increased now (Rovizzi and Thompson, 1992).

The articles produced abroad then return to Castrette from where they are shipped to final customers. This offers two main advantages: higher quality thanks to specialization and lower costs of manufacturing since many contractors are in low-cost countries. But it also increased the operating cycle. Solutions were found in increasing vertical integration; first Benetton transferred some in-house quality control activities to external contractors, retaining only CAD design, cut and some intermediate **quality controls**. Raw materials are sent directly to contractors with no further controls, reducing transportation costs and lead time. Second, Benetton fully owns Olimpias, its main yarns supplier (60% woven, 90% cotton and wool). This single-sourcing ensures quality, dependability, commitment and secure Benetton from pressures on prices (Slack *et al.,* 2007).

Benetton adopts a make-to-order approach as competition in the fashion industry is time-based and hence textile apparel firms' job-size is not always predefined with ease (De Toni and Meneghetti, 2004). This system makes job time and job allocation coincident, hence improving lead time. Nevertheless, the increase in production launches with flash collections might decrease network knitting firms' productivity and increase transportation costs due to larger job numbers.

Furthermore, the quality issues and its control involve now high level of trust for the sub-contractors. Their reliability is however guaranteed by the fact that market appreciation for Benetton's apparel will ensure them job (Rovizzi and Thompson 1992).

Fig.5 – Benetton's operating cycle (Source: updated from Rovizzi and Thompson, 1992)



Logistic and Distribution

As speed and dependability are major issues in the apparel industry, Benetton aimed for a full direct control of logistic and distribution. It highly invested in an automated logistic process (Plussort) that allows Benlog (Benetton's logistic agency) to handle 10.000.000 items/month and to obtain a 7 days lead-time, a leading performance for the industry. In 2004 was opened the new Hong Kong hub serving in China, Japan, and the Far East. Other similar hubs are being studied to move the company from a centralized to a satellite system.

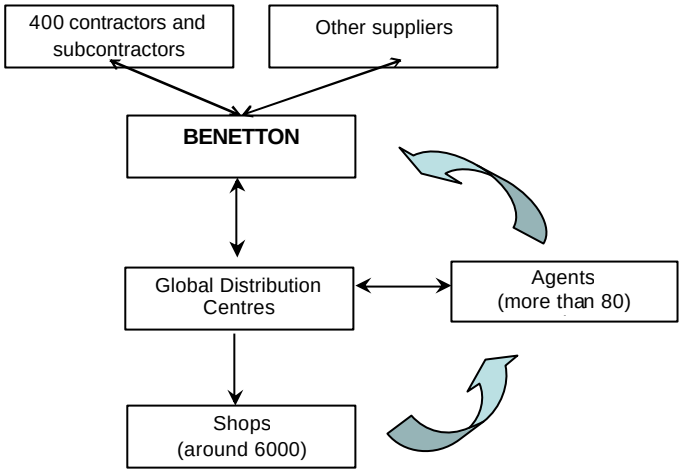
Retail and Sales

Benetton's retail and sales strategy responded to a logic of complete downstream integration. It started opening its own outlets to better grasp customers' feedback, showing the complete collection and spreading a unique corporate image (Ferdows *et al.*, 2002). Benetton pioneered the fashion retail supply chain management developing a network of 6500 franchised stores across almost 120 countries, but with the difference from competitors of not owning the franchisee's stores garments inventory. This reduced business risk, shared with retailers. With similar intent, it also developed a licensor-licensee relationship with a worldwide network of agents, responsible for recruiting and managing all retailers' transactions, acting as intermediaries for the company in their

region. Benetton has no formal agreement with the franchisees, which does not need to pay any royalties (ICFAI, 2008).

Benetton collects information about sales and customer preferences directly from its outlets and the agents, connected with franchisees. In this way the distorted impact of information from POS on upward supply chain is reduced with the risk of bullwhip effect (Steckel *et al.*).

Fig. 6 - Benetton's strategic map



(Source: adapted from Jarillo, 2001)

3. Benetton's position in the supply network and a critical review of its supply chain strtegy

3.1 Review of the literature

Nowadays, firms are involved in broader and more interlinked networks of suppliers and customers often on a global scale and win their rivals more with a good supply network management rather than through marketing strategies (Steckel *et al.*, 2004).

The complexities of the supply chain network dynamics have been deeply analyzed by researchers, who defined the "Bullwhip effect" as its first law (Motwani *et al.*, 1998). Order variability increases as orders move upstream along the supply chain (Kouvelis *et al.*, 2006), generating cost inefficiencies due to alternated periods of inventory surpluses and stockouts. Lee et al. (1997) has divided Bullwhip effect causes in four categories: informational efficiencies; order batching effects (influenced by fixed costs); dynamic pricing and promotional campaigns that make order forecasting harder; system gaming behaviour, leading to order inflations.

Supply chain design is the ultimate core competence of an organization, because it involves very important choices of what capabilities/operations it should develop internally and what it should allocate to external suppliers, where to locate its operations and how to manage its overall long-term capacity within the network (Fine, 2000). These have an impact on supply chains' objectives, i.e. meet the requirements of the end customers on time at a competitive cost, and are influenced by 5 performance objectives: quality, speed, cost, flexibility and dependability (Slack *et*

al., 2007). In a supply network each operation has its specific role and position, and it is possible to have suppliers' suppliers and customers' customers and so on. At the centre of this network stands the OEM (Original Equipment Manufacturer), linked to first/second tier, immediate suppliers/customers.

Supply network design often implies reconfiguration decisions according to push or pull strategy that shift the decoupling point (when customer orders arrive) along with responsability allocation among businesses (Cox, 2001).

A global vertical integration of the supply chain is recognized as the way to penetrate new markets beating the competition, reducing risk, fostering productivity and long term capacity (by increasing suppliers) (Rovizzi and Thompson, 1992). When firms expand their supply network globally they might face increased costs and lead times resulting in decreased customer satisfaction and loss in sales (Kumar and Arby, 2008). In particular, within the fashion industry, firms need to adapt to local market needs, to be more customer-responsive.

Thus, location choice has important implications. First, outsourcing from near-shore instead of offshore countries reduces lead time; second, cluster-sourcing is chosen for knowledge intensive activities or labour intensive components (Ferrer *et al.*, 2007).

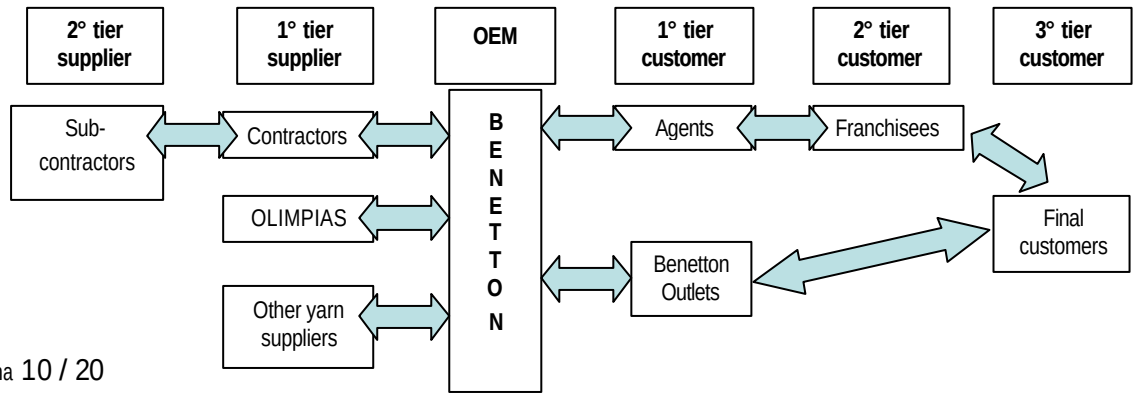
Different outsourcing synergies can be found in logistics to reduce shipping and administrative costs (Winter, 2005) and in the choice of technology and IT infrastructure, where the constant product visibility (like the debated issue of using Radio Frequency Identification systems) provides better data for supply chain management (Lewis and Talalayevsky, 2004).

Lastly, outsourcing synergies can also come from long-term relationships, whose disruption can lead to missed deliveries and customer loss; Lorenzoni and Baden-Fuller (1995) underlined the importance of trust in supply networks, often overlooked for speed, quality and cost (Borneman, 2005). Supply chain networks long-term performance are indeed affected by partner selection (Aron and Singh, 2005).

3.2 Focus on Benetton case

After 2000, Benetton adjusted its supply chain strategy to face emerging competition without changing the networked features of the model through two major actions. First, increased upstream and downstream vertical integration, second, centralized control of key operations along the supply chain. Benetton also searched for synergies by diversifying into the sports sector with the acquisition of renowned sport equipments brands.

Fig. 7 - Benetton's position in the supply network



From its position as OEM in the supply network Benetton has increased the degree of vertical integration along the supply chain in order to streamline all the operations, from raw-materials procurement to marketing & communication (founding and fully owning "Fabrica", an award-winning communication workshop). This has been done taking into account the importance of knowledge sharing across all network. Nowadays the Castrette pole exerts a full control power over the entire supply network. It develops all design activities, through a Product Development Division where fashion designers join cross-fertilization (Bonner *et al.*, 2002) and access market data from the marketing and sales division. Moreover, Benetton replicated in smaller scale the Castrette model in the other foreign fully or partially owned state-of the-art production poles.

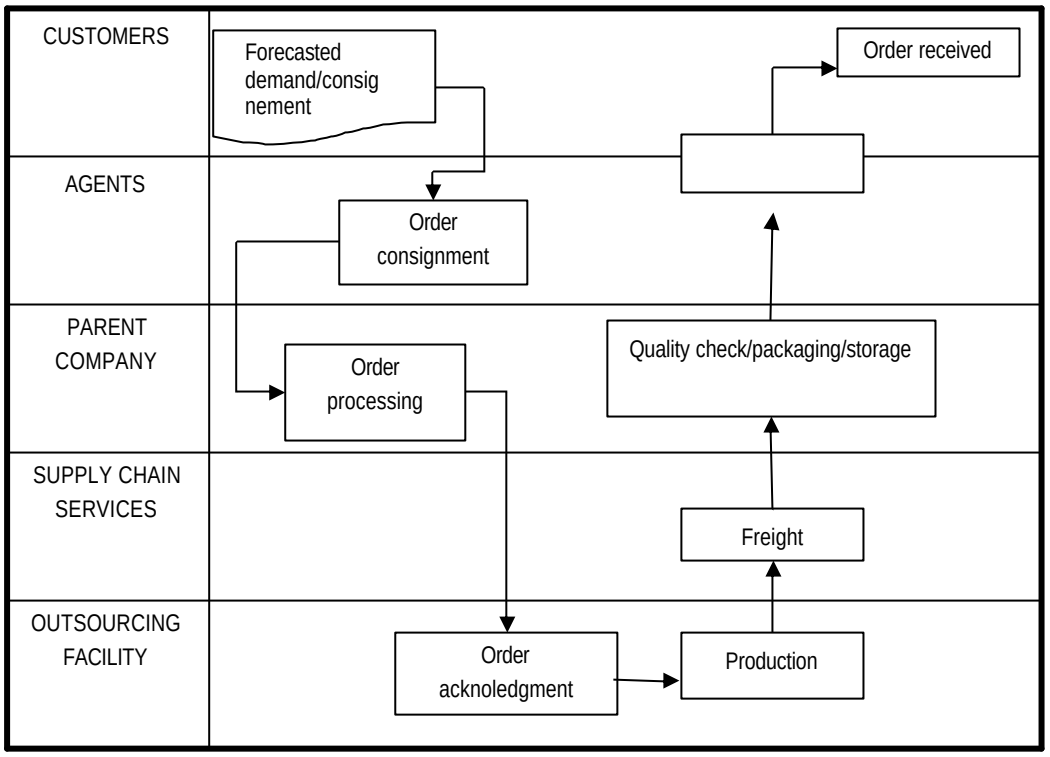
Technology plays a fundamental role in the supply chain network vertical integration strategy. Benetton has created the website "United Web" to foster worldwide business integration, e-procurement and online services (Camuffo *et al.,*2001).

Benetton's **outsourcing strategy** adopts both near-shore, off-shore and cluster-source base. About 90% of contractors are located in the Veneto region, few kilometres from Benetton's headquarters (Bennet, 1994). Off-shore contractors perform more labour-intensive operations for basic collections; near-shore realize flash collections to reduce time to market. Critical knitting phases are committed to particular clusters to deploy their specific competences. Benetton indeed pursues more economies of specialisation than of scale, as some knitting operations are carried out by different small-size suppliers with low economies of scale.

These contractors are also important for **risk sharing**, as represented also by the franchising scheme. The relationship with the parent company is also based on trust, and aims to long-term stability to avoid opportunistic behaviour. Former Benetton's partners were small entrepreneurs that used to be Benetton managers and were encouraged to spin-off by additionally receiving financial help from the company to acquire equipment. Benetton usually ties them in with production exclusivity contracts to ensure dependability and quality standards.

The exclusivity of business relationship and integration is also reflected in the retail strategy, where franchises are supposed to plan store layout and display products according to Benetton's headquarters detailed instructions.

Fig. 8 - Benetton's supply chain outsourcing process flow chart



Source: adapted from Kumar and Arbi, 2008

In search of **synergies** and growth, in 1998 Benetton diversified into the sport industry acquiring important brands of sport equipments (like Kastle, Nordica, Killer Loop). All product divisions R&D and production were concentrated in the Trevignano plant (Italy) who replicated the Castrette model and where Benetton invested in high-tech design systems and brought together designers from around the world to foster creativity.

The "dual supply chain"

Benetton has developed a dual-supply chain model to respond to changes in demand by balancing all operations. For standard garments delivered before the beginning of the season, Benetton uses a sequential dual supply chain based on push-demand. During the season, flash collections are conversely delivered using an integrated pull-demand focused supply chain, hence responding to customer latest feedbacks.

This system trough a more efficient logical flow of activities and an integrated planning system allows reduced costs and lead time. It maintains its core in Italy for the most strategic activities, like design and planning, while looks outside for production/logistic efficiency and cost control.

Fig. 8 – Benetton's increased Efficiency and Speed within the Dual Supply Chain

Efficiency – sequential supply chain

Speed – integrated planning system

Source:www.benettongroup.com

Despite dual supply-chain positively impacting on performances (2007 revenues and net profit grew by 9%), increased outsourcing might impact on Benetton's performance objectives. Quality control is becoming more complex as the network of suppliers is expanding from the company's core. To offset the impact of geographic distance on speed and dependability and to further reduce costs, Benetton is increasing logistic hubs. However the increased flexibility in number of collections might raise total costs.

4. Conclusions

Benetton's operations and global supply chain strategy represents a significant example of an operations network which enhances competitiveness. It has developed solutions diverging from industry practice and searched for synergies imitated by some of the main competitors. This draws two main lessons: the importance of both exclusive ownership of assets (brand, product design and market knowledge, technology) and knowledge-sharing among all actors of the supply chain.

Benetton's model could be defined as "flexible integration". It demonstrates some kind or counterintuitive evidence, as in order to have the most effective external flexibility to compete, the company has had to increase its internal rigidity and find the perfect balance among the two.

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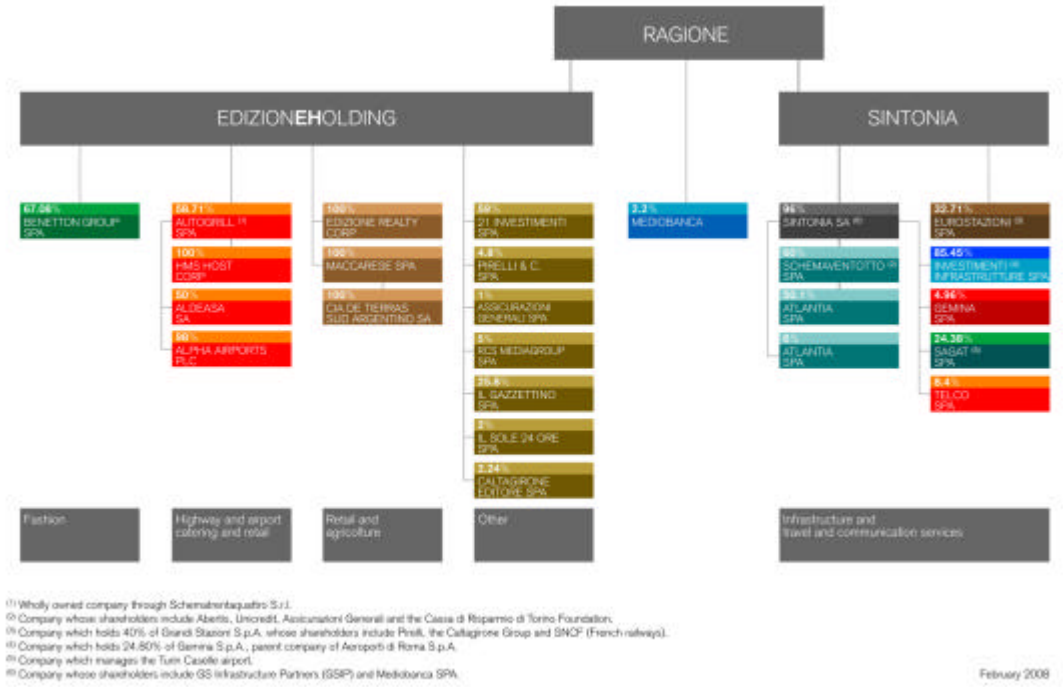
ANNEXES

Annex1: Benetton Group organizational structure



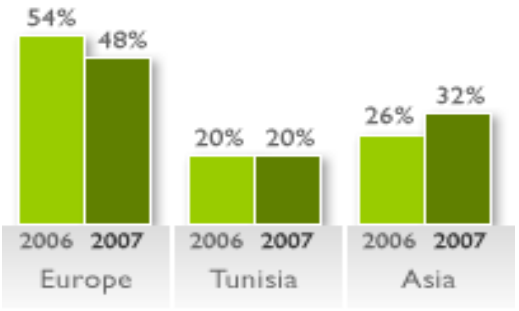
Source: www.benettongroup.com

Annex 2: Foreign production poles

Location	Country	Surface area (Sq. metres)	Core business	Benetton's equity share
Nagykallò	Hungary	26600	Garments, sport shoes and equipment	100%
Osijek	Croatia	17000	Woolen garments, weaving, dyeing	100%
Sahline	Tunisia	11100	Cotton garments, dyeing, washing	100%
Labin	Croatia	7000	Weaving	100%
Gurgaon	India	5400	Cotton garments	JV 50%
Sibiu	Romania	1900	Control quality	100%

Source: adapted from Camuffo et al. (2001) and ICFAI (2008)

Geographic breakdown of supply



Source: www.benettongroup.com

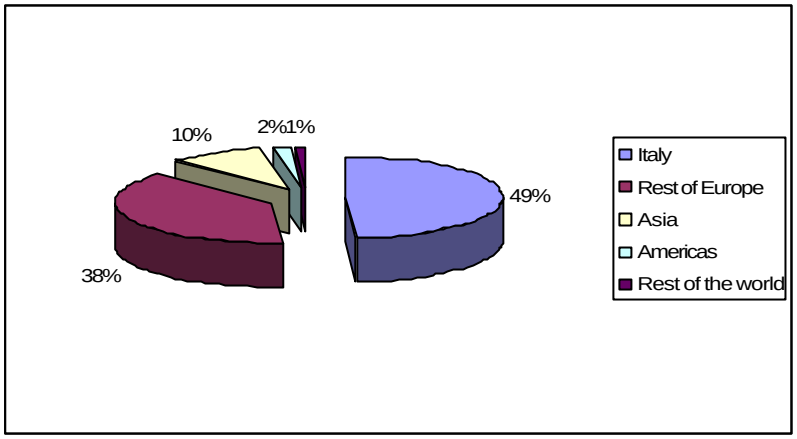
Annex 3: Benetton Group financial highlights

	31.12.2007	31.12.2006	31.12.2005	31.12.2004
Key operating data [millions of euro]				
Revenues	2.085	1.911	1.765	1.704
Gross operating income	909	806	770	775
Contribution margin	763	669	643	654
EBITDA	341	276	285	312
Ordinary operating result	246	179	205	225
EBIT	243	180	157	158
Net income	145	125	112	109
Key financial data [millions of euro]				
Working capital	652	623	688	711
Net capital employed	1.889	1.710	1.626	1.654
Net debt	475	369	351	441
Shareholders' equity	1.414	1.341	1.275	1.213
Free Cash Flow*	(34)	21	167	182
Employees [no.]	8.896	8.894	7.978	7.424
Financial ratios [%]				
ROE	10,48	9.47	8.87	9.02
ROI	12,87	10.50	9.67	9.54
EBITDA/Revenues	16,35	14.43	16.20	18.30
ROS	11,66	9.39	8.90	9.26
Net income/revenues	6,97	6.54	6.34	6.38

Source: www.investors.benettongroup.com

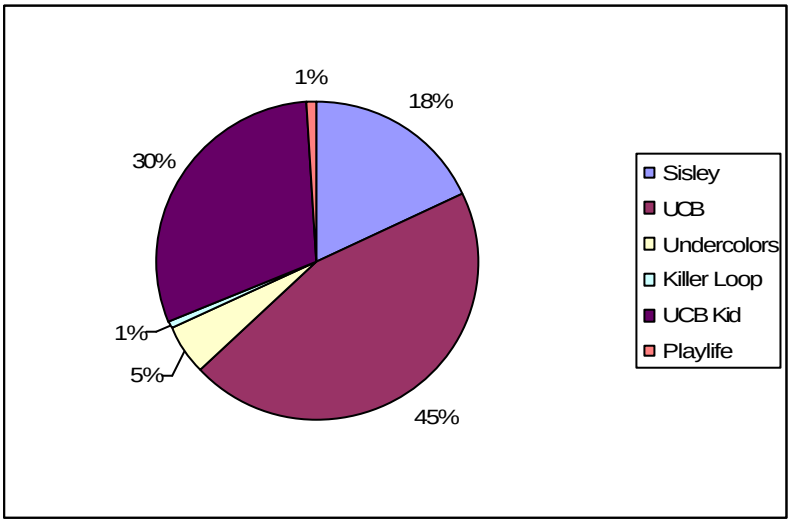
Annex 4: Benetton's Revenues breakdown

a) by region – 2007



Source: www.investors.benettongroup.com

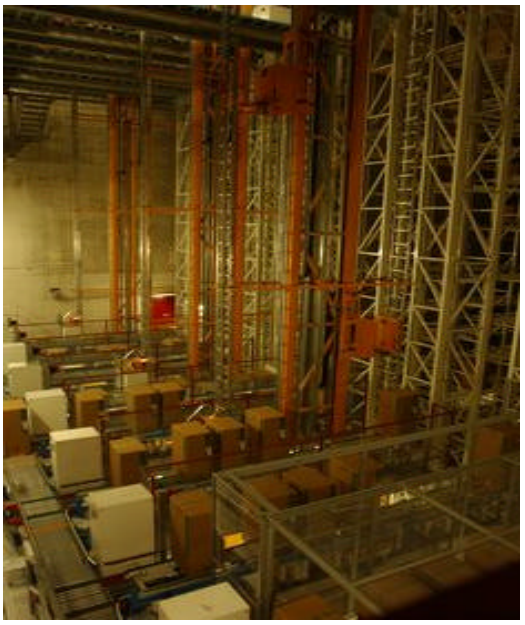
b) by brands - 2007

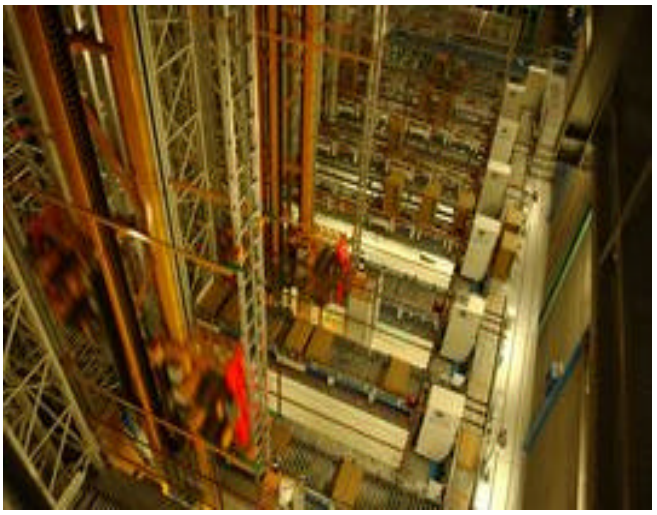


Source: www.investors.benettongroup.com

Annex 5: Images of Benetton's sorting system and distribution centre

Note: the distribution centre is spread across 20.000 sq. metres and handles around 40.000 boxes every day, both incoming and outgoing with a workforce of only 24 (compared to the 400 required in a traditional operation). Its storage area is 170 metres long, 80 metres wide and 20 metres high, built on two levels, one below the ground, and holds up to 400.000 boxes. The finished garments, packed, addressed and barcoded are collected at the receipt bays below ground level; here they are scanned and transported with high speed conveyors to the storage area above the ground level. This European platform has been supplemented by the automated hubs in Honk Kong (supply of Benetton's worldwide network) Taiwan and Shangai (for their domestic market). This multi-hub model is supported by a centralized information technology (IT) system, which coordinates and optimizes product deliveries according to required dates and destinations, providing the timeliness of information as well as a better control of the business.





COLLANA WORKING PAPER

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2. Daniele Cerrato, Maria Cristina Piva, *Managemetn familiare, capitale umano e internazionalizzazione delle piccole e medie imprese,* Collana Working Paper del Centro di Ricerca per lo Sviluppo Imprenditoriale dell'Università Cattolica, n. 2/2007
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4. Antoldi Fabio, *Organizational development process of small to medium enterprises,* Collana Working Paper del Centro di Ricerca per lo Sviluppo Imprenditoriale dell'Università Cattolica, n. 1/2008.
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6. Antoldi Fabio e Benedetto Cannatelli, *Managing the two dimensions of rationality in building strategic alliances among SMEs: the I-style experience in the furniture cluster of Brianza*, Collana Working Paper del Centro di Ricerca per lo Sviluppo Imprenditoriale dell'Università Cattolica, n. 3/2008
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