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# Logistics as a Competitive Strategy Analysis of the Clothing Industry in Terms of Logistics

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## Abstract

The clothing industry is one of the most competitive and highly value-added sectors in the world; however, in recent years the industry has suffered difficult times. Logistics is a very important strategy to gain competitive advantages like time, cost and customer satisfaction. This paper presents logistics as a strategic solution and investigates important problems as well as necessary solutions according to the needs of the Turkish clothing industry. In the first section of the article, a profile of the clothing industry in Turkey and the world is presented. Then the situation of the logistics sector in Turkey and the world is explained. Finally, an evaluation of logistics as a global strategy in the clothing industry is presented.

**Key words:** logistics, Turkish clothing industry, competitive strategy.

## A profile of the clothing industry in Turkey and the World

The clothing sector is both a labor-intensive and low wage industry, but it is also dynamic and innovative, depending on which market segments one focuses upon. The competitive advantage of clothing firms located in developed countries is related to their abilities to produce designs that capture tastes and preferences in addition to cost effectiveness [1]. The other market segment is the mass production of lower-quality and/or standard products such as t-shirts, uniforms, white underwear etc. Manufacturers for this market segment are largely found in developing countries [2].

According to manufacturing statistics (UNIDO), the average annual growth of added values for the textile sector in relation to the world manufacturing industry was 0.2, and for clothing it was (-)1.8 between 1990 and 2005 (**Table 1**) [3]. Furthermore, the most significant job losses have been experienced by the textile and apparel industry in manufacturing. In G7 countries, there has been a decreasing trend with respect to employment in manufacturing. **Table 2** clearly shows that inside the G7 countries the textile and apparel industry had 10.7 million

**Table 1.** Manufacturing industry of G7 countries - value added growths 1990-2005.

Technology Groups	Sectors	Average annual growth, %
Low Technology	Textile	0.2
Low Technology	Apparel	-1.8

**Table 2.** World manufacturing industry - employment change.

Industries' employment (million people)	1970	1980	1990	2001
Textile apparel industry	10.7	8.3	6.5	4.0
Total	63.0	59.4	56.4	50.7

employees in 1970, whereas it decreased to 4 million people in 2001 [4].

**Table 3** shows that the proportion of the total export that apparel represents decreased from 4.5% to 3.8% between the years 1990-2006. For the textile industry this value decreased from 4.4% to 2.6%. On the other hand, the export value of the apparel sector, in billions of dollars, increased 2.88 times, and the textile export value increased 2.10 times between 1990 and 2006, which means that as the value of export in billions of dollars increases, the proportion of the total export decreased between 1990 and 2006 [5].

In 2007, world apparel trade was valued at around 340 billion dollars, and it was estimated that 171 billion dollars of the trade was in knitted products and 199 billion dollars of it in non-knitted apparel products. When knitted apparel

exports were considered, in 2006 it was seen that China (36%), Hong Kong (8%), Italy (5%), Turkey (5%), Germany (4%), Bangladesh (4%), India (2%), France (2%) and the Netherlands (2%) were the leaders. Similarly, when non-knitted garment exports were considered, it was seen that China (28%), Hong Kong (8%) and Italy (8%) shared the first three places. Other prominent countries were Turkey (3%), Germany (5%), Bangladesh (3%), India (3%), France (4%) and Belgium (2%) [6].

According to technology groups, the contributions of the sectors within the foreign trade balance are important indications of the position of the countries inside world trade. Balances that are created by the export and import values of high technology sectors, medium technology sectors, medium-low technology sectors and low technology sectors make a posi-

**Table 3.** International trade statistics for the sectors under study; Above should be 'billions of dollars' and 'proportion of total export'; Source: International Trade Statistics, 2007, WTO.

Sector	1990		1995		2000		2006		Growth rate (1990-2006)
	Export, billion dollars	Proportion inside total export, %	Export, billion dollars	Proportion inside total export, %	Export, billion dollars	Proportion inside total export, %	Export, billion dollars	Proportion inside total export, %	
Apparel	108	4.5	157.4	4.3	198.9	4.2	311.4	3.8	2.88
Textile	104.3	4.4	149.7	4.1	157.5	3.5	218.6	2.6	2.10
Total export	2391.2	100.0	3641.8	100.0	4697.7	100.0	8256.9	100.0	3.45

tive or negative contribution to the overall foreign trade balances of countries. The industry contributions of countries in the foreign trade of the manufacturing industry according to technology classes are presented in **Table 4** as of 2005. According to these data, the U.S. had a trade deficit in the low-tech and medium-tech industries; it was of a more limited extent in medium high-tech industries, and the US had a strong surplus in high-tech technology trade [7].

Turkey had a contribution value of (-5) for high technology industries, (-8) for medium-high technology industries, (-2) for medium-low technology industries and (+15) for low technology industries. According to the technology groups, the positive and negative contributions of the sectors to foreign trade are shown by the technology group in which these countries have intense production and are more competitive. Turkey had a significant trade deficit in high-tech, medium-high-tech and medium-low-tech sectors, as a result of which Turkey is trying to compensate for these high deficits by focusing on production and export in low-tech sectors [7].

Turkey's textile and clothing industry is one of the most important low-tech sec-

**Table 4.** Industry contributions based on the technology classes; *Source: Science and Engineering Indicators 2008, Matonial Science Board, USA.*

Countries	High-tech Industries	Medium-High Technology Industries	Medium-Low Technology Industries	Low Technology Industries
<b>G-7 Countries</b>				
U.S.A.	+5.5	+1.5	-6.0	-1.0
Japan	+1.0	+14.0	-1.0	-14.0
Germany	+3.0	+7.0	0.0	+4.0
England	+3.5	+1.0	+0.5	-5.0
France	+0.5	+3.0	-1.0	-2.5
Italy	-4.0	0.0	+1.0	+3.0
Canada	-3.0	+2.0	-3.0	+4.0
<b>EU Countries</b>				
Spain	-4.0	+2.0	+0.5	+1.5
the Netherlands	-0.5	+2.0	-0.5	-1.0
Belgium	0.0	-1.5	+0.5	+1.0
Austria	-1.0	+3.0	0.0	-2.0
Denmark	+1.0	+3.0	-3.0	-1.0
Sweden	+0.5	+1.0	-1.0	-0.5
Ireland	+6.5	+1.0	-4.0	-3.5
Finland	0.0	+1.5	-7.0	+5.5
Portugal	-3.0	-1.0	-2.0	+6.0
Greece	-2.5	+1.0	-4.5	+6.0
<b>Other Industrialized Countries</b>				
South Korea	+3.5	+0.5	-1.0	-3.0
Switzerland	+7.5	+10.	-3.0	-5.5
Australia	-6.5	-8.5	+8.5	+6.5
Norway	-3.0	-1.5	+8.0	-3.5
<b>Industrializing Countries</b>				
Mexico	+2.5	+3.5	-5.0	-1.0
Hungary	+3.0	+1.0	-4.0	0.0
Slovakia	-4.5	+2.0	+2.5	0.0
Poland	-4.0	-3.0	+1.0	+6.0
Czech Republic	-2.5	+3.5	+0.5	-1.5
Turkey	-5.0	-8.0	-2.0	+15.0

**Table 5.** Turkish Textile&Clothing export values between 1980-2008; *Source: Undersecretariat of the Prime Ministry for Foreign Trade.*

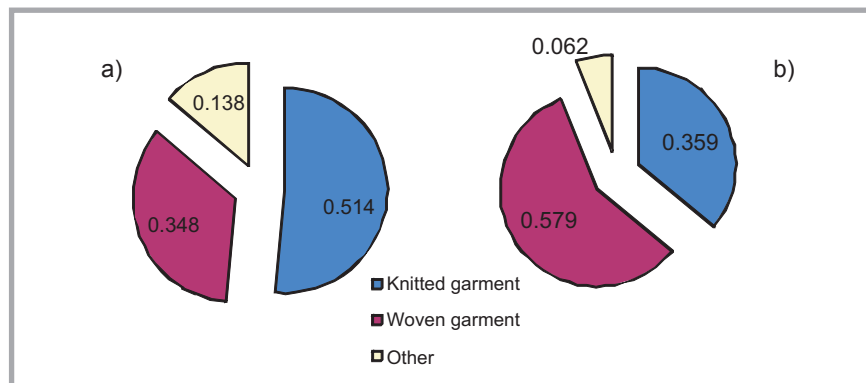
Year	Total export (1000 \$)	Clothing export (1000 \$)	Proportion of clothing, industry %	Textile export (1000 \$)	Proportion of textile industry, %	Textile + clothing export (1000 \$)	Textile + clothing proportion %
1980	2 910 000	106 000	3.6	671 000	23.1	777 000	26.7
1981	4 703 000	302 000	6.4	915 000	19.5	1 217 000	25.9
1982	5 746 000	367 000	6.4	1 069 000	18.6	1 436 000	25.0
1983	5 728 000	544 000	9.5	1 055 000	18.4	1 599 000	27.9
1984	7 134 000	989 000	13.9	1 181 000	16.6	2 170 000	30.4
1985	7 958 000	936 000	11.8	1 151 000	14.5	2 087 000	26.2
1986	7 457 000	1 069 000	14.3	1 043 000	14.0	2 112 000	28.3
1987	10 190 000	1 728 000	17.0	1 133 000	11.1	2 861 000	28.1
1988	11 662 000	2 127 000	18.2	1 334 000	11.4	3 461 000	29.7
1989	11 625 000	2 448 000	21.1	1 338 000	11.5	3 786 000	32.6
1990	12 959 289	2 898 349	22.4	1 424 249	11.0	4 322 598	33.4
1991	13 593 539	3 219 350	23.7	1 374 357	10.1	4 593 707	33.8
1992	14 365 414	4 009 615	27.9	1 369 322	9.5	5 378 937	37.4
1993	15 345 000	4 157 997	27.1	1 457 490	9.5	5 615 487	36.6
1994	18 107 000	4 490 043	24.8	1 944 818	10.7	6 434 861	35.5
1995	21 637 041	6 188 502	28.6	2 130 665	9.8	8 319 167	38.4
1996	23 224 465	6 344 252	27.3	2 352 142	10.1	8 696 394	37.4
1997	26 261 072	7 088 669	27.0	2 730 421	10.4	9 819 090	37.4
1998	26 973 952	7 644 051	28.3	2 811 763	10.4	10 455 814	38.8
1999	26 588 264	7 145 053	26.9	2 733 641	10.3	9 878 694	37.2
2000	27 774 906	7 250 960	26.1	2 845 184	10.2	10 096 144	36.3
2001	31 334 216	7 332 107	23.4	3 060 647	9.8	10 392 754	33.2
2002	36 059 089	8 945 787	24.8	3 203 744	8.9	12 149 531	33.7
2003	47 252 836	11 171 096	23.6	3 943 426	8.3	15 114 522	32.0
2004	63 167 153	12 643 690	20.0	4 952 092	7.8	17 595 782	27.9
2005	73 476 408	13 411 464	18.3	5 477 039	7.5	18 888 503	25.7
2006	85 534 676	13 558 054	15.9	6 146 614	7.2	19 704 668	23.0
2007	107 153 918	15 560 170	14.5	7 355 157	6.9	22 915 327	21.4
2008	132 003 000	15 722 503	11.9	6 807 831	5.2	22 530 334	17.1

**Table 6.** Apparel export values of Turkey for each country.

Countries (1000 dollars)	2005	2006	2007	2008	Change in % (08/07)
GERMANY	3 071 556	2 937 023	3 272 143	3 229 915	-1.3
ENGLAND	2 020 802	2 096 329	2 434 655	1 939 460	-20.3
FRANCE	812 841	766 892	866 971	939 197	8.3
THE NETHERLANDS	793 418	786 501	952 365	917 321	-3.7
SPAIN	476 200	634 821	860 386	892 486	3.7
ITALY	486 006	551 016	672 153	729 976	8.6
DENMARK	354 276	407 672	506 092	462 498	-8.6
U.S.A.	915 002	679 191	487 025	294 199	-39.6
SWEDEN	201 520	202 974	244 161	255 853	4.8
BELGIUM	194 175	198 871	217 190	238 206	9.7
TOTAL	11 452 728	11 649 259	13 467 746	13 159 190	-2.3

**Table 7.** Apparel import values of Turkey for each country.

Countries (1000 dollars)	2005	2006	2007	2008	Change in % (08/07)
BANGLADESH	39 763	79 206	158 240	338 746	114.1
CHINA	144 099	150 401	218 265	313 466	43.6
ITALY	87 590	117 567	141 500	168 429	19.0
INDIA	38 761	68 354	96 558	149 842	55.2
MALAYSIA	26 805	41 320	93 364	116 169	24.4
INDONESIA	15 341	35 486	56 182	80 535	43.3
VIETNAM	3 280	6 541	31 000	69 311	123.6
HONG-KONG	20 729	47 834	66 013	65 231	-1.2
SRI LANKA	10 330	16 744	30 300	58 535	93.2
PAKISTAN	4 773	13 879	35 582	51 381	44.4
TOTAL	686 101	954 479	1 397 019	1 992 051	42.6



**Figure 1.** Turkey's exports (a) and imports (b) as basic product groups in 2008.

tors in the Turkish economy and has been its "locomotive" since the early 1980's. **Table 5** (see page 13) shows the textile and clothing export as well as import values of Turkey between the years 1980 and 2008. As seen from the table, the textile and clothing export proportions of the total export have been decreasing dramatically since the year 2000 [8].

When the clothing export values of Turkey were investigated with respect to the countries exported to, it was seen that Germany, England and France were the largest, but the change in export rates had a decreasing trend in general (**Table 6**). The import values of Turkey are shown in **Table 7**. It is clearly seen that Turkey had a significant rise in import values

**Table 8.** Effects of change in manufacturing sites.

Sector	Change in manufacturing site	1990-2005 average annual value added growth, %	Share of value added, %		Producer prices 1980-2005	Export prices 1980-2005
			1985	2005		
Low Technology Product Textile, apparel, leather, shoe	Fast changing	-1.2	36.4	30.9	↓	↓

between 2005 and 2008, especially from Bangladesh, Vietnam, Sri Lanka, Pakistan and China, which shows that Turkey has started to import some apparel products from low cost countries or producing them in cheaper countries rather than in Turkey, like clothing companies in developed countries [6].

51.40% of Turkey's apparel exports was in knitted garments, 34.80% in woven garments, and 13.80% of apparel exports was in the other garment types in 2008 (**Figure 1.a**). 35.90% of apparel imports was knitted garments, 57.90% - woven garments, and 6.20% of apparel exports was in other garment types in 2008 (**Figure 1.b**) [6].

The main determinant of a change of manufacturing place in manufacturing industries is the manufacturing cost of labour-intensive and low-middle-low technology industry sectors. Production places in the manufacturing industry are often shifted to developing countries that have more appropriate production conditions. First labor-intensive, low value-added and low technology sectors, such as the textile and clothing sector, are shifted to countries that have the advantages of a low-cost labour force. Countries that have left this sector concentrate on more high-technology industries. This concentration is achieved mostly by countries with high technology and innovation capacities [9].

Low and medium-low technology production in lower cost locations has begun to make the price of these products fall. The export of these products has increased in quantity, but the increase in value is limited, as was mentioned before for Turkish clothing export values. Between the years 1990 and 2005, the average annual value added growth decreased by 1.2% (**Table 8**). Moreover, producer prices and export prices decreased between 1980 and 2005 [9].

Production cost differences between developed and developing countries (for low and medium technology products) are evaluated in **Table 9**. Which clearly shows that transportation, logistics and



Figure 2. International road connections of Turkey.



Figure 3. Seaports of Turkey.

stock costs have an important place (10%) in the total production costs [9].

There is a growing demand for time-based logistics management in developed markets where customers are relatively sophisticated and resulting competitive pressure is high. Customer demands for faster delivery, continuous shipment tracking and the electronic transfer of information reflect this desire to minimise time wasted. A competitive advantage built on a well-planned and successfully executed logistics strategy can be sustainable because it is very difficult for a competitor to copy [10].

### Evaluation of the logistics sector in Turkey and the world

The world market size of logistics is estimated to be 3 trillion dollars, equivalent to 10% of the Gross National Product value of the U.S. The United States and the EU constitute more than 50% of the world's logistics market in relation to their world trade in goods. In Asia, China has a developing trend in the logistics market [11].

Turkey is a Gateway from/to Europe, Central Asia, the Black Sea, the eastern Mediterranean and the Persian Gulf. Turkey has one of the most important positions with respect to logistics i.e. between Europe and Middle East, as result of which its multi-mode connection facilities: Seaports/Free Zones/Railways/Airports and Truck formation (Figures 2 and 3) are also of great importance. Among the world's 10 big emerging markets, Turkey has growing Transport & Logistics, Automotive, Textiles and Retailing industries, with 60% of the population under the age of 30 [12].

In Turkey, logistics has an important place in the development of the industry; Turkey has nearly 50.000 foreign trade

companies. Approximately 5.000 of these companies have a foreign trade volume of over one million USD. There are approximately 2.000 customs clearance companies, 1200 international road transport companies, 1000 international maritime companies, 250 freight-forwarders and about 250 bonded warehouses that provide logistics services. Transportation warehouse operators, transportation job agents, distributors, cargo and courier companies can also be included in this sector [13].

Moreover, Figure 4 shows the total export and import values of Turkey. Turkey has an increasing tendency in the total foreign trade, which further highlights the importance of the logistics

sector. [12]. Turkey's foreign trade represented nearly 35 billion dollars at the end of 2007. Furthermore, depending on the sector, between 4% and 20% of the sale price of a product is logistics costs, which makes the importance of the sector for Turkey's economy clear [14].

Turkey's foreign trade as per transport modalities in percent is shown in Table 10. Turkey generally uses sea (about 50%) and road transport (about 35%) for foreign trade. Airway transport (about 10%) is rarely used because of high transportation costs. Although in the world the use of rail freight transport has an important place in transportation, Turkey uses railways for about 1% of its foreign trade [15].

Table 9. Production cost differences between developed and developing countries (for low and medium technology products); Source: Capturing Global Advantage, BCG 2007.

Cost Elements	Unit
Total cost in developed country	100
Labor cost contribution	-20 -25
Amortization contribution	-5 -10
Cheap raw material of intermediate goods contribution	-10 -15
Scale contribution	-0 -5
Special incentives	-0 -5
Manufacturing cost in developing country	50
Transportation, logistics and stock costs	+10
Additional administration costs	+5
Taxes	+5
Total cost in developing country	70

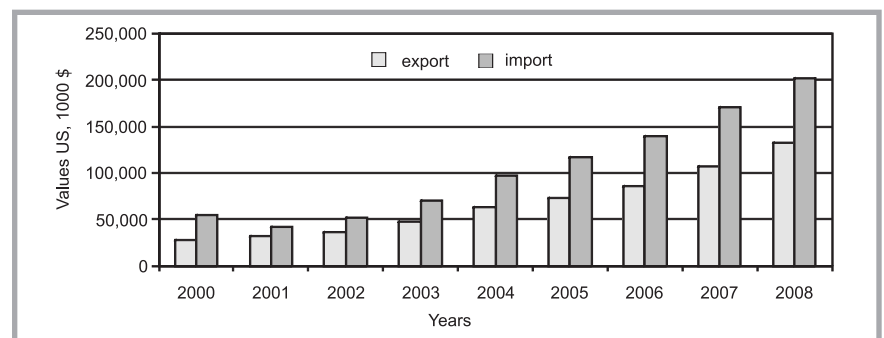


Figure 4. Turkey's total exports and import.

**Table 10.** Foreign trade of Turkey as per transport modalities (import + export, %); Source: TÜİK.

Years	Sea transport	Railway transport	Road transport	Airway transport	Others
1995	48.8	0.8	39.8	7.7	2.9
1996	47.6	0.8	39.5	9.4	2.7
1997	46.4	0.6	41.4	9.8	1.8
1998	44.9	0.5	44.0	9.4	1.2
1999	46.4	0.7	41.8	9.7	1.4
2000	47.4	0.4	35.4	9.6	7.2
2001	49.3	0.6	36.8	10.3	3.0
2002	48.1	0.8	38.6	10.0	2.5
2003	49.0	0.9	37.7	10.0	2.4
2004	50.4	1.1	36.3	10.1	2.2
2005	53.8	1.4	31.8	9.0	4.1
2006	55.3	1.4	30.4	8.3	4.7
2007	50.4	1.1	36.3	10.1	2.2
2008	54.2	1.2	32.0	8.2	4.3

### The importance of logistics as a global strategy in the clothing industry

As global firms in distant places find ways of embedding themselves within larger webs of production and distribution, the conditions surrounding these objectives of upgrading also change. The whole system of internationally fragmented production and distribution increases economic activity almost everywhere and forces firms to respond in the form of technological change, industrial reorganisation and regional relocation [16].

Schematically, three main types of clothing enterprise can be identified in Turkey: The first comprises principal enterprises that design and market clothing; such enterprises employ relatively few technical staff and achieve a high turnover per person employed, but they do constitute a small segment in the sector. The second comprises manufacturers which are usually small and highly specialised; such types of companies have a

significant majority in the Turkish clothing industry. The third is made up of vertically-integrated own account enterprises that design, make and sell clothing, perhaps through their own distribution networks [17].

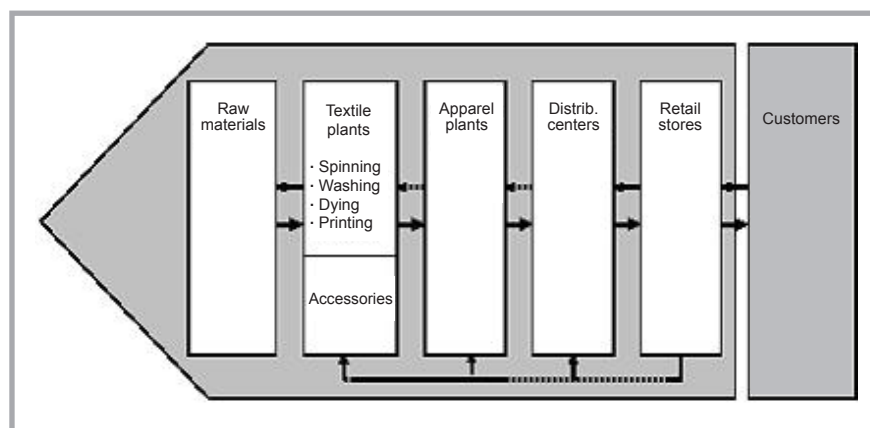
Turkish clothing companies have, first and foremost, placed great emphasis on the development of new brands that command higher prices relative to costs or on those that can secure a larger market share in order to preserve their place in global markets. Moreover, some big companies within the global clothing market, gain profit from a combination of designing, branding, marketing, retailing, and financial services rather than from manufacturing alone. In addition, some companies transfer their production facilities to low wage areas to keep costs down. Activities can also be relocated to seek out new cheaper sources of materials and components. For the firms placed inside these dense networks, responsibilities have gone beyond handling logistics activities and include the management of a complex business environment that

requires sophisticated forms of coordination. Therefore, a successful combination of highly sophisticated logistics structures has become a requirement for success.

Logistics, in its most basic definition, is the efficient flow and storage of goods from their point of origin to the point of consumption. It is the part of the supply chain process that plans, implements and controls the flow of goods. It can also be seen as the management of inventory, at rest or in motion. The word logistics was first used in the military to describe the process of supplying a war zone with troops, supplies and equipment. The term is now used more commonly in the field of business. Logistics is also defined as a business planning framework for the management of material, service, information and capital flows. It includes the increasingly complex information, communication and control systems required in today's business environment [18].

The textile and clothing sectors can be seen as a supply chain consisting of a number of discrete activities. Increasingly the supply chain from the sourcing of raw materials via design and production to distribution and marketing is being organised as an integrated production network. The supply chain in the textile and clothing sector is illustrated by **Figure 5**. The dotted lines represent the flow of information, while the solid ones represent the flow of goods. The direction of the arrows indicates a demand-pull-driven system. The information flow starts with the customer and forms the basis of what is being produced and when. In many cases information flows directly from the retailers to the textile plants. The textile sector produces for the clothing sector and for household use. At each link in the production chain to the left of the distribution centre in **Figure 5**, there are usually several companies. In order to make goods, information and payments flow smoothly, a number of logistics and business services are needed. Depending on the size and development of the host economy, such services are provided by the lead firm in the supply chain or independent service providers in the more advanced countries [19].

Turkey possesses a good logistical advantage over other competitors, such as India, China and Pakistan, owing to its short distance from Europe. Moreover, Turkey has other important strengths in the logistics sector like economic growth, productivity growth, being surrounded



**Figure 5.** Supply chain in the textile and clothing sector [19].

by the sea on three sides, and a developed road transport network with a significant fleet, but above all it is a low cost country compared to Europe. On the other hand Turkey has some weaknesses like the lack of a technological infrastructure, a shortage of qualified personnel, the lack of a rail and sea transportation infrastructure, the lack of combined transport, and an aged vehicle fleet. Uncertainty and fluctuations in the economy is an important threat for Turkey. The entry of foreign firms to the sector, the dynamic structure and development of the sector, a young and dynamic population, a suitable geographic infrastructure for harbour construction, as well as the Black Sea, Balkan and Arab markets are some of the advantages Turkey has [13].

The determination of the strengths and weaknesses of the sector, the elimination of infrastructure deficiencies, the creation of effective information sources for sustainable competition, and the determination of logistics strategies and policies providing solutions to the problems are necessary for the competition of Turkish logistics companies [20]. The use of rail freight transport must also be developed for the logistics success of Turkey.

Moreover, as a logistics strategy, building logistics centers similar to those in Europe brings with it significant advantages like logistics chain optimisation, truck usage optimisation, warehouse usage optimisation, manpower usage optimisation, a decline in total transportation costs, a drop in total industrial costs, a decline in labour costs and an increase in the total turnover of transport operators [21].

In order to convert their current situation into a competitive advantage, global companies are searching for ways of spreading their activities among nations in order to serve the world market, which obliges them to have the ability to coordinate those dispersed activities [10]. Today, big clothing companies in Turkey have started to use logistics as a globalisation strategy and outsource their some operations such as sourcing, inbound logistics, and manufacturing, which can be conducted anywhere. Outbound logistics, after-sales service and marketing are usually tied to the buyer's location. Some clothing manufacturing facilities (after assembly and before distribution) such as stock and inventory management, first control, repairs, stain removal, quality control, repressing, counting, bar-coding, labeling, packaging, the placement of accessories, manuals and warranty docu-

ments, product separation and classification, order management and creating sets of products are provided by leading firms in the logistics sector or by independent service providers. As a result clothing companies gain important advantages like time and reducing costs, and consequently they can focus on their strategic activities more professionally.

## ■ Conclusions

Turkey's textile and clothing industry is one of the most important sectors in the Turkish economy and has been its "locomotive" since the early 1980's. To compete in the global market, the Turkish textile and clothing industry must engage in a permanent process of restructuring that involves the adoption of new technologies and new modes of work organisation to increase productivity, reduce costs and keep ahead of producers in low wage areas. Inside this type of production and distribution systems, there is pressure to improve logistics methods such as developing new and more effective ways of managing material and information flows, as a result of which there will be a decrease in distribution and stock management costs.

Turkey possesses a good logistics advantage compared to its other competitors, such as India, China and Pakistan, owing to its short distance from Europe. Moreover, Turkey has an important place in the world textile and clothing sector. On the other hand, labour-intensive, low value-added and low technology sectors, like the textile and clothing sector, are often shifted to countries that have the advantage of a low-cost labour force. Logistics is becoming an increasingly important strategy for clothing companies.

The findings of this study make a useful contribution to the industry as well as academia in order that the current situation of the clothing industry in Turkey and the world, as well as the situation of the logistics sector in Turkey and the world be analysed. Moreover, this article will attract attention to the idea of logistics as a globalisation strategy for the clothing industry, as well as to important problems and variables for the continuing development of the Turkish clothing industry

In the second part of this study, a design of a logistics center for the Turkish clothing industry will be presented. In the meantime, an expert survey will be

conducted in the Turkish clothing industry, and data will be collected from the top-level management teams of each of the clothing firms, who are liable to provide answers for the questionnaire. The functions, sizes and important criteria to establish a logistics center for the Turkish Clothing Industry will be presented.

## References

1. Navaretti G. B., Falzoni A., Turrini A.; *Journal of International Trade and Economic Development*, Vol. 10 (2001), pp. 451-70.
2. Gereffi G.; *Journal of Textile and Apparel, Technology and Management*, Vol. 2, (2001), pp. 1-5.
3. *Manufacturing Statistics*, UNIDO IND-STAT3 2006, Industrial Statistics Database.
4. *The challenge nature of manufacturing in OECD Economics*, (2006), OECD.
5. *International Trade Statistics*, (2007), World Trade Organization.
6. Sevim, Ümit, "Hazır giyim 2009", T.C. Başbakanlık Dış Ticaret Müsteşarlığı İhracatı Geliştirme Etüd Merkezi, (2009).
7. *Science and Engineering Statistics*, (2008), National Science Board.
8. İTKİB (Representation of Turkish Textile and Ready-made Garment Exporters Association), "Tekstil Sektörünün İhracat Performansı Yıllık Değerlendirme 2008", İTKİB Genel Sekreterliği, AR&GE ve Mevzuat Şubesi, January, (2009).
9. Gurlesel C. F.; *İstanbul Sanayi Odası Yayınları*, January, (2009), pp. 10-15.
10. Gourdin K. N.; "Global Logistics Management - A Competitive Advantage for the 21st Century", Blackwell Publishing, (2006), p. 8.
11. [www.igeme.org.tr/tur/pratik](http://www.igeme.org.tr/tur/pratik), October, (2009).
12. <http://www.utikad.org.tr/srapor.asp>, Türkiye Uluslararası Taşımacılık ve Lojistik, (2008).
13. (<http://www.utikad.org.tr/srapor.asp>, TSKB Lojistik Sektör Raporu, (2008).
14. Tanyaş M.; *Lojistik ders notları*, (2008).
15. [http://www.roder.org.tr/TR/STATS/sta\\_other.asp](http://www.roder.org.tr/TR/STATS/sta_other.asp), Dış Ticarete Taşıma Modları, (2009).
16. Essletzbichler J., Rigby D. L.; *Environment and Planning*, A 33, (2001), pp. 1385-1410.
17. Tokatlı N.; *Environment and Planning A*, Vol 35 (2003), pp. 1877-1894.
18. <http://www.wisegeek.com/what-is-logistics.htm>, October, (2009).
19. Abernathy F. H., Dunlop J. T., Hammond J. H., Weil D.; "Lean Retailing and the Transformation of Manufacturing - Lessons from the Textile and Apparel Industries", Oxford: Oxford University Press, (1999).
20. <http://www.tcdd.gov.tr/yuk/yukindex.htm>, October, (2009).
21. [www.unece.org](http://www.unece.org), (2008).

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