

REPUBLIC OF TURKEY
ADANA ALPARSLAN TÜRKİŞ SCIENCE AND TECHNOLOGY UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF MANAGEMENT INFORMATION SYSTEMS
MANAGEMENT AND ORGANIZATION PROGRAM

**THE EVALUATION OF TURKISH TEXTILES AND READY MADE SECTOR AS OF
TODAY**

Mustafa Tarık BOZBEY

MASTER’S THESIS

ADANA / 2020

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Mustafa Tarık BOZBEY

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FOREWORD

Textiles have been one of the most essential needs of human beings since creation and became a must with social life. Textile can be defined as the art of processing various different fibers and producing useful surfaces and material. (knitting, weaving, non woven processes to produce fabric)

Ready made and garment production, textiles, leather products and carpets have been the most important traditional industries of Turkey. These sectors are in a transformation period due to the changing conditions of global economical trends of today.

As a result of successful performance on this transformation and change period, these sectors developed their competitiveness power both in local market and global markets, by this achievement their importance in the Turkish economy is both solidified and keeps the important rank.

In the last five years the recorded progress in these sectors proves the growth potential and expansion tendency, but showing differences related with international conditions. Even though the Turkish textiles sector is generally expanding and developing Adana is losing the leadership position in Turkey. Adana has been the leading city of textiles for a long time. During the 1930 years onwards and especially during 1950 – 1970 years Adana was the locomotive and good example for leading textiles. As of 2020 Adana is not showing the same powerful position any more.

With this study the possibility to increase this potential will be tried to be discovered. Personally, I have been active in the investment, production, and marketing process of this sector since 47 years. My experience in these sectors has been at all levels of management and as an entrepreneur, general manager and consultant to large scale companies in Adana Istanbul, Germany, Turkmenistan and Ethiopia. In 1997- 1999 period, I was elected to be the chairperson to the eight five year plan of Turkey For more than two years our group studied, analyzed, evaluated and proposed to the government a five year plan for 2000 – 2005 period. Our commissions studies were published in the State Planning Org. printing press facilities. I tried to present my experiences combined with academic and general, comparative statistical figures, to propose what should be done and what can be done to regain the power and potential of Adana. The textiles and ready made sector should never be neglected since it is a big area of employment, value addition, and gain of foreign currency. This sector is analyzed,

with the textile history of Turkey and especially Adana was under focus. The initiators of textiles sector in Adana who are the pioneers in this region and Turkey as well, have been one of the sources by interview. The members of those families, and their ancestors gave us time to inform about the date from the first hand, original source of history.



ABSTRACT

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Master's Thesis, Department of Management and Information Systems

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Textiles has been a fundamental necessity of human beings for protection. As society developed, city populations grew, and urban life style is accepted. The classical hand power and home production was converted into huge tailor workshops. With the introduction of steam power, electricity and mechanization industrial production started. Especially during the first world war the necessities of military created a big demand. After the second world war, the long peace and reconstruction, and economical welfare period, fashion, design, colors, and innovation became dominant. International trade started to be more and more and exchange of products showed a large share in trade. Especially after 2005 free trade and unrestricted quota levels, with entrance of China and far eastern countries textiles and ready made markets became a new different arena.

Turkey has been a traditional homeland for silk, wool, cotton, carpet and textile production. Especially after 1980 the export based strategic development plan of Turkey, textiles and ready makes production reached up to 50 billion us dollars where about 70 % is exported.

After 2005 the competitors started to develop their production and export capacity faster than Turkey.

This study analyzes the outcomes and reasons of the implementations of Turkey, using Michael Porters DIAMOND model, in relation with historical back ground and in relation to management and organization, rules and regulations of state.

The conclusion of this study is that, with a valuable accumulation of culture and expertise, with experience in very competitive markets; Turkey should keep these industries and support strongly for employment, foreign currency gain, tax and social comfort.

Keywords: Textiles history of Turkey, Garment development in Turkey, Turkish textiles and garment production.

ÖZET

Mustafa Tarık BOZBEY

Yüksek Lisans Tezi, Yönetim Bilişim Sistemleri Ana Bilim Dalı

Danışman: Prof. Dr. Ahmet Fazıl ÖZSOYLU

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Tekstil insanların korunma için temel ihtiyaçlarından biridir. El emeği ve ev yapımı ile başlayan üretim, toplum geliştikçe, şehir hayatı yeni bir yaşam biçimini benimsetmiştir. Büyük terzihaneler buhar, elektrik ve mekanizasyon ile endüstriyel üretim başlamıştır. Birinci dünya savaşında askeri kıyafet talebi, ikinci dünya savaşı sonrası gelişen ekonomiler, artan refah, barış ortamında ise moda, desen ,yenilikler egemen olmuş uluslararası ticaretin artmasına yol açmıştır. Özellikle 2005’te başlayan serbest ticaret, kotasız mal hareketleri, Çin ve uzak doğu ülkelerinin pazarlara girmesi yeni bir dönemin başlangıcı olmuştur.

Türkiye geleneksel olarak ipek, yün, pamuk, halı ve tekstilin anavatanını oluşturur. Özellikle 1980 sonrasında benimsenen ihracata dayalı stratejik kalkınma modeli ile üretim 50 milyar dolara ulaşmış yaklaşık % 70’i de ihrac edilmektedir. 2005 yılından itibaren rakipler üretim ve ihracatlarını daha hızlı arttırmıştır.

Bu çalışmada Türkiye’deki uygulamaların sebepleri ve sonuçları Michael Porter’ın ELMAS modeli esaslarında incelenip, tarihi geçmişle ilişkilendirip, devletin yönetim ve organizasyonu, kanun ve kuralları ile ilişkilendirip, inceleme altına alınmıştır

Bu çalışmanın sonucuna göre Türkiye, oluşan çok değerli bilgi birikimi, kültürel değerler, uluslararası zor pazarlardaki birikmiş tecrübesi ile kıymetli bir güce sahiptir. Türkiye bu sektörleri, sosyal huzur, istihdam, döviz kazancı ve vergi gelirleri için mutlaka korumalı ve desteklemelidir.

Anahtar Kelimeler: Türkiye tekstil tarihi, Türkiye’de hazır giyimin gelişmesi, Türkiye tekstil ve hazır giyim üretimi.

CONTENTS

	PAGE
ACKNOWLEDGEMENTS	iv
FOREWORD	v
ABSTRACT	vii
ÖZET	viii
LIST OF TABLES	xi
LIST OF FIGURES	xii
LIST OF APPENDICES	xiii

CHAPTER I

INTRODUCTION

1.1. The Importance of the Study	1
1.2. The Aim of the Study	3
1.3. The Scope and Limits of the Study	3

CHAPTER II

THE STRUCTURE OF TEXTILES SECTOR

2.1. General Information	5
2.1.1. Scope and Definition of Textiles and Ready Mades Sector	5
2.1.2. Cotton Industry	7
2.1.3. Woolen Industry	8
2.1.4. Silk and Artificial Yarns	8
2.1.5. Knitting Industry	9
2.1.6. Ready Mades Sector	9
2.1.7. Carpets Rugs, Floor Covers	9
2.2. The History of Textile Sector	10
2.3. History of Textiles in Turkey	13
2.4. The Importance of Textiles Sector	15
2.5. Textiles Sector in Turkey	17
2.5.1. Cotton Sector in Turkey	18
2.5.2. Synthetic, Artificial and Natural Fiber, Yarn and Textiles	32
2.5.3. Home Textiles	35

2.5.4. Ready Mades and Garment Sector in Turkey	38
2.5.5. The Role and Place of Turkish Textiles and Ready Mades Sectors in The Turkish Economy	44
2.5.6. SWOT Analysis of Turkish Textile Industry	48

CHAPTER III

TURKEY’S COMPETITIVE POWER IN TEXTILES AND READY MADE SECTOR

3.1. Porter’s Diamond Model	53
3.2. Porters DIAMOND Model Implementations	61

CHAPTER IV

RESEARCH FINDINGS AND EVALUATIONS

CHAPTER V

CONCLUSION and SUMMARY

APPENDICES.....	97
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LIST OF TABLES

	PAGE
Table 1. <i>Textile History Timeline</i>	11
Table 2. <i>Bale Cotton Production Year 2017</i>	20
Table 3. <i>Seed Cotton Production</i>	27
Table 4. <i>Seed Cotton Producing Countries</i>	28
Table 5. <i>Turkey – Cotton foreign trade</i>	29
Table 6. <i>Synthetic Fiber and Yarn Production</i>	34
Table 7. <i>Synthetic Yarn Exports</i>	35
Table 8. <i>World Top Ten Home Textiles Exporting Countries</i>	37
Table 9. <i>Turkish Textiles Exports</i>	45
Table 10. <i>Share of Turkish Textiles in total exports of Turkey (%)</i>	45
Table 11. <i>Top Garment Exporting Countries (1000 US Dollars)</i>	46

LIST OF FIGURES

	PAGE
<i>Figure 1.</i> Cotton Production, tons & cultivated land, ha. in Turkey, 1961 – 2017.....	26
<i>Figure 2.</i> Countries general global cotton production 2017-2018 (mt 1.000)	30



LIST OF APPENDICES

	PAGE
Appendice 1: Adana Chamber of Trade Textiles Sector Members	97
Appendice 2: Resume	98



CHAPTER I

INTRODUCTION

Maslow's pyramid of human necessities emphasizes the basic needs of man kind. For survival there is the need of food, shelter and protection from external conditions like cold, rain and hot weather, later comes the protection from wild life and sheltering.

Therefore Global Textile and Clothing Market is one of the essential huge markets among the other major industries of the world. Originally covering was the fundamental need and as social life developed dressing with color, design and fashion became a style of life.

The quality, variety and different products from other cities, regions and countries attracted the human desires. As transportation and international trade became easier and more popular production and exchange environment developed. Production, technology, man made fibers developed the quantity and variety¹.

This study has five sections. In the first section the importance and content of the study is identified, in the second section general information about textiles and ready made sector is given, the development of textiles is summerized. In the third section Porters “Diamond” model is included and with this approach Turkey’s competitive powers presence is tried to be tested. In the four the section the mobil phone survey poll results are presented. In the last section a general summary, results and proposals are developed

1.1. The Importance of the Study

The importance of this study is to analyze deeply, with all possible details, the Turkish textiles and ready made sectors. It is tried to be analyzed what happened until 2020, how it started, why and when development of sectors started to move forward to development. The importance of governing, entrepreneurship, coincidence and natural luck of countries, or regions, or sectors are considered.

This analysis is expected and may enable us to reach to the core of the sectors, to discuss the present value and future value of these sectors. This will also carry us to discover the level of importance of these sectors to Turkey.

¹ <https://www.sustainyourstyle.org/old-environmental-impacts>

It is known, the large size of these industries in Turkey, and their contribution to the country, but this study is to emphasize and evaluate this by figures, the historical development of these sectors in Turkey, in several selected geographic regions and cities. This will be studied to try to compare how other countries experienced sectoral achievements and their success stories. The role and importance of organization and management in general level and at specific sectoral and factory level is also taken into consideration, comparison and evaluation. The management and organization by fact means the rules and regulations of a country. The encouraging, support and restriction on the other hand effects sectoral development or just the opposite, contraction.

This study is important because these two sectors in Turkey have more than 2,5 million employment figures in production processing, more than 32 billion us dollars export contribution² and a total of 50 billion us dollars value of total production for Turkish economy. There are about forty thousand active ready made producers, and more than one thousand yarn and fabric producing companies. The total investment in textiles sector, meaning ginning yarn production, fabric production and dying and finishing is about one hundred billion us dollars and in ready makes industry the total investment is about twenty billion us dollars. This includes all land, building machinery and infrastructure. It must also be considered that for the supporting products investment like, zippers, non-woven, linings, buttons, embroidery and other accessories another one billion us dollars is already invested. The transportation infrastructure, shipping, air transport and experience is already developed. Expertise and customer satisfaction is understood from repeating demand. All of these are Turkey's powerful assets in internal and global markets. This size of reality deserves a high attention level and good care for the welfare of Turkey.

On several high official grounds these sectors were mentioned as low technology, low contribution margins, low value adding aspects.

This study accepts these arguments as reality when compared with electronics, chemical and space industry sectors, but it is preferred and decided to analyze the argument from various different aspects to reach to a broader conclusion. The general picture, on the other hand, will show us social and multiplier effect contributions, and net value creation of these sectors.

² Özlale, Ü. (2020): "2020'de Türkiye'nin ekonomik görünümü: Sınava hazır mıyız?" <http://www.tekstilisveren.org.tr/uploads/magazines/pdf-1578917535197011328.pdf>

1.2. The Aim of the Study

The aim of the study is to clarify the real positioning of these sectors in the Turkish economy. There are about 28 different producing and exporting sectors recorded by TİM and considered by TOBB³, these are the top organizations covering all producing and exporting capacity of Turkey.

According to these organizations textiles and ready made are the top sectors which are leading in employment and exports. In total there are about 2,5 million employed in production of these sectors, and a total of more than 32 billion US dollars is exported. These figures are presenting the importance and how the country should carefully treat these sectors. The aim of the study is to find and evaluate and inform to related authorities the value of Turkey's industries.

1.3. The Scope and Limits of the Study

It is tried to cover as deep and as far as possible to find documents, but is found to be limited especially with data behind 1950 years, and data behind the reach because of unregistered, production and hidden employment. Even though there is some hidden information behind the curtains, these sectors are huge enough to understand their importance for Turkey.

This study tries to find the roots of these sectors both in Turkey and in other similar and relatively competing countries. The main factors of these sectors is the necessity of covering for security and shelter, this is a basic need of people. In some countries, there were geographical advantage, government support ability and entrepreneurial variety and many rules and regulations helping and guiding the success stories.

Turkey was not producing any industrial textiles and ready made at the beginning of the 20th century. There was the need of a lot of foreign currency, or basically gold for imports and the new republic was not rich enough to import everything yet so;

The needs were specified, machines and equipment with training and know how was imported to start satisfying needs of the citizens.

Starting with 1923 February 17, İzmir Economic Forum, this is before the announcement of Republic in October 29, institutional targets were tried to be clarified. After renewing some left over workshops and small plants ministry of industry started to take steps for production.

³ TOBB, Türkiye Odalar ve Borsalar Birliği – United Turkish Chambers and Bourses Organization

It is only after the Central Bank of Turkey's establishment in 1930, textiles and industrial ready made production started with Sümerbank. Laws rules and regulations were passed by the National Assembly to make it easy for production and investment.



CHAPTER II

THE STRUCTURE OF TEXTILES SECTOR

2.1. General Information

Textiles sector has a production process starting from fiber, production of yarn fabric, knitted woven or non woven and continuing to become an input to the readymade sector⁴.

2.1.1. Scope and Definition of Textiles and Ready Mades Sector

The word textiles bring into mind only fabric in the first glance, when the meaning is broadened as an industry the word textiles covers:

- Fibers, natural and artificial, cotton, linen, ramy, wool, cashmere, silk, bamboo, viscose on one hand, as artificial and on the other hand, the synthetic fibers, as;
 - polyester, polypropylene, polamide, acrylic, acetate and spandex
 - yarn roving
 - yarn
 - strings, ropes, sewing threads
 - woven fabric
 - non woven fabric
 - knitted fabrics
 - interlining
 - laces and embroidery
 - curtains, bedcovers, carpets, bathrobes and home dressings
 - upholstery, furniture covers, seat covers of cars and other transporters

The above are mainly fabric and raw material stage for inputs to the final products as shirts, trousers, dresses, underwear, socks. A pure fiber can be used as well as a mix of two or several of these fibers. Not all of them are in conformity with each other but many can be mixed at roving stage or plying or weaving stage.

In many carpets polypropylene base is used and on top wool or wool/polyamide mixes are used for a strong base and a soft shiny attractive top surface

⁴ <https://www.sciencedirect.com/topics/engineering/textile-sector>

When the term textiles are used rather than considering this simply as fabric, a much wider picture should be understood. This wider meaning of textiles covers all kinds of threads and yarns, all kinds of woven and knitted fabrics containing a variety of mixes of fibers, with a lot of different designs and colors. These different varieties used in garments, home furnishing and carpentry make a very sophisticated fashion, design and art of decoration.

The textiles sector is mainly based on capital and labour and is a mix and combination of many matrix factors within this system. A huge managements functions of operating, organising, efficiency dynamic competition of market fluctuations is seen. As practiced more and more freely since 2005 global interaction and competition and import and export movements a lot of management talents are more and more necessary.

Since the textiles sector is in a very dynamic and constantly changing characteristics the top management is to motivate, plan and measure the achievements to targets so to be on the correct, smooth movement for the welfare of the company and country. Profit maximization, achievement, efficiency, training and motivation are the main pillars which will take the sector to the target.

The management should define a good road map for dynamic, creative, efficient and closely follow up team within and outside the company. The rules and regulations must be very dynamic as well and in coordinated bonds with national and international rules, regulations and ethical values of the global understanding.

In Turkey the meaning textiles sector can be modified with the below sub headlines:

- ginning
- cotton yarn spinning/or mixed fibers
- cotton weaving
- wool yarn
- woollen fabric
- synthetic yarns
- synthetic weaving and knitting
- yarn with mixed fibers
 - poly/viscose
 - wool/poly
 - wool/poly/viscose

- wool/poly/viscose/elastomer mixes
- natural silk, viscose yarns
- natural silk, viscose woven or knitted fabrics
- rugs, carpets, upholstery products
- others
- Ready made, suits, dresses, shirts, underwear, socks

The list starts with mainly raw material of the following sector, or generally not consumed directly by final retail consumers other than rugs and carpets. Yarn is produced for weaving fabric, fabric is colored for ready makers, ready maker finalizes the product for consumer.

2.1.2. Cotton Industry

Cotton is a very fundamental base and raw material of the cotton processing industry. Cotton is the most abundant and was mostly used natural fiber in textiles sector. Cotton is easily processed colored, made comfortable to use and easily washed.

For these reasons industry prefers to use cotton in the first choice. At the beginning of the new Turkish Republic, it has been a government policy to concentrate on cotton growing. The rehabilitation programs of seeds and good irrigation policy, cotton growth increased during the first 15 years of the new republic⁵.

During the war period there was a slow down of cultivation but after 1950s production increased again up to 600.000 tons.⁶

Other than use in textiles as a fiber, cotton seeds contain about %16 vegetable oil, the seeds remaining is used a cattle feed and linter is used in cellulosic industry. Cotton cultivation has been one of the target sectors of the new republic and developed so well that, Turkey is one of the top productive growers of cotton in the world. Turkey is ranking always within the top ten growers of cotton, and in the top five globally, in productivity.

In productivity Turkey is sometimes within the top two countries of the world. Turkey has a comparative advantage over EU due to gifted fertile soil, good climatic conditions, easy reach to global markets from ports nearby to the cotton fields like Mersin, İskenderun and İzmir where cotton crop is only one-hour distance to the port.

⁵ İnalçık, H. (2008: p.46): Türkiye Tekstil Tarihi Üzerine Araştırmalar, İş Bankası yayınları

⁶ Erden, S. (2006: p.54): Türk tekstil işletmelerinin küresel rekabetteki yeri ve Aydın ilindeki tekstil işletmelerinde bir uygulama, Adnan Menderes Üniversitesi / Sosyal Bilimler Enstitüsü, Doktora Tezi.

Turkey has a potential of growing about two million tons of bale cotton. Between 2000 and 2019 the crop dropped from 750.000 tons to about 350.000 tons due to mismanagement and wrong planning at the first step and then increased up to 900.000 tons of bale cotton. In case the Southern Anatolian Project (GAP) the capability of Turkey can reach to 2.000.000 tons.⁷

2.1.3. Woolen Industry

Wool is another major raw material for textiles industry. Wool has been known by Asian and African tribes and used since the beginning of socialization of people. Starting with furs, then with woollen products lead its way to produce woolen yarn fabric and carpets.

When Germans came to India and first saw the cotton fiber they were aware of wool only at that time and called cotton as BAUMWOLLE which means wool on the tree.⁸ Wool is not as abundant as cotton since it is a side product of animals sheep, goats (Angora), camel. The quality, quantity and prices vary from year to year in higher percentages in comparison to cotton and has a limited production. Wool is generally used with a mix with synthetic fibers. Sometimes acrylic fibers replace wool in outer wear like sweaters and pullovers.

Woollen industry starts with raw wool, cleaning and washing, combing and making yarn to be used in dresses and suits with finer wool and with coarser. Wool yarn is used in carpets and blankets. The types of yarns are woollen, worsted and stray garn.

Straygarn is mainly used in blankets and carpets. The wool textiles has been in Anatolia since the Seljuk State early in the years 1100 of their sovereignty in Karaman.⁹

2.1.4. Silk and Artificial Yarns

Pure silk production has been comparatively smaller and smaller when compared to the growth of the cotton, synthetic fibers. Only in Bursa and Antakya regions there is some pure silk and silky products like fabric and garments. In Aegean region and Hereke there is some silk carpet production as well. The silk and artificial yarns sector covers all processing, dying, printing steps of this paragraph.

⁷ Dr. Taylan Dericioğlu, GAP Chairperson, State Planning Org., interview report, 1987

⁸ GÜRSOY, E. (2000). Tekstil Sektöründe Verimli Üretimin Gerekliği, Tekstil İşveren Dergisi, Sayı: 246, Haziran.

⁹ ARUOBA, Ç. (1999). Dünya Tekstil Ekonomisi, Anadolu'da Hızla Sanayileşen Kentler: Kahramanmaraş Örneği, Editör: (Ongun, M.T), Türkiye Ekonomi Kurumu Yayını, 1999.

2.1.5. Knitting Industry

The knitting of yarn for fabrics is estimated to be known in Egypt and Central Asia back to the years of 5000 - 6000 BC, but specifically the knitting start period is not known. Only by the found material of 5000 - 6000 years BC it is known about the actual products. These knitting were made by hands including the production of yarns.

The word triko starts with the French name trikotage and used commonly in all languages.

2.1.6. Ready Mades Sector

This sector is the final sector which uses fabric, interlining, buttons, embroidery with creation, designing and defining a fashion in social life by producing the ready made garments, home textiles.

There is the need of new patterns, new ways and designs to attract and make customers feel different and comfortable. The sum of all these activities is in the ready mades sector.

Turkey has exported 17,695 billion us dollars value of ready mades to 184 countries.¹⁰ Yarn and fabric exports totaled to 9.9 billion us dollar in 2019.

2.1.7. Carpets Rugs, Floor Covers

The carpets, rugs are well known and produced since thousand years back to 6000 BC. There are sample found in Central Asia, Egypt, and Aztec civilizations. There are hand made rugs, carpets, wall covers made of pure silk or artificial silk. There are some silk and special hand woven rugs in Kayseri, Sivas, Bünyan, Isparta, Gördes and Hereke. Hereke is famous with silk rugs production.

Since 1980 the superiority and market penetration power of machine made carpets has far been dominating the carpet industry. Machine made carpets has almost 90% of the total carpet production.

Gaziantep is the world leader in machine made carpets, exporting to 163 different countries and Turkey has a carpet export amount of about 2,5 billion us dollars/year.¹¹ Gaziantep is the top exporter city of the world with a leading figure of exporting 1,4 billion dollars.

¹⁰ TİM (2020: p.6): Exporters Union Reports, January.

¹¹ TİM (2020: p.18): Report periodical January.

2.2. The History of Textile Sector

The origin of the word textiles comes from the Latin language where TEXTERE means weaving. Textile refers to usable covering flexible material where a network of yarn is processed to form fabric. Natural, artificial and synthetic yarns are used in weaving, knitting, crocheting, knotting and fibers are combed and pressed to form non woven material.¹²

Textiles products were seen in several civilizations rooting back to thousands of years, China, India, Swiss, Aztek civilizations produced textiles. In Anatolia as well pieces of fabric were found as old as 6000 years. The discovery of machines and steam power, later electricity made textiles trade very common. The industrial revolution and transportation so made the production spread to several different directions.

In China textiles production and garments, hometextiles has been a special cultural tradition and almost a symbol of family and social life. Most popular gift to family members, new born or new married has been silk or cotton dresses, hometextiles. This shows how much importance you give to the counter part, so this rituel is more than a gift.

The Indian civilization is also very ancient has traces of textiles. The fabric made by hand spun yarn, fancy tailor ship with fantastic colors reflect the importance of textiles. Ramayana and Mahabharata epics reflect the existance and importance of textiles and garments used by aristocrats of India¹³.

There has always been a Nishijin traditional weaving in Japan culture. In 1869 Japan moved the capital city from Kyoto to Tokyo. This is the same era that the modern industrial technology was introduced to the world and Japan. The detailed and delicate Japan textiles art adopted to the new Japanese capital movement. The art and quality is reflected in textiles during Edo and Meiji periods (1868-1912).¹⁴

Among all civilizations cloth was the most important textiles in comparison to other countries. The reason is that fabrics were terms of Exchange and used like money. Since everybody needed fabric they were exchanging different types of fabric, the advantage of being dividable made the smaller amounts convenient. The fabric was durable as old as cash money as well, so a person can keep and make accumulation. There has been several very

¹² "Textile History": <https://www.textileschool.com/182/history-of-textiles-ancient-to-modern-fashion-history/#:~:text=The%20term%20Textile%20is%20a,knotting%20and%20pressing%20fibers%20together.>

¹³ "Textile History": ibid.

¹⁴ African Textile History: <https://study.com/academy/lesson/african-textile-history.html#:~:text=African%20people%20have%20a%20long,the%20purpose%20of%20weaving%20linen>

attractive textiles products in Africa amazing to their times in reaction to color and creative designing. Adinkara, Kente and Bogolan are some popular textiles in fashion. There are also other less popular types like Yorubaandase - oke.

In general Africa every household has a stock of blankets, used as a sign of wealth, in several families I have personally visited in Kenya, Ghana and Ethiopia the mother of the home was excited to show me the 20- 30 layers of blankets with various types. Blankets are also used in homes as several on the floor as bed matris and one over used as cover.

Table 1.

Textile History Timeline

PREHISTORIC AND ANCIENT TIMES	
6300 B.C.	Archaeological discovery of fine woven cloth fragments in Turkey (30 to 38 threads per inch).
3000 B.C.	Cotton was being grown in Pakistan, western India, and perhaps the Americas.
2700 B.C.	Chinese cultivated silkworms and developed special looms to weave silk cloth.
2500 B.C.	Linen found on Egyptian mummy woven at 540 threads per inch, as well made as that of today. Goddess Isis is shown in a pictograph holding a shuttle.
327 B.C.	Alexander the Great was amazed at the beautiful printed cotton being produced in India.
300 B.C.	Ancient Greeks and Romans developed an enormous trade in textiles.
75 B.C.	Silk became the luxury cloth in Rome.
63 B.C.	Cotton awnings were used in Rome.
THE MIDDLE AGES	
768 A.D.	Charlemagne established a silk weaving industry at Lyons and imported wool from England.
900 A.D.	Alfred the Great encouraged expansion of the wool industry in England.
1120 A.D.	Henry I sponsored the first woollen cloth guild. He relocated skilled Flemish weavers to English villages to increase production.
1153 A.D.	First annual cloth fair held in England.
1200 A.D.	Spinning wheel was in common use.
1305 A.D.	Venice had 17,000 people engaged in weaving wool.

MODERN TIMES

- 1533 A.D. Pizarro reported that Peruvian spinning and weaving was superior to European.
- 1589 A.D. William Lee invented a machine to knit hosiery.
- Early 1600 A.D. Textile workers in the Netherlands improved methods of dyeing and finishing cloth.
- 1631 A.D. The Dutch East India Company imported fine calico from India.
- 1654 A.D. English textile craftsmen were forbidden to emigrate to America.
- 1661 A.D. A resident of Danzig, Poland built a power loom. The government had him drowned and destroyed the loom.
- 1667 A.D. English law required all persons to be buried in woolen cloth. More cloth was being produced than could be sold.
- 1669 A.D. The English colonies in America were forbidden from trading wool materials.
- 1696 A.D. Irish weavers produced cloth less expensively than the English. Attempts were made to suppress the weavers. Irish linen was superior to all others.
- 1733 A.D. John Kay, an Englishman, invented the flying shuttle loom.
- 1764 A.D. James Hargreaves invented the spinning jenny, the first machine to spin more than one piece of yarn at a time.
- 1768 A.D. Spinning and weaving contests held in America to oppose the Stamp Act. (Britain wanted to collect taxes on everything that was sold in the colonies. Americans opposed the tax because it violated the newly enunciated principle of "no taxation without representation.")
- 1769 A.D. Richard Arkwright patented the water frame, a spinning machine that ran on water power.
- 1779 A.D. Samuel Crompton invented the spinning mule, a machine that combined the spinning jenny and the water frame.
- 1785 A.D. Edmund Cartwright patented the first power loom.
- 1790 A.D. Samuel Slater built the first water-powered machines in the United States for spinning cotton.
- 1793 A.D. Eli Whitney invented the cotton gin.
- 1800 A.D. Ireland exported 25 million yards of woven line.
- 1804 A.D. The Jacquard loom used punched cards to enable a single weaver to produce complex patterned fabric. This is an early example of precomputer technology.
- 1816 A.D. Large numbers of power looms were beginning to be installed in the

- factories in America.
- 1861 A.D. Union soldiers wore uniforms that were machine-made. Confederate uniforms were still made primarily from handspun and handwoven fabric.
- 1884 A.D. Hilaire Chardonnet developed the first manufactured fiber, a form of rayon.

THE TWENTIETH CENTURY

- 1900 A.D. The Industrial Revolution completed sweeping spinning and weaving from the home workshops to the factories and mills.
- 1910 A.D. Chardonnet's fiber first produced in the United States under the name of artificial silk, now known as rayon.
- 1935 A.D. Wallace C. Carrothers developed nylon.
- 1940 to 1950 A.D. Polyester, acrylic, and other artificial fibers were introduced.
- 1960 A.D. Double-knit polyester fiber was introduced. Also, the Textile Fiber Product Identification Act became law.
- 1970 A.D. Knitting machines controlled by computers produced fabrics with highly complex patterns at tremendous speeds.
- Early 1980 A.D. Robots were introduced into the textile industry.
- Late 1980 A.D. Textile mills used high-speed looms that had many tiny shuttles called darts instead of a single shuttle. Other looms wove with no shuttles at all; a jet of water or air carried the filling through the warp up to 1000 times a minute—four times faster than a shuttle on a standard high-speed loom.

Source: <https://www.uen.org/cte/family/clothing-2/downloads/textiles/timeline.pdf>.

2.3. History of Textiles in Turkey

The textile history of Turkey starts with ancient Anatolian civilizations, a new page with Ottomans, and industrial technological acceleration with the introduction of steam power, electricity, automation and lately more and more robot technology.

The Ottoman Empire 1299-1922 period, the textiles were very important because it was a sign of nobility, not everybody was able to use or dress fabric produced from cotton, wool or silk. Any commercial textiles product was belonging to the Sultans treasury and royal family. Most of the time these limited products were very high quality and considered as a fancy luxurious item.¹⁵

¹⁵ İnalçık, H. (2008: p.106).

Throughout history mostly capital city of a country is seen as the capital of commerce and trade. This may be because most of the demand is coming from the state, army and accumulated population at the capital city. At years about 1500 onwards Bursa was the center of various business and production, and textiles has been among the major products. All textiles belonged to the royal family and strict rules and regulations were implemented. The manual “ihtisabkanunnameleri”¹⁶ obtained these rules and regulations for all procedures.

The silk production and trade being the most popular and valuable with strict rules and regulations, even as far as to the type and weight of the yarn to picks and ends in the weaving and to the weight of cloth produced. Any type of silver or golden yarn called “sim” could not be used by producers unless otherwise permitted by royal family.

Only the workshops named as “simikeshaneler” monitored by the royal family could produce fancy “sim” implied fabrics. After production the fabric was sent to the “muhtesip”¹⁷ for ironing, measuring and inspection if everything was all right. The “ihtisabkanunnameleri” were strictly followed before any sale by merchants.

These details show how much importance is given to the sector and a very high quality is achieved by the guidance of royal family. The three types of fabrics, cotton, wool and silk were the major variety of Ottoman textiles. The production amount and quality were steady during the years between 15th century and 17th century. Cotton was imported from India, and wool from Europe. Military clothes were mainly made from wool. In Ankara region, there is the production of ANGORA wool, from the Ankara Goat. This is high quality mohair wool which is still considered very elegant.

In Ottoman textiles nothing can be compared with silk in terms of comfort, quality and elegance. Wool and cotton or other like linen is always secondary level fabrics. The capitol of silk production has always been Bursa area even as of today. There is some production and handcrafts in Antakya region, but minor.

The Turkish silk is obtained from silk worms before they are out of their cocoon as a butterfly. The cocoon is put into big pools full of water and fibers are extracted to be made

¹⁶ II. The II Beyazid period laws, rules and regulations. These were the first implemented rules in the world which protects the consumers wrights. These are named as Bursa, Istanbul and Edirne rules. In addition to silk they also covered first standarts for food and environmental. They were wonderful codes beyond their era. (Bkz.:<http://www.istanbulpazarcilarodasi.com/icerik/pazarci-e-dergi/bursa-istanbul-ve-edirne-ihtisabkanunnameleri/31>).

¹⁷ The organization to inspect the general ethics and public status in Islamic society, <https://islamansiklopedisi.org.tr/muhtesib>.

yarn for weaving. During the Ottoman and still now this valuable silk is embroidered with gold and silver yarn for even a higher elegance. The majority of the products are generally outer wear, home textiles, bed covers or table covers. Usually the famous İstanbul tulips and Islamic crescent and star is used as a design.

The famous Hereke carpets are hand made silk yarns, hand woven silk carpets and some have one million knots in one mt sq.

2.4. The Importance of Textiles Sector

To most of the developing countries, the textiles and ready made sectors are recommended by the world bank and other development consultants.¹⁸ This strategy is proposed because the products are basic products, mainly imported and causing loss of foreign currency, which is scarce in developing countries. A regular household can survive without many furniture or electronic devices, but textiles and garments are essential. In a way the demand is already nearby awaiting for local production. These sectors create a lot of employment, especially for less educated labour and easy to enter and get trained for women. The percentage of women workers in textiles and ready made is the highest ranking percentage among all other sectors. In Turkey, education, pharmacy, and banking employs a lot of women workers but textiles and ready made has a percentage of over 40%.¹⁹

The textiles and ready made have a high expectation and profitability as long as quality and sustainability is practiced. Quality and competition power comes from the entrepreneurs but sustainability is effected very much by ruling powers both local and international. Other than force major factors over factories the continuous development and quality, profits can be achievable by company leaders and CEO, but global and high level preferences will effect the sustainability or even existence of a company or sector.

The macro level decisions, devaluations, taxes, tariffs and similar will effect the economies with powerful strokes. In several countries the contribution to GDP is like; 5% in Sri Lanka, 12% in Cambodia, and 15% in Pakistan.

¹⁸ Jodie Keane and Dirk Willem te Velde (2008): "The role of textile and clothing industries in growth and development strategies" <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3361.pdf>.

¹⁹ Jodie Keane and Dirk Willem te Velde (2008): Ibid.

The contribution to foreign currency earnings the levels are as; More than 50% in Cambodia, Bangladesh, Pakistan and Sri Lanka. Actually in 2019 figures of total foreign earnings 81% in Cambodia and 84% in Pakistan was from textiles and ready made.

There is a high contribution to employment ranging from 35% to 75% in Bangladesh, 90% in Cambodia and Lesotho.²⁰

When the textiles and ready made become the dominant job creating sectors, they also become a dominant in social income and welfare for the social life. In developing countries the education is limited to enter into much sophisticated production like electronics, chemical industry or vehicles production. These sectors would require higher capital investments, higher skilled or educated labor. Appropriate policies and institutions at state level, the maneuvering, strategic long term guidance, management and organizational help and country targets are essential to develop these sectors. Long term educational policies, tax and investment incentives, credit facilities are fundamental state leadership to guide any sector.

One general reality is that more men are working in textiles but more women workers are working in garment production. Also another general observation is that the wages in both textiles and readymade is higher than that of wood industry, agricultural production or other services sectors. Foreign firms and brands producers are paying higher salaries as well.

It is very clear that the rules and regulations of a country would strongly effect textiles and ready made sectors. The local economic policies as well as international preferences effect all sectors. The countries with proper social policies and public welfare understanding, the choice between private or public sector selection for investments will support development. There may be mixed economic model as well. Turkey for long years had Sümerbank as the major leader of textiles. After the 1950s the private sector started to build up. During the 1960 and following years there was the development of cooperatives like Çukobirlik, Antbirlik and Tariş cooperatives. Tariş and Çukobirlik are established during the 1935- 40 period but they were given support to make investment in textiles and ready wear especially yarn and fabrics.²¹ This was a good example of cooperative model development. These factories were run poorly by the intervention of political power and these establishments were misused and closed down from production of yarn and fabrics.

²⁰ Jodie Keane and Dirk Willem te Velde (2008): Ibid.

²¹ Özsoylu, A.F. (2015): Türkiye Ekonomisi Tarihsel Gelişim, Karahan Kitabevi, Adana.

2.5. Textiles Sector in Turkey

In many countries of the world, throughout history it has been seen that textiles and ready made has been a major and wide sector of all economies. One reason is because clothing is a fundamental, basic need of everyone from birth to end of life. People needed clothing in one way or another, early in primitive age's furs and covering with any material. As civilization and social life developed better and better needs arised with higher and higher expectation. There has always been a market demand for textiles, in early ages it was mainly home - made.

After the development of commercial camel caravans from city to city, as first step, then commercial sail boats visiting different harbours, each and every city was demanding products: mainly textiles, carpets, silk ware, furs and similar items. The Magellan, Vasko de Gama and America de Vespuci adventures of visiting other continents shifted the demand for textiles which is a fundemantal commodity. These voyages became more and more especially during the 16th and 17th centuries. The commutation between North and South America, China, India, Australia reached the peak of network²².

The Industrial revolution developing during the 18th century, centered in England made the textiles production in an industrial way. The mechanisation was made first by the force of water, turning the gears and production of yarn became easier. Still today the yarn spinning machines are called WATER. There is no use of water any more, but that part of the factory is still named as WATER.

The textiles sector becomes a major sector in all countries first by the demand factor, the second factor is that due to this huge necessity there is a lot of profit. The third factor is that the industrial production of textiles is not as complex as other industries like automobile, chemicals or electronics. In a way comperatively the production and product is simple to see control and understand. With these supporting factors textiles sector is easier to enter for countries and entrepreneurs.

The labor force used in the textiles and ready made is relatively easier to find, train and make them reach to a high quality and efficiency level. This is much difficult in automobile, chemical and/or electronic sectors.

The USA had announced a NAFTA agreement with Mexico, signed in 1992 to be applied in

²² Pedro Machado, Sarah Fee, Gwyn Campbell (Ed.): Textile Trades, Consumer Cultures, and the Material Worlds of the Indian Ocean, <https://link.springer.com/content/pdf/10.1007%2F978-3-319-58265-8.pdf>.

1994 and South American countries. The first sectors that moved from USA to southern partners are textiles and ready made companies. This was because it was easy to adopt to new countries. These sectors both, especially ready made are considered labor intensive and it was no problem for USA companies to move to southern countries.

In all developing countries textiles and ready made are proposed for industrial achievement easily and quickly. In a way this is true, it had been successful for some time but to be a textiles major player like Turkey needs many other factors like, climatic advantage, ambition to grow cotton and textiles traditionally as a social culture, and alert for quick reflex to markets. In the last 50 years the proposed model was not successful in those countries because if one or several factors are missing competition becomes harder. This model of ready made production was proposed to Philippines, Romania, Poland, Bulgaria, Ukraine, Southern Cyprus population but after seven or eight years they all failed away. Turkey is still one of the most powerful infrastructure holding country like China, India, Pakistan, Bangladesh. Even among these countries Turkey has;

- raw material
- spinning capacity
- fabric variety
- huge labor force for ready made production
- a huge capacity of accessories

which some of Turkey's competitors don't have as such. For example, China and India still cannot weave woven fabrics with elastomer flexible cloth.

In addition to all above factors Turkey has the distance advantage to the largest market which is EU. Turkish product can reach to 3 billion populations in three hours of flight.

2.5.1. Cotton Sector in Turkey

The cotton plant in Turkey was known since 500 years, but as a commercial, industrial commodity cotton was first started to be farmed after the invasion of Cukurova by İbrahim Pasha, who is the son of Kavalalı Mehmet Ali Pasha. The date is 1833, when cotton was first introduced to Çukurova region, the center being the central south of Turkey fields of Adana

Tarsus and Antakya²³. This is also the same era when there was a big unrest in North America first the War of Independence against United Kingdom 1783, then the civil war amongst the states of America which ended 1861.

In Germany the only known fiber 500 years ago was the wool, due to natural breed of sheep and necessity to cover up from wool and leather. When the German merchants visited India they saw the cotton plant and the white cotton fibers on the plant. They named the matter as wool on the plant as BAUMWOLLE.²⁴

The leader of the world and the leader of textiles production of the world namely United Kingdom was having difficulty to buy cotton from America. Due to these civil wars of the north and south forces the farmers were all involved in civil war, fighting and United Kingdom started to search for alternatives of cotton producers. India, Egypt and South of Turkey were good candidates of growing cotton due to the very suitable climate for cotton plantation. The opening of the Suez Canal was in 1869 and this made information and transportation much easier and faster. The British were informed about suitable weather conditions, for cotton and learned suitable transport ability for cotton and all other commodities, from Middle East and India.

When cotton was first planted in 1860 by Sultans order in Adana region as a commercial commodity with large fields. All workers were brought from the hard working Kayseri people. The first year many of them were dead because of malaria. The second years workers as well from Kayseri were all lost due to the very humid, hot, mosquito attacked environment. Central Anatolia is a highland plateau and much cooler, and less humid than Adana, this is why there were many losses of lives from bad weather conditions. Then the Sultan decided to bring workers from Egypt which was Ottoman land at those times. The farmers - in Arabic "Fellahs" - from Egypt were used to live in a hot and humid climate anyway so in comparison to Kayseri people they were better farmers of cotton in Çukurova lands²⁵.

Cotton farming spread from Çukurova to Antalya, Söke, Bergama, İzmir on the western line and Antakya, K. Maraş, Urfa, Şanlıurfa, Adıyaman even up in the North East of Anatolia to Iğdır, a small hidden valley surrounded by high mountains of North Eastern Anatolia.

This is how Anatolia was introduced to cotton farming, and now in Liverpool Cotton Bourse

²³ Interview, Seyit Tekin by Tarık Bozbey, 2020.

²⁴ Wool, <https://en.wikipedia.org/wiki/Wool>.

²⁵ İnalçık, H. (2008): İbid.

there is the brand name Çukurova cotton, due to the quality and quantity for the worlds markets. At peak times Çukurova farms were able to grow about 600.000 tons of bale cotton. This is about 3% of total world production. Total world production of bale cotton is on the average, about 23 million tons per year. In 2017-2018 season it is expected to peak up to 23 million tons. Turkey producing an amount of 900.000 tons in 2017, but has a crop capacity of about 2 million tons bale cotton which could take nearly 10% of the world crop.

Table 2.

Bale Cotton Production Year 2017

Cotton Producers	World Yield (000 Tons)
India	6.200
China	5.900
USA	4.600
Brazil	1.900
Australia	1.100
Turkey	900
Uzbekistan	850
Mali	700
Turkmenistan	300
Burkino Faso	160
Egypt	100
Other	290
Total	23.000

Source: TİM Report 2018 March (TİM-Turkish Exporters Assembly)

The processing of seed cotton by ginning and seperating the seed from the fibers made cotton very attractive for industrial production. Cotton was easy to process, does not need any extra preperation in comparison to wool, lienen, bambu for yarn and fabric production.

The first ginning plant in Turkey was established by the French investors in 1864, and other British ginning plants and yarn spinning and fabric production plants were started in Tarsus, Mersin and Adana region²⁶. Early in the twentieth century, in the 1902-1920 Cukurova region

²⁶ Interview, Seyit Tekin by Tarık Bozbey, 2020.

was a small but developing textiles center. The area was covering suitable cotton plantation, ginning, yarn and cloth production. This makes it easier to understand why the French were eager to invade this region after the first world war. Cotton has always been a strategic commodity for economies and French were aware of this strategic product, the textiles.²⁷

The ginning and textiles industry needed energy, electricity to run the machinery. The first electricity production of the Ottoman Empire was in Tarsus, on a small stream passing through Çukurova Textiles plant. During the years 1902 onwards the first electricity was used in Tarsus, Ottoman Sultans Palace, İstanbul, and İzmir. During night times since the factory in Tarsus was not working, the electricity was used in Sadık Pasha Konağı, regional governors residence and several streets of Tarsus.²⁸

The first textile factory in Adana was established in 1907 by Aristidi Kozma Simyonoğlu, as “Simyonoğlu Fabrikası”, later sold over in 1924 to others and the name was “Milli Fabrika”, renovated, started again with the name “Milli Mensucat”. The new republic assigned Nuh Naci Yazgan for start up and in 1927 purchased by a group of Adana businessman namely Mustafa Özgür, Nuri Has, Seyit Tekin and in 1934 Hacı Ömer Sabancı joined the partnership as well. All of these partners later became the pioneers of the Turkish Textiles Industry.²⁹ The historical Milli Mensucat textiles factory is now a cultural center, opened as a museum in 2017.

Until 1930 the new republic gave priority to health and agriculture since population was ill and hungry. After the establishment of the Turkish Central Bank in 1930, and some development of İş Bankası which was established as a new institution in 1924 industrial development started. Turkey made the first five year industrialisation plan in the world in 1931 and gave priority to three whites production namely sugar, flour and cloth. A clearing agreement was made with Russia to Exchange fruits against textiles machinery and training technicians both in Russia and Turkey. Turkey was sending lemon, oranges against spinning and weaving machines. In 1933 Sümerbank was established to produce cotton textiles. One after the other textiles factories were being established. Merinos wool and woollen fabrics were established in 1937 in Bursa.

The textiles production of Turkey started to increase with the push of the first five-year

²⁷ Interview, Seyit Tekin by Tarık Bozbey, 2020.

²⁸ Interview, Fahri Gülek by Tarık Bozbey, 2019.

²⁹ “Millî Mensucat”, https://tr.wikipedia.org/wiki/Mill%C3%AE_Mensucat.

industrial development plan during 1933. This is the first long term plan of the world Sümerbank was established 11 July 1933.³⁰ In addition to some factories scattered around a fast development plan and textiles production was pushed by government plans. Namely:

- 1927 Bünyan Dokuma Factory – weaving cloth
- 1927 Bursa Dokuma Factory – weaving cloth
- 1928 Bomonti Türk Mensucat – dyed fabric
- 1929 Gaziantep Mensucat – dyed fabric
- 1933 Sümerbank – complete full integrated yarn to dyed fabric production
- 1934 Sümerbank Bakırköy Bez Fabrikası – weaving cloth
- 1935 Sümerbank Kayseri Dokuma weaving dyed and printed fabric
- 1936 Sümerbank Malatya İplik ve Bez Fabrikası – Yarn and cloth
- 1937 Nazilli Basma Fabrikası – printing fabric
- 1938 Bursa, MerinosFabrikası, Gemlik Viskon Fabrikası Production of viscose fiber
- 1940 Kozabirlik İpek Fabrikası, Bursa Production of silk yarn and fabric

To look at the development of Turkish textiles, requires a close view of weaving of carpets and silk in handmoving looms. This has been a way of life in central Asia and brought to Anatolia as a handcraft product. Silk has also been an elegant fabric popular in Bursa area, with yarn and fabric on hand looms of course. Ottoman Empire was paying a lot of foreign Money and gold to United Kingdom and to produce the same fabrics in Turkey the sultan, during the beginning of 1835 sent an industrial secret information agent to England to understand how these fabrics were manufactured, so to have import substitution and local production. The report was that the workers were producing in muddy, humid factories, working sixteen hours sleeping in the factory dorms and usually their life was ending with severe illness and dying at the age of thirty. The sultan refused this harmful environment for his people and did not start textiles production program. Before the Republic, there were some kind of silk, wool cloth made by sole labor and tool basis with hand woven fabrics and carpets. The Hereke textiles plant was established in 1843 to supply carpets and custains to

³⁰ Özsoylu, A. F. (2015): İbid.

the new palacas of the sultan. Garments were made by tailors and military clothes were produced in crowded tailor shops, not in an industry style.³¹

Turkey showed a great development shifting graphics and leading percentages during the 1930 - 1940 period. The average increase of GNP was about 12% some years being up to 18% and having export -import balance showing surplus of currency income. During the second world war the whole world had a slow down and negative development values.

After the second world war a new globe was coming into the understanding and practice of the countries. Nations understood the mistakes of fighting and destruction and started to develop cooperations. Many new institutions were established for cooperation, discussion, credit for human welfare of development, health and education. United Nations, World Bank, IMF Unicef, FAO were established during 1946 -1950 period. European Economic Community, (AET - Avrupa Ekonomik Topluluğu) which then turned into EU, (European Union) in the 1952s onwards. African Union established in 1963, Arab Union established in 1944.

The world was starting to develop cooperation with each other. It was time for Turkey to integrate with international arena and credit facilities were offered for private sector only by USA. This was early in the 1950 and many textiles factories were established in Çukurova region with the close location to cotton, accumulated experience and expertise on textiles. BOSSA, GÜNEY SANAYİİ, AKDENİZ TEKSTİL, PAKTAŞ, BERDAN TEKSTİL were established in the years 1952-1955 period. Çukurova Sanayii İşletmeleri and Milli Mensucat were enlarging their capacity. Meanwhile their need for electricity is also considered and ÇUKUROVA ELEKTRİK was also established in 1953, to construct a dam and distribute power for the requirement of these industries and the developing electricity demanding region. The cotton based factories were mainly in Çukurova and İzmir area, later in G. Antep, K. Maraş, Kayseri, Bursa, Denizli, Adıyaman, Malatya areas.

The woolen sector was developed in Bursa after the establishment of MERİNOŞ, Sümerbank, then İstanbul, İzmir started very high quality woolen fabric production. ALTINYILDIZ 1954 by Osman Boyner, İZMİR YÜN 1934, and KULA 1934, by Çolak family were developing establishments. Sümbül Kumaş later became YÜNSA was actually established by Turan Sümbül in 1973. These factories were producing woolen fabrics where as other smaller producers were serving in carpet and blanket sectors. After 1950 Hasköy Yün İplik 1953,

³¹ <https://www.anil-insaat.com/EN/11-projects/32-hereke-silk-weaving-and-carpet-factory-museum/>

Manisa Demirci in 1928 TASARRUF İPLİK woolen yarn for carpets and blankets³².

The Altınyıldız factory producing in Eyüp factory İstanbul became world famous brand in the 1970 years with the high quality and latest fashion varieties. Their masterpiece was with an agreement with an Italian design company Corsini. Altınyıldız factory was also buying the best merino wool of the world in an open tender in Australia. This wool is called the Golden Bale wool and the total world production is about ten tons per year and sold by open auction. Ten tons of wool means nearly 25.000 mtrs of fancy fabric for the whole world, so the price was about four times more than the regular fabrics. Turkish Altınyıldız purchased this wool, made special fabric and then mens suits by BEYMEN and became a world famous brand, in the 1980s years. The private sectors capacity was totally about two million meters whereas only Sümerbank Merinos was producing a similar amount. The production capacities were more than doubled during the 1975 - 85 period and also polyester/wool blends were also introduced to the market. The mixed woolen fabrics were introduced with better prices.

In woolen sector, the separation should be made as,

- woollen fabrics for clothing
- woolen carpets, hand made and machine made
- blankets and cover
- in all of these there is the blended yarns used as well, first quality fibres used in dressing and inferior quantities in carpets and blankets. Re cycled second or even thirdly cycled fibers are used in carpets and blankets. There are also the regained fibers from pet (polyester/polypropylene) bottles granule³³. The origin of all polymer based fibers is petroleum, all polyester, polypropylene, polyamide and acetate are used in textiles after being extruded to a very tiny form as fiber. When used in another process which is molding the product it becomes a bottle or a cup for cheese or yogurt, or in a thinner film used as a market bag.

In classical standard weaving sector almost all factories were started as integrated three or four step processing units namely, ginning, spinning, weaving and dying & finishing because there was no alternative processing possibility. After 1972 when EU wanted to buy yarn from Turkey many factories were build producing only yarn.

³² “Türkiye’de sanayi”, https://tr.wikipedia.org/wiki/T%C3%BCrkiye%27de_sanayi.

³³ Telli, A. N. Özdiil (2012): “PROPERTIES OF THE YARNS PRODUCED FROM r-PET FIBERS AND THEIR BLENDS” <https://dergipark.org.tr/en/download/article-file/220010>.

The reason of EU yarn demand was because:

a - yarn is the lowest value adding process, EU wanted to leave this production

b - in EU many knitting machines started and they all needed yarn

In Turkey also after 1972 onwards many small scale knitting workshops, plants or even factories started. There were many socks and underwear producers requesting yarn. From 1972 to 2001 the yarn capacity of Turkey became greater than the total capacity of EU. This reality increased the necessity for individual dying finishing companies mainly about knitted items like t-shirts, socks and underwear.

In the weaving sector when there was a surplus of yarn production Nazilli Basma was established in 1937 by Sümerbank. In 1973 Denizli Basma was also started to serve to individual weavers of the region. The yarn was supplied by Sümerbank to hand weaving looms producing ŞİLE BEZİ, or TÜLBENT and the dying companies were dying and finishing the raw fabrics. This model also worked with knitters later.

The woolen industry is generally cheaper in investment but unit price of sales is more expensive due to the higher raw material prices. The general prices of wool has always been several times higher than the price of cotton. The woolen industry is always a complete full line all produced indoors with integrated factories. The yarn, fabric and finishing takes place under the single shed. On the other hand, cotton producing industries can be separate units feeding each other. Ginning can be done as first step, then spinning, weaving or knitting then the fabric can be sent to another mill for dying and finishing. For a long time in the 1970 s years there were some workshops with only one single knitting machine, he was buying the yarn, knitting and then sending to the dying and finishing company. On this step it was dyed and was sold to the ready made garment producer. In this model one dying and finishing company was serving to 100 different knitting machines separate from each other. Dying and finishing sector served as a piece of a cluster for the nearby producers, just like the model developed in Adıyaman in years of 2008 – 9.

Cotton Sector is the largest in Turkey. This is mainly because there is a fundamental advantage about cotton being under the hands of the users. Turkey is always within the top six seven producers of the world. This is a gift of God given to Anatolia related with just adequate climatic conditions and fertile land. Çukurova, Menderes River sides in İzmir are Bergama, Söke can be named as cotton centers. On the eastern Anatolia there is K. Maraş,

Adıyaman, Urfa, Suruç Harran planes and even Iğdır where there is high quality, white cotton available. The cotton crop of India, Pakistan, and Bangladesh have darker, white natural colors which makes it harder to estimate color shades in dyeing and finishing. This may be one reason why Indian textiles is using a lot of colorful printing on their fabrics. Turkish cotton fabrics can easily be considered as “snow white” among eastern and African crops.

Turkish cotton capacity is greater than the total capacity of EU, and every year increasing more and more. Turkey is producing nearly 2,800 thousand tons of cotton per year, and importing nearly similar amount to a total of two million tons of consumption. Up to 65 - 70 % of Turkey’s production is exported directly or indirectly, mainly to EU. This shows that the plan of EU estimation in 1963 that Turkey to be the textiles center of EU has become a reality in about forty years between 1972 and 2010.

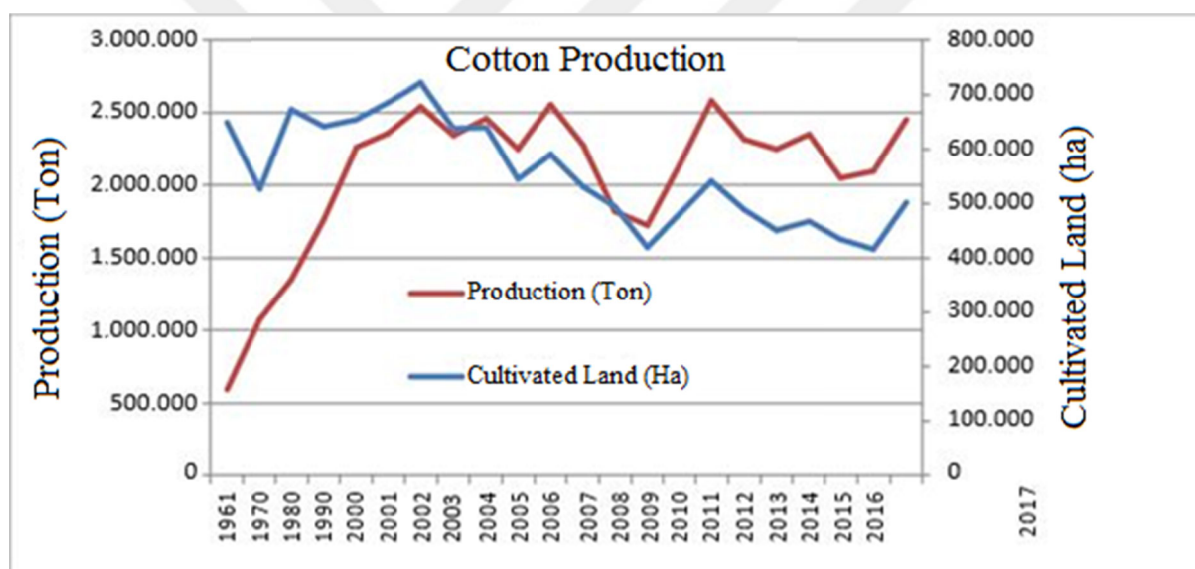


Figure 1. Cotton Production, tons & cultivated land, ha. in Turkey, 1961 – 2017

In the above graph Turkey’s general cotton plantation and crop levels are plotted for the years between 1961 - 2017. With the demand from local market due to increase of incomes, and the demand from EU increased the cotton production from 150.000 tons to 670.000 tons. Related with the development of seeds, irrigation and technology the cultivated land has even decreased but crop total increased. Actually Turkey has a capacity to produce over 2.000.000 tons of bale cotton if all fields are cultivated with irrigation and Urfa Harran fields are made use of.

On the table given below the figures are from the years of 1961- 2015, and additional years of

2017-2018 are estimated. The general productivity of the fields is developed from 91 kg /decar up to almost 500 kgs. This is because of close care of the farming with developments of technology, fertilizers, irrigation and educating the farmers. Each and every factor effects the crop with the unexpected, uncontrollable climatic conditions. Still Turkey is an advantageous country because of fertile fields and suitable climatic conditions of humidity rain, irrigation temperature. Turkey is among the top leaders of productivity, yield amount in the world, always being within in the first 3 ranks.

Table 3.

Seed Cotton Production

Year	Land (ha)	Production (ton)	Productivity (Kg/da)
1961	649.000	593.000	91
1970	527.635	1.080.000	204
1980	671.700	1.350.000	200
1990	641.253	1.767.960	275
2000	654.177	2.261.000	345
2005	546.040	2.245.000	411
2010	480.439	2.150.000	447
2015	434.000	2.050.000	472
2016	416.002	2.100.000	504
2017	501.853	2.450.000	488
2018	580.000	2.800.000	482

Source: https://zmo.org.tr/genel/bizden_detay.php?kod=30467&tipi=38&sube=0

In the table below the world top 11 cotton growing countries are analyzed between 1961–2016. With huge land capacity China, India and USA have always been in the Top 3 levels. These figures represent the cotton crop at the field level with seeds included. The bale cotton Figures are about 34- 38% after seeds are removed by ginning from the raw crop. Total seed cotton production has increased from 27.479 million tons up to 65,392 tons. It can be estimated that these figures convert into about 23 million tons of bale cotton. One important factor needs to be considered that even though the cotton production has increased more than double in the last 55 years, there is a limit of production by natural conditions. Just like in

wool and silk production there is a capacity limit of nature for producing cotton. Cotton cannot be grown in everywhere but synthetics can be produced in any location. There is no climatic limitation. This is why synthetic fibers industry is increasing its total share in the total fiber consumption. Industrial production can increase production with controlled conditions. in only engineering methods, but in natural products like cotton besides engineering methods, there are the limits of nature.

Table 4.

Seed Cotton Producing Countries

Ülkeler	1961	1970	1980	1990	2000	2010	2015	2016	2016%
Çin	2.401.401	6.833.715	8.121.223	13.523.219	13.251.000	17.910.000	16.830.000	16.029.000	24,51
Hindistan	2.763.000	2.981.000	4.038.000	5.228.000	5.128.000	17.760.000	16.016.000	14.413.036	22,04
ABD	8.532.754	5.909.491	6.477.559	8.789.500	9.580.630	9.473.800	8.382.808	10.049.990	15,37
Pakistan	972.300	1.627.460	2.143.500	4.912.740	5.476.167	5.613.600	4871.738	4.942.746	7,56
Brezilya	1.276.000	1.954.993	1.675.884	1.921.409	2.014.987	2.950.013	4.007.326	3.464.103	5,30
Ozbekistan	-	-	-	-	3.001.800	3.442.800	3.361.300	3.307.469	5,06
Türkiye	593.000	1.080.000	1.350.000	1.767.960	2.261.000	2.150.000	2.050.000	2.100.000	3,21
Avustralya	7.100	73.000	219.000	798.300	1.786.700	939.000	1.274.100	1.518.678	2,32
Yunanistan	288.703	328.216	357.042	670.000	1.324.989	710.533	1.279.840	1.354.754	2,07
Arjantin	393.100	458.200	485.400	922.950	417.680	753.502	795.345	673.145	1,03
Meksika	1.191.000	890.000	1.085.013	553.335	223.844	440.490	593.439	487.914	0,75
Diğer Ülkeler	9.060.228	13.456.969	15.434.482	15.159.341	8.511.053	7.077.706	7.313.993	7.050.700	10,78
Toplam	2.7478.586	35.593.044	41.387.103	54.246.754	52.977.850	69.221.444	66.775.889	65.391.535	100,00

Table 5.*Turkey – Cotton Foreign Trade*

Year	Export		Import	
	Amount (kg)	Value (\$)	Amount (kg)	Value (\$)
2000	27.528.426	36.325.473	566.888.868	676.761.047
2001	30.084.845	37.446.334	454.195.430	497.416.520
2002	37.803.019	43.460.765	540.650.618	493.233.565
2003	88.892.305	113.174.953	557.153.908	667.952.458
2004	48.630.762	78.498.812	585.286.265	836.813.287
2005	40.982.486	54.813.771	775.685.370	908.358.734
2006	72.265.006	94.323.414	754.159.533	970.447.831
2007	74.584.004	105.681.352	946.243.759	1.277.801.546
2008	64.197.902	115.968.352	613.449.300	1.000.215.462
2009	38.312.440	64.817.540	753.269.722	1.003.106.734
2010	30.906.190	66.328.880	889.583.468	1.720.818.825
2011	54.581.117	149.385.271	604.160.525	1.850.333.990
2012	52.983.991	108.835.578	613.669.895	1.274.979.374
2013	50.279.450	102.822.494	869.285.335	1.681.872.396
2014	48.275.429	91.379.467	913.168.779	1.750.702.928
2015	51.138.573	79.967.137	802.969.897	1.233.224.147
2016	81.347.905	129.157.263	821.234.615	1.238.884.986
2017	67.142.702	123.981.671	914.497.930	1.676.613.890
2018*	49.722.933	96.368.748	619.947.399	1.151.018.898

The above table shows the foreign trade figures of Turkey in cotton. In general, the Figures show us that Turkey's export figures are about 6% of the total imports. Turkey is a net importer of cotton the total import amount being more than the local production. The export figures above should be evaluated with special care meaning that these amounts are either re-exported cotton, or exported to Turkish free zones for some purpose, or some special conditioned cotton not attractive by local consumers by quality or season. If Turkey can cultivate all available land there will be no need for imports and there will be many other remaining's like seeds for vegetable gee oil extraction 19% and cattle feeding. This oil can be used as biodiesel as well.

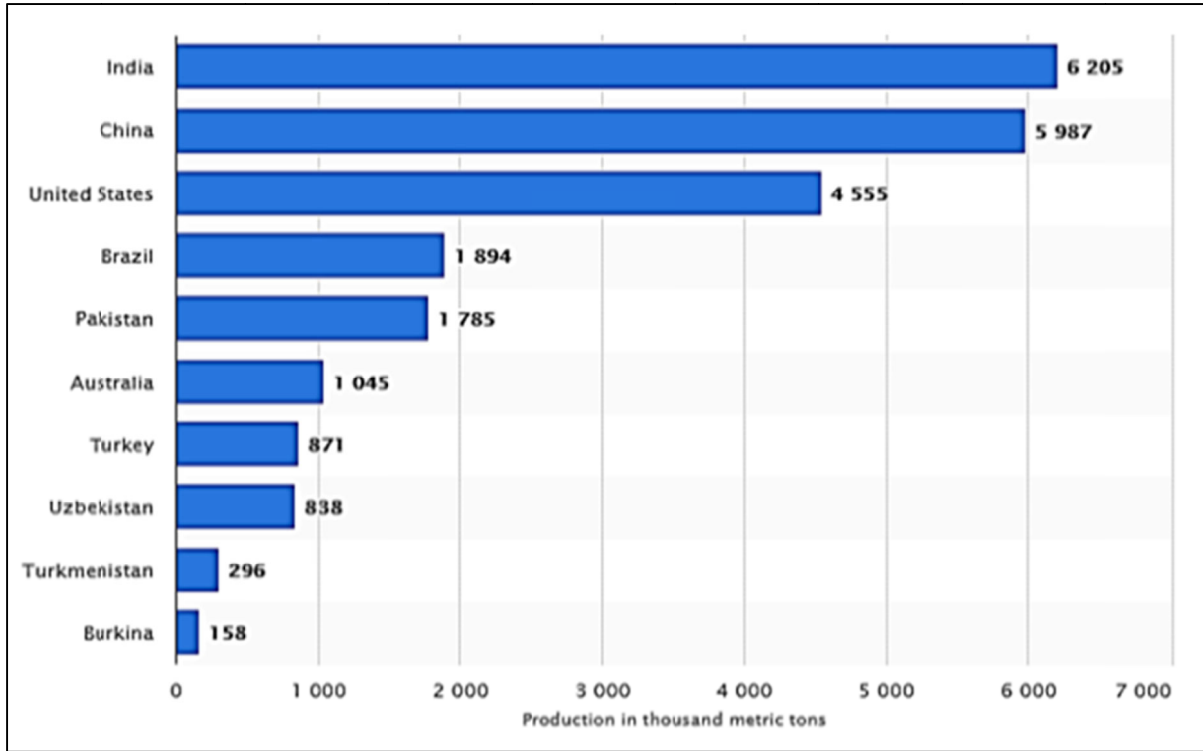


Figure 2. Countries general global cotton production 2017-2018 (mt 1.000)

Problems of cotton farming, cotton production and solution proposals³⁴:

- 1- In Turkey cotton production is not enough to satisfy the need of the textiles industry. During the years of 1990 onwards cotton consumption has increased due to the capacity development of textiles sector, but cotton production did not increase. On the contrary the cotton farming fields decreased between 2002 and 2017 up to the level of 30% less. Import policy of cotton satisfied the cotton demand.

As a result cotton imports increased about 56.25% between the years 2003–2017. The long term payment advantage of USA cottons export credit policy highly supported this attractive imports. In Turkey generally cotton trade is on cash or short term basis where as USA cotton was exported to Turkey with one year grace period and total three years payment terms. This gave the Turkish textiles sector a strong financial comfort and ambition for import of cotton from USA.

There is a strong need to develop cotton farming and increase of production. This can be done by starting to select regions of Turkey with higher productivity and quality standards.

³⁴ Başal, H. (2018): “Türkiye’de Pamuk Tarımı” <https://www.turktob.org.tr/dergi/makaleler/dergi21/8-13.pdf>. Gençer, O., Özudoğru, T., Kaynak, M. A., Yılmaz, A., Ören, N. (2004) : “Türkiye’de Pamuk Üretimi ve Sorunlari, https://www.zmo.org.tr/resimler/ekler/8d437661d952917_ek.pdf.

Actually Turkey has a capability to produce up to two million tons of bale cotton, in comparison to the present production below 900 thousand tons. Turkish cotton capacity can be increased more than double of what is actually being done. Total Çukurova, Harran, GAP, Ağa region can produce about two million tons of bale cotton. This also means that there will be about three million tons of cotton seeds, which is equal to 600 thousand tons of vegetable oil and cattle feeding remainders.

- 2- The increase in prices of inputs like (petroleum, fertilizers, chemicals) has made the farmers move away from cotton farming. Cotton farming became less sustainable. The financial needs in cotton are higher than the requirements of other crop like corn or wheat, so farmers move away to that direction.
- 3- The support and incentives given to the farmers is not enough to attract farmers to cotton growing. The EU farmers are getting about one us dollar farming premium per kg. This far above the mentioned levels of Turkish farmers. The actual payment of incentives are delayed and authorities are requesting a lot of documentation which makes even requesting support is very difficult and delayed. There is the need to support cotton production based on the quality and speciality of the crop depending on different locations. For example the Manisa, Bergama cotton is very unique in length, white color and long staple. In the last 25 years 1995 – 2020 this cotton is almost out of the market due to minimum production. Similarly Diyarbakır – Urfa - Sırt region has a long staple and high quality cotton which can be tripled in production, but farmers are growing wheat due to low finance necessity.
- 4- Cotton market is open to interventions of huge and strong economies like USA and China, related with this factor these strategic interventions disturb the Turkish supply and demand behaviour. Even though there are restrictions of international authorities like WTO, ICAC USA and EU administration continues to unfair incentives to their farmers. Greece used to have a steady production of about 150 thousand tons of cotton production in the past 50 years. After the support of EU the production of Greece has increased up to 300 thousand tons.
- 5- Turkey has producers organizations like Tarı̇ established 1932, Antbirlik and Çukobirlik established in 1940 long, large scale and highly experienced institutions. These were very effective and active, but after 2003 they became less and less active to regulate and guide the farmers. During the years before 2003 they were too much mismanaged by political

intervention and were losing a lot of money. These cooperatives or similar organizations must be activated and made use of for regulating and leading cotton growing.

- 6– The standardization and contamination of cotton and quality selection must be organized up to the level of international competitors. In the USA each and every bale of cotton has a plate number like automobiles so the consumer can trace and understand from which area or farm this bale is originating from.

2.5.2. Synthetic, Artificial and Natural Fiber, Yarn and Textiles

One of the earlier fibers used are the hemp (kenevir) and lienen (keten). These were abundantly found in nature growing by its seeds automatically. They have coarser fiber characteristics in comparison to cotton. Especially hemp is a very strong fiber and used especially in industrial purposes. The ropes that fix the ships to the dock are made from hemp fibers. It was used in making thick fabric used for external coverage, shelter sheets and as ropes. Later as finishing technology developed they also became almost as soft as cotton. Lienen is mostly used for outer wear like jackets and trousers and usually blended with cotton and polamide for a more comfortable wearing.

The farming of hemp is either forbidden or restricted due to the usage of the seeds for illegitimate drugs, but the fiber is very strong textiles and for paper industry as well. The main areas of farming were done in Kastamonu, Afyon area and Sümerbank had a factory in Taşköprü processing rope for industrial usage. Jute is also a strong coarse fiber vegetation and the fibers are mainly used in healthy packing of food stuff like rice, wheat, beans or similar. Turkey is no longer producing enough amounts of these fibers but generally importing from Bangladesh or Pakistan and India.

In artificial fiber production³⁵, the physical form of the material is changed into a different format, like from trunk of a tree to a cellulosic fiber, like viscos. In synthetic fiber production the technology is using petroleum based raw materials and through chemical and physical reactions a fiber is available. In artificial fiber production the final product has only physical changes, from timber to fiber as in viscos, but in synthetics a complete new products comes out of the processing of petroleum derivatives and several chemicals. For acrylics main raw material is caprolactam, and for polyester the main input is DMT (dimethyltereftalat) and MEG (monoethylene glycol).

³⁵https://textilelearner.blogspot.com/2011/03/production-process-of-synthetic-fiber_9386.html

The beginning of viscose fiber is a beech tree but the base of polyester, acrylics, polypropilen or polyamide is petroleum and derivatives from petroleum. Sometimes artificial and synthetic fiber definition is wrongly used Even the name of SASA Adana is “Suni ve Sentetik Elyaf Sanayii”. SASA has nothing to do with “sunni elyaf” it is completely producing synthetic fibers from petroleum derivatives.

The introduction of artificial and synthetic fibers in Turkey started with the construction of SÜMERBANK SUNİ İPEK ve VİSKON MAMULLERİ SANAYİİ in 1935. This was an artificial fiber made from fibers of beech tree (kayın ağacı). The fiber is soft and shiny and has an attractive fabric. The beech tree is growing in the Marmara and western Anatolia forests. This fiber is not very strong in comparison to cotton, or hemp and lienen but viscose is very comfortable to wear. Due to the higher ability to absorb humidity and sweat, it is commonly used as an interlining inside jackets. The Sümerbank Gemlik factory is closed in 1998 due to delayed renovation and inefficient technology of last years. Since 1935 there had been several upgrading investments and new machinery addition but the last production was in 1996 and then closed, in 1998.

SASA is the first synthetic fiber producer is Turkey established in 1966 in Adana, by Sabancı Holding, which is producing polyester.

AKSA is established in 1968 in Yalova by Dinçkök and Boyner groups producing acrylic fiber. Both are petroleum based production. Both of these producers are world wide known and world leaders. AKSA has the largest capacity of acrylic producer in the world under one shed. AKSA has about 400 thousand tons of production capacity per year. Aksa acrylic is mainly used in carpet, blanket and similar products. Acrylic fiber is also bulky and commonly used in sweaters, pull overs coats and similar products. It can be blended with several fibers to form a very different fabric. When these fibers are blended - acrylic gives a bulky thickness, polamide gives softness, polyester gives strength and viscose gives a shining color and silky effect. Wool and cotton are always comfortable and healthier natural materials, the others are man made fibers, produced from petroleum. SASA in Adana in 1968, and AKSA in Yalova in 1970, started production. The other following huge capacities in synthetic fiber and yarn production was started or enlarged their existing capacities in Bursa, İstanbul area during 1983 onwards. These companies were NERGİS of Cavit Çağlar in Bursa. Sifaş, Polylen, Sönmez Filament (Ali Osman Sönmez), Korteks by ZORLU group were all developing synthetic producers. But, after several world market crises in 1998, Turkish earthquakes, then

following economic break down in 2001 and after WTO rules new application in 2005 for China and far eastern countries and their unjust and illegal competition, these factories were closed one after the other following the year of 2005.

2.5.2.1. Synthetic Fiber and Yarn Production

The synthetic yarn and fibers production started in Turkey late 1968 onwards by SASA in Adana and AKSA production of acrylics in Yalova in 1970. The original capacity of SASA was exactly 3.000 tons/year. It was planned as 1.000 tons for Bossa, 1.000 tons for Güney Sanayii, the partners, and 1.000 tons for general market consumption. In 1972 the capacity was revised to 12.000tons and revised again to 30.000 tons in 1976. This shows the incredible demand shift from the market for synthetics. The capacity of AKSA was also revised to triple figures in a short time. In the last several years the production stays rather stable due to the general world crises and uncertainty in international markets.

The increase in fiber consumption during the development years of the world economies after the II. World War, demanded more textiles, meaning demand increase for fibers. Since the production of natural fibers is limited by nature more and more synthetic fibers were used.

Table 6.

Synthetic Fiber and Yarn Production

Production (Ton)	2015	2016	2017	2018
Polyester Yarn	406.312	430.741	569.970	610.877
Polyester Fiber	200.000	210.000	233.804	149.556
Polyamid Yarn	59.000	56.687	73.065	63.944
Polyamid Fiber	600	600.000	600.000	600.000
Acrylic fiber	270.000	260.000	297.500	260.000
Polypropilen Yarn	600.000	617.000	626.000	617.333
Polypropilen Fiber	38.000	38.000	40.000	38.000
Synthetics Total	1.573.912	1.613.028	1.840.939	1.740.511

Source:<http://www.tetsiad.org/files/raporlar/Ekonomik%20Degerlendirmeler%202018-2019.pdf>.

2.5.2.2. Synthetic Yarn Exports

Exports of synthetic yarns and fabrics are closely related with international fluctuations of currency parities and general demand on final products. The final product exports of countries have been steady or not promising so demand stayed usually stable. Even with these conditions exports of polyester fiber by 50 % between 2015 – 2018.

This is similar with polyester yarns as well. The export increase is about 50 % polyamide fiber and yarn almost stay stable in the last 4 years. Acrylic fiber export has stopped because of high local demand since it is used in industrial carpet production.

In polypropylene exports more exports are being made as final products such as sacks and bags for agricultural product packing.

Table 7.

Synthetic Yarn Exports

Exports (Ton)	2015	2016	2017	2018
Polyester Yarn	25.952	25.611	30.603	38.808
Polyester Fiber	45.584	46.700	38.782	38.033
Polyamid Yarn	25.290	21.580	25.228	25.188
Polyamid Fiber	85	55	61	170
Acrylic fiber	20.264	20.596	0	0
Polypropilen yarn	135.355	152.412	24.905	26.513
Polypropilen Fiber	870	1.555	4.309	4.360
Synthetics Total	253.400	268.509	123.888	133.129

Source: <http://www.tetsiad.org/files/raporlar/Ekonomik%20Degerlendirmeler%202018-2019.pdf>

2.5.3. Home Textiles

Home textiles can be defined as all kinds of woven or non woven and knitted products used in homes for functional or decorative purposes.³⁶ These products can be made of cotton, wool, synthetics, linen and the mixes of some of these raw materials. The products can be listed as bed sheets, bed covers, curtains, upholstery fabrics used in covering seats chairs and couches,

³⁶ “Types and Classification of Home Textiles” <https://textilecourse.blogspot.com/2018/06/types-classification-home-textiles.html>.

various blankets, laces, table covers, sleeping bags, wall carpets, bath robes and towels.

Turkey's hometextiles production has been increasing parallel to the export increase. There is one critical point which should be mentioned here and that is, the home textiles production increased first, with the urbanization social movement of Turkish population which brought with it the production of new homes and satellite villages besides the Turkish metropolises. Thousands of new homes were constructed and the necessity for home textiles shifted the demand, inviting many competitors as well. There is local factors and local demand pushing a sector or product group, with competitors, and upgrading products ready to be competitive in international grounds.

In Turkey the center of towels, bath robes has been Bursa area, in the last 40 years Denizli, İzmir, Uşak and İstanbul regions also made great expansion in towels. The Birlik Mensucat of Kayseri, with SOLEY brand, Teksa towels, Özdilek home textiles are among the pioneers. The famous queen size bedsheets and bed covers of IKEA were made by ATEKS (1998) and Çukurova factories in Adana and Tarsus with top quality. Zorlu, Nergis and Karesi companies are from Bursa also huge capacities producing well and home textiles for international brands. Besides these large capacity companies there are also many smaller companies mainly in Denizli, Uşak area for home textiles, Menderes Tekstil and Küçük brands are internationally known brands.

Total world home textiles trade was about 86 billion us dollars in 2017. In the year of 2017 the largest exporting countries of the world in hometextiles were,

- China
- India
- Pakistan
- Turkey
- South Korea

China holding the leadership of home textiles in the world with 55% of the total trade, on the other hand Turkey is holding about 3,9% of the total world trade. In the year 2018, the world home textiles trade has a slight decrease of about 5% from 63 billion to 60 billion us dollars in three quarters.

In 2018 considering the first three quarters trade the leaders are,

- China 55%
- India 6,5%
- Pakistan 4,9%
- Turkey 3.9%
- South Korea 3,1%

Home textiles trade increased in the last 15 years due to the loose conditions of WTO - World Trade Organization, since quotas and tariffs are to the advantage of cheap producers. Generally, in the last 15 years world trade increased from 1 trillion usd to 16 trillion usd top level in 2017. In 2018 and 2019 figures are lower down to 14 trillion us dollars. In any case trade is expanding. One other factor in home textiles is the production of new homes and high volume of tourism developments. There is a huge increase of international visitors to all countries and this is reflected in air flights and cruise travels. One special factor of home textiles is that in comparison to other ready made home textiles Consume higher amounts of fiber and raw material. One shirt or trouser weighs about half a kilogram but a carpet, a bed cover, curtain or upholstery weighs much more in comparison to personal wear.

Table 8.

World Top Ten Home Textiles Exporting Countries

Country	World trade share (%)
China	55,6
India	6,5
Pakistan	4,9
Turkey	3,9
Republic of Korea	3,1
Germany	3,2
Italy	2,3
USA	1,8
Spain	1,3
Japan	1,7
Others	15,7

Source:<http://www.tetsiad.org/files/raporlar/Ekonomik%20Degerlendirmeler%202018-2019.pdf>.

2.5.4. Ready Made and Garment Sector in Turkey

The ready made and garment industry started in Turkey as huge tailor workshops like in other countries. During the second world war there was the need of the armies and industrial garment production lines were developed. At the beginning the sewing machines were running by manpower with arms or legs. After the second world war Japan was restricted to produce any military arms. The fast running machine gun factory of Japan was converted into a fast running JUKI sewing machine operated by electrical power³⁷. After 1945 a new social understanding started to be popular with fashion design and new garment models. The classical standard sheltering and covering understanding left its popularity to fashions, brands and changing designs. There was a fast movement of garments and home design carpets, curtains, bedsheets.

The only industrial garment factory Turkey had in 1940 was the military DİKİMEVİ in Ankara and Bakırköy İstanbul, the production lines and efficiency measurements made this look like a factory even though it was still manpower operated. The Dikimevi was a very good training center for soldiers who learned how to produce garments in an industrial concept, when they returned to their different towns they were pioneers of garment producers.

The famous SINGER, ZETİNA sewing machines were common in wedding lists of girls, to take with them to their new homes. The garment industry actually started to move upwards after 1979. The first big contracts were made for the Moscow Olympics of 1980 summer. All the dormitory and similar material were exported from Turkey. Bedsheets, towels, curtains bathrobes were exported by Adana area companies namely, Güney Sanayii, Yürtaş and Teksa. A total of 20 million us dollars value was exported to Russia and in those years Turkish ready made export was about 37 million us dollars. In addition to this bulk export the Tatari family from İzmir were exporters of wedding dresses to middle east with a value of about one million us dollars. In 2019 total garment exports of Turkey is about 24 billion us dollars.

The demand for garments started with covering and securing from outside climatic conditions, but later this changed to fancy dressing, fashion and design styles. The invention of zippers in 1913 by Gideon Soundback and wide use by USA army in 1917, made zippers popular and easy and comfortable use of garments. Actually it is the war times when there is bulky demand and necessity for mass production.

³⁷ https://en.wikipedia.org/wiki/Sewing_machine.

The first sewing machine was invented by English Thomas Saint in the year 1790, but never used. Then a poor village tailor in France used the first sewing machine with a more developed model in 1830. Actually it is the time when Isaac SINGER in 1851 in the USA used this machine to prepare the costumes for Broadway shows and made a very speedy performance. The sewing machines started to be used commonly and for mass production.

After the second world war the Japan were prohibited to produce any weapon or war guns. Japan had a developed infrastructure for making machine guns for aircraft and soldiers. They converted this technology to produce very high speed sewing machines and the fast running motorized JUKI machines were in the market by the early 1950s. With the development of economies, and the demand for renovating damaged homes and cities a huge demand was in the market to pull the production development. Starting with the 1955, about ten years after the IInd World war finished, there was a very high textiles and garments consumption and increase of the retail revenues.

The textiles production was done by hand picked cotton, the major raw material for textiles industry, using hand spun yarn, and hand woven fabric since hundreds of years. When the steam power and electricity were involved in industry then machinery and technology was introduced for production. This made a big shift of production of textiles.³⁸

The weaving machines of BOSSA in 1951 were producing cloth with a speed of 60 picks of thread on the width/minute at a width of 90 cm of the fabric. In 2010 technology the weaving can be done with a speed of 1800 picks/minute at a width of 180 cm. This means an increase of speed by 60 times faster. This urged the yarn quality is to be developed and better cooling devices to be used on the machines and water jet technology adopted for synthetics and microcarbon fibers.

This development of textiles production speed can be compared with the development of the automobiles industry. The cars were running about 20 km/hr and nowadays in the year 2010 onwards the cars can make aspeed of about 300 km/hr. Parallel to the speed of cars roads, tyres, brakes and cooling systems were obliged to be improved as well.

Textiles and ready made sectors includes all processes which convert fibers and yarn into final products for use. In this definition the fibers are prepared, yarn produced, weaving,

³⁸ Textile Manufacturing, <https://courses.lumenlearning.com/boundless-worldhistory/chapter/textile-manufacturing/>

knitting, dying or printing finishing, and then cutting to patterns and sewing for garments or home textiles.

In ready made garments the main necessity is the personal dressing and covering for cold climate. As society developed and social relations were enriched dressing became a way of presenting cultures, quality, price, and income label of persons. At this stage fashion and colors patterns became additional factor to covering one self from nature.

One of the major effective factor in textiles world is the acceptance of China to WTO World Trade Union. This resulted the joining of China to WTO Textiles and Readymades agreement so the quota restrictions and preventive private import tax implementation of individual countries were abolished as of 2005. This new climate made it possible for China to enter into restricted markets with no quantity limitation and no extra tax protection of local producers of other countries. For example, Turkey was implementing 60-70% import tax for products imported from China. After 2005 Turkey was obliged to use EU and WTO tax levels for China because this was a standard universal agreement. The Turkish tax level for Chinese products were decreased to 8-12% just like EU and USA is practicing.

The consumers were demanding cheaper prices, even with lower quality and this made the textiles and ready made producers either close down or hide themselves behind. The rules and regulations. Many EU and USA companies kept their brand name and started to produce in China with their engineers and managers.

The textiles and ready made sectors is practicing high competition on international arena but it is also accepted as a high revenue and profit generating sector. The Turkish textiles and ready made sectors are one of leading sectors of Turkey with mainly export oriented and net foreign currency generator. The high employment creation is also an important factor.

In 1979 total Turkish ready made and garment export was about 37 million us dollars. The export based development model preference of Turkey beginning by 1979 and concentration during the 1980 years onwards attracted more investment to these sectors. When it is related with GNP, employment, exports, contribution to national economy and share in national industry and macro economical size the importance and value can be easily understood.

As of 2020 and including the last 30 years about 65% of Turkish textiles and ready made

production is exported. Turkish ready made sector is the 7th largest ready made exporter.³⁹ When it is compared and related to population and size of countries Turkey has a higher level. In 2019 Turkey had about 3,3% share in the world exporters market. Turkey is the 3rd exporter to EU after China and Bangladesh. The quality and prices being higher than both of these two countries.

Most of the companies in garment and leather industry are small to medium sized plants. According to statistics of Turkish Social Security between 2020 January–April there are about 58.000 producers and about 1.100.000 people are working⁴⁰. To be more realistic in practice about 30% of these companies can be estimated that they are registered but not active any more. The actual employment number can be estimated informally that the actual employment figures are about 2.000.000. The visiting workers like refugees is not included in these assumptions.⁴¹

The majority of the ready made products are made of cotton and about 50% of the need of cotton is imported. The other items like wool, linen and viscose are mainly imported. Turkey has an important figure of importing dyed polyester/viscose yarn mainly from India a total of 500 million usdollars.⁴²

The main advantage of garment sector is accumulated experience and expertise in the last 40 years, closeness to the main targeted market namely EU, quick delivery, a wide variety of offer possibility with developed fabrics, accessories and designs.

Some of the ready made companies has started to open retail shops or warehouses outside Turkey. The first one were in nearby countries and area like Balkans, middle east then Holland, Germany and Kenya. Several Turkish companies opened retail shops in USA like Mavi, SARAR, Capacity, Kombassan with Hit or Miss brand but all these are either closed or operating on a very small scale due to non sustainable economic conditions.

To develop a brand name in international markets has a big advantage in the long run for Turkish products. Starting brands and shops in markets is relatively easy, but keeping the name in the market is much more difficult and requires a lot of other factors like state support. TURQUALITY support program was not enough to keep Turkish brands in foreign markets.

³⁹ Akhi Akter, Mir Abdullah Al Mahfuz (2018): “An overview of Turkish textiles and clothing industry” <https://www.textiletoday.com.bd/overview-turkish-textiles-clothing-industry/>

⁴⁰ https://www.ssa.gov/policy/data_date.html.

⁴¹ TIM Report, 2019, June.

⁴² TIM Import Report 2019 February.

The very popular European brands had a lot of state support and they are in the market more than 100 years. Louis Vuitton the oldest is 165 years old.

Turkey's total Garment exports

Billions of USD

2005	11,5
2006	11,5
2007	13,5
2008	13,2
2009	11,2
2010	12,4
2011	13,6
2012	13,9
2013	15,-
2014	16,3
2019	17,1

During 2015 to 2018 period, due to general recession the export figures were decreasing or steady with no achievement in the whole World. Ready made exports in general has a share of about 10% of Turkish export figures. It must be mentioned that a majority of inputs like 90% is totally local sources so;

Net foreign currency contribution is very valuable.

Export price of 1 kg automobile 8 USD 1.300 kg x 8 = 10.400 USD

Export price of 1 kg bath robe 16 USD

In 2016 75% of automobile inputs were imported

In 2016 100% pure cotton Local production, when, and if made from local sources

Net foreign currency generation of 1 kg of automobile is 2 USD

Net foreign currency generation of 1 kg bathrobe is 16 USD

When Turkey starts to make use of all available land and capacity for cotton production,

there will be no need to import from foreign sources and export of cotton based products like bathrobe will contribute 100% export revenue without any imported material.

The main competitors of Turkey in international markets is China and far eastern countries. They have more flexibility and less restrictions after the new WTO practices after 2005. Generally, for exporting countries when there is a world crisis like in 2007–2009 or when the general rise of the economies like in 2013 the demand and export figures are effected positively.

The fluctuation of Euro/us dollar parity and other economic and political factors have close effect on international trade. Turkey imports raw materials on us dollar basis and mainly exports to EU on Euro basis, when the parities change sometimes there are unexpected losses or gains related to this movement.

Turkey had a total export of about 14 billion us dollars to the middle eastern countries passing through Syria, after the turbulences in Syria this export figure went down to 2 billion us dollars.

Turkish ready made sector has a share of 3,3% in global markets, ranking as the 7th largest exporter. In exports to EU Turkey ranks as the third country after China, then Bangladesh. As of today the ready made sector has a big locomotive share in Turkey's production and employment.

Generally the sector members are small to medium sized producers. According to Social Security institution of Turkey the statistics records show 1.100.000 employment in garments, textiles and leather industry, during January – April 2020. This employment is working in 58.000 companies.

The majority of the production in Turkey is made from cotton raw material. The raw materials like cotton, wool, yarn and fabric are mainly produced in Turkey. In addition to local products, there is considerable imports as well.

Turkey being the sixth largest cotton grower in the world in 2018- 2019 local production was unable to satisfy demand. Turkey is the fifth cotton consuming country in the world.

The most important advantage of the sector is fast delivery short distance to target markets technical, social, and managerial accumulated know how, experience, a wide variety of different types of products, designing and fashion ability. Some of the large scale, started to

open shops in different countries. Turkish garment sector companies started to be more effective in global markets with their flexible, creative, fashion products and gain higher profit margins. Some popular Turkish garment brands are VAKKO, Beymen, Damat, LC Waikiki, SARAR, IMZA, Süvari already have many shops abroad.

2.5.5. The Role and Place of Turkish Textiles and Ready Made Sectors in The Turkish Economy

In Turkey the textiles and ready made industry started to develop, based on cotton production during the early years of the Republic. The cotton crop was first exported as it is picked up from the fields with the seeds. The second step was to process raw cotton by ginning and exporting bale cotton. At the earlier years this was done by French and USA companies. With the establishments of the first yarn and fabric factories in Tarsus and Adana industrial production started.

The major developments were⁴³

a - during the early stages of the new republic. 1926- 1940

b- during 1951 – 1960

c- during 1972 – 1979 mainly cotton yarn production

d- during the 1980 onwards where the highest production, quality and exports activities started. This is the period when the liberalization started and economical development policies were based on an exporting model.

The accumulated expertise, educated trained experienced personnel, made the shift of this development easier. These were combined with the latest technology, innovation, designing and modeling ability and Turkey became a leader of textiles world.

The first shock to the Turkish textiles is when China was accepted to the WTO World Trade Organization in 2001, and in 2005 the international free movement of goods, services and capital started. This means that quotas, tariffs and many restrictions were abolished worldwide and this gave China a huge advantage and Turkey a big harm and cheap selling competitor. Turkey started to loose share and in markets against the pressure of the cheap far eastern products.

⁴³ Umut, A. (2020): “Türkiye Ekonomisinde Tekstil Sektörü” in İncekara, B (2020): Sektör Analizleriyle Türkiye Ekonomisi, Akademisyen Kitabevi, Ankara.

This is also the time when the USA economical crises started and effected the whole world in all sectors. Many sectors shrinked and many huge companies went bankrupt. Especially in the last ten years 2009 – 2019 continuing general world crises effected Turkish textiles sector and forced to search for new markets.

Table 9.

Turkish Textiles Exports

Years	Export	Import
2001	7.335.856	222.997
2005	13.422.476	751.145
2010	14.205.917	2.704.271
2015	16.743.280	2.846.930
2016	16.739.270	2.690.707
2017	16.804.601	2.263.492
2018	17.358.064	1.852.595
2019	18.500.000	2.000.000

Turkish textiles exports increased from 7,3 billion us dollars to 18,5 billion us dollars in 2019. In addition to this increase the balance was a net surplus of 16,5 in 2019. Even though the export figures are increasing in textiles exports, the percentage in Turkish general exports is decreasing from 23% in 2001 to 10% in 2019.

Table 10.

Share of Turkish Textiles in total exports of Turkey (%)

Years	Textile Exports	Other sectors
2001	23	77
2019	10	90

As it is recorded in the above tablet he share goes down from 23 to 10%. These figures are one of the indicators that the textiles sector is neglected and not given good consideration.

Table 11.*Top Garment Exporting Countries (1000 US Dollars)*

Years	World	China	Bangladesh	Vietnam	India	Turkey
2001	203.587.486	36.108.201	4.242.133	1.967.327	6.137.149	7.335.856
2005	303.155.762	76.237.701	7.131.019	4.827.120	10.581.904	13.422.476
2010	396.200.626	140.816.641	15.530.803	10.932.991	13.506.543	14.205.917
2015	499.649.132	189.154.762	27.350.922	22.805.010	21.749.598	16.744.623
2017	516.095.689	171.590.315	35.837.002	25.845.315	22.950.013	16.804.601
2018	546.046.742	172.822.517	40.084.116	29.762.537	29.912.195	17.358.064

Source: ITC; Trade Map

During the last 18 years Turkey has increased exports from 7 to 17.3 billion usd. The low labor countries have increased their exports to a much higher levels. The best example being China rising from 36 billion to 172 usd. The abolishment of quotas and decreasing of levels of tariffs in 2005 supported several of these countries as seen on the table above.

In the above tables there may be some misunderstanding and misinterpretation of figures. Some countries include sports shoes made out of cotton fabric in textiles. In many calculations raw material like linen, cotton in bales is also included in the accounts.

A general comparison of increases in exports is that even though Turkey has increased the exports from 7 billion to 17,3 billion, Turkey's comparative leading countries have risen much higher.

From year 2001 China has increased its exports from 36 billion to 172, both the base figure higher than Turkey and the multiplying factor almost.

From year 2001 Bangladesh has shifted their exports from 4 to 40 billion. The increase is about ten times to the base figure of 2001.

From year 2001 Vietnam has shifted their exports from 2 to 29 billion, almost 15 times more in 2018.

From year 2001 India has gone up from 6 billion to 29 billion us dollars in textiles exports.

Turkey was able to increase from 7 billion of 2001 to 17,3 in 2018 which is about 2.6 times higher.

These figures show us that we have moved upwards in comparison to our past performance. Turkey's comparative export development is unfortunately slower than the competitors.

The expansion of the worlds consumption of textiles from 2001 figure of 203 billion us dollar, rising to 546 billion in 2018. Turkey did not get the correct share possible. In 2001 the share of Turkey in world imports was 3,5%, 7/203. In 2018 the share is 3,2%.

On the other hand the share of Vietnam in 2001 was less than 1% with 2/203 ,and in 2018 it has jumped up to 5,3% which is 29/546.

China increased the share from 17,7% in 2001, up to 35,1% in 2018. The absolute figures being 36/203 billion, and 172/546 billion.

To increase absolute export figures and increase the market share requires a combination of correct and steady program both on governance level and on sector and company levels. The decisions should serve the target of the country with steady, supporting and opening new horizons to local producers. There should not be frequent and conflicting changes in laws, regulations and implementations. The countries above have clearly decided what to do, when and how much assistance and support will be given to the sector and companies. The result is steady success and increase of textiles and ready made exports.

Employment figures⁴⁴

938.187 total employment in textiles and ready made official

1.563.000 actual estimated employment

388.226 employed women registered

776.000 actual estimated women workers

787.000 actual estimated men working

1.563.000 Actual total workers

total employment 13.400.000 registered 7% in textiles

actual employment 20.100.000 total 8% in textiles

estimated gender portion of employment

38% women + 62 men = 100%

⁴⁴ Umut, A. (2020): "Türkiye Ekonomisinde Tekstil Sektörü" in İncekara, B (2020): Sektör Analizleriyle Türkiye Ekonomisi, Akademisyen Kitabevi, Ankara.

The official registered workers, local distribution trade and exports may not reflect reality 100%. In general textiles and ready wear sectors contribute to the Turkish economy between 9-20%, related to employment, income tax generation, VAT payments. Foreign currency gains 8% contribution to growth rate. Export figures represents 95% reality due to registration obligations, some overlapping figures may be confusing due to registered but still not ex borders, or exports to free zones of Turkey, but employment figures represent nearly 60% because of unregistered companies and unregistered workers. In the last years, especially after 2011 period, employment figures may even be more underestimated because of refugee workers.

2.5.6. SWOT Analysis of Turkish Textile Industry

The textiles sector of Turkey has a major role in the Turkish economy. Almost all these figures about the sector clearly show how big, important and strategic this sector is. The employment, value addition, import substitution, tax generation, gain of foreign currency, and development in the last sixty years draws attention to the sector. The Turkish textiles sector is one of the leading players in the global arena. The capacity, technology, quality, speed, and variety makes the sector adorable in the world.

To be a leader is difficult, but to stay at the top levels is even more difficult and competitors are more careful and dangerous against leading ones. To keep the high position in the world, to continue to be in the leading group requires more attention and care for all supporting factors. Therefore, it is necessary to analyze the Turkish Textiles sector and define carefully everything with a SWOT analysis. This will prepare the sector and country to be alert against dangers, and to keep its top position in the future.

The strength, weaknesses, opportunities and threats analysis will define the general health of the sector and country. Several different institutions made different studies on this subject. Below is presented a summary of the studies.

The Strong points of Turkey:

- Turkey is a gifted country by God, in relation to climate and fertile land with enough rain and water to grow the main input of textiles – cotton,
- Has latest technology for production of efficient, high quality products,
- Has many different kinds of supporting side industries to form a cluster,

- Has a historical accumulation of culture and experience carrying Turkey to an expertise level,
- In some factories like Sümerbank, Bossa, Güney Sanayii, three generations worked from the same family in the same factory and retired. This is more than just a job, this is a life style,
- In all adjacent cooperating sub groups of producers, a quick understanding of each other and fast response to any amount of customer orders,
- This speed and reliability is tested and approved and known by local and international markets,
- Turkey is known with high quality, fast delivery and better prices than competitors.
- there are full integrated factories as well as closely integrated satellites doing group work for the final customers,
- Especially in the last 25 years fine and developed designing and fashion level is achieved. The integration with EU, as customs union caused a strong energy to pull up the textiles sector,
- The developed logistics, fast delivery of land transport capability, the airlines development to deliver to almost all parts of the world make the sector a unique leader. Turkish airlines is flying to 340 cities in 134 countries in the world, and is a leader among many developed airlines,
- The high employment levels is under the support of the government especially for women workers,
- all kinds of testing laboratories for quality and environment protection are also in operation since years, in parallel with the conservation of nature from chemical physical and air pollution.

Weak points of Turkey:

- Due to the fast increase of production of textiles, the cotton production was not able to supply all of the demand. Turkish production fluctuated from 800 thousand tons down to 400 thousand tons due to lack of finance and became dependent on imported cotton due to long term purchase offers.
- In 2019 cotton production raised again up to 950 thousand tons with the support of market and government decisions. The fluctuation in quantity and prices effect the textiles decision making.

- In the USA each and every bale of cotton has a plate number like a car and buyer can understand from the codes from which origin the cotton is coming. The area, city even the field and ginning can be traced all the way back. This gives a predictable quality in dying, durability and physical characteristics of the product. Turkey did not do this numeration yet.
- Even though the productivity is high in Turkish cotton growing, due to expensive inputs like, fertilizers, fuel, and protective chemicals the cotton farmers are unwilling to participate in cotton farming
- In general textiles of fabrics and ready made innovation, product development brand development, marketing promotions need more effort and continuous follow up.
- The small scale producers are always the weak buckle of the line and cannot resist to fluctuations.
- The competition of low quality, low price products coming from China after 2005 WTO opening markets to the world.
- The delays and slow down of government support to international marketing like Turquality, and fair contributions.
- The regional political unrest and local fights in neighboring countries.

Options

- The steady and continuously growth, development and active policies of Turkish textile industry.
- The organic cotton, hand picked cotton concepts belonging to Turkey.
- The quick response and easy delivery of various kinds of products, the flexibility of input producers.
- Turkish textiles has been under inspection and trials in the last 40 years. Now in the markets there is a belief and acceptance of steady Turkish quality. More and more Turkish brands are being known and accepted by the market (Mavi Jeans, Collins, Damat, Beymen, Özdilek, LC Waikiki, Mudo are some of the popular brands in global markets).
- The increase of the costs in China.
- The purchase of some of the famous brands of EU by Turkish companies.

Threats

- The high cost of labor, energy, interest rates effects competitiveness.
- In cotton due to low production amount locally and becoming more dependent to foreign markets.
- The fluctuations of the foreign markets make it difficult to forecast.
- The regional unstable political situation in neighboring countries.
- The different VAT rates and delay in returns to companies causing a financial problem.
- Customers in EU request to work on open account sales which makes it risky and insurance companies hesitate to cover such risks.
- The fluctuation of business in garments and textiles prevents newcomer personnel to these sectors due to the uncertainty of future.
- The fluctuations in foreign currency parities makes it problematic for companies to make future estimations.

CHAPTER III

TURKEY'S COMPETITIVE POWER IN TEXTILES AND READY MADE SECTOR

In Turkey textiles and ready made sector has a major share in the economy. Not only with economical concerns, they also have an important role and contribution in social factors as well.

The distribution of income, employment and contribution to gender problems are among the top beneficiaries. When there is a huge contribution in employment numbers this naturally supports women income, in-home wealth, increase the family happiness and educational freedom. Many of the unemployed members are from low education and low income groups of society and they are at the early ages of their life, between 16 - 30 of age, ambitious for development and future expectation.

Generation of foreign currency gain, creation of tax, development of technology and various contributions of textiles and ready made to the Turkish economy is about 10-18% of the total GNP.

This is an important share; so this sector should be supported and given more attendance and importance. Before doing this declaration the answer should be given to the fact if these sectors have enough power and ability in the long run. Do they have international competitiveness, with objective and academic analysis? Do they deserve a high attention?

On theoretical and academical grounds objective and measurable analysis is necessary. There are many studies and analysis of different countries, different sectors, different products. One of the most considered study belongs to Michael Porter. In his book "Competitive Advantage of Nations" (1990), there is the study of competitive power of countries based on five bases. The major factors are⁴⁵;

- Input conditions, local production and competitors,
- Demand conditions,
- Companies strategy and competitiveness factors,
- Relative and supporting components,

⁴⁵ Porter, M.E. (1990): The Competitive Advantage of Nations, New York: Free Press.

- The fifth factor is the state and luck, chances or opportunities.

Even though these above factors remind somewhat a SWOT analysis, they are only very similar, but different. The SWOT analysis considers only a focused company level analysis, whereas the DIAMOND MODEL emphasizes a further, broader spectrum analysis including more local and international factors, a much broader competition ground of countries and governments different strategies, rules and regulations and supportive mechanisms on local grounds and global environment.

3.1. Porter's Diamond Model

Porter has studied 10 different countries, and 100 different sectors, analyzed their market shares with export markets, and developed a map for these countries. The analyzed countries generally have developed economies, and are in the international arena for long time. The countries are USA, Germany, Denmark, S. Korea, UK, Italy, Sweden, Switzerland, Japan and Singapore.

The Porter DIAMOND model is very useful in identifying the competitive advantages of a country.

First of all different industries may have different competition sources that they rely on.

Secondly, many of the firms while they are active in international markets, they are not effected by local fluctuations. These companies must be developing special talented processes and products.

Thirdly, these companies should be developing innovative unique products so to have advantage in competition over the counter firms. Porter in his studies found out that especially multinational huge companies have to be running after developing new technologies and new products to be competitive in global markets. The main factors that support international success stories is⁴⁶;

- Local environment and local positioning,
- Continuous development, change, renovation and innovation,
- Direct investments outside the countries,

⁴⁶Porter, M.E. (1990): Ibid.

- Global strategies they follow.

When describing a countries competitive power four major components are important. In addition to these sub components are also important and they vary from sector to sector. The role of government, opportunities and luck are external supportive elements.⁴⁷

The input conditions of a country can be developed by the nation itself. On the other hand the disadvantageous conditions resulting due to regional factors may force the countries to develop new systems and products. It may be assumed that development of heating systems in the Northern places, and continental cold countries is by the force of the local conditions.

For any industry to be successful there must be the necessary supporting environmental factors. Generally the main factors are considered as labour and raw material. These are basic factors for production like land, labour, natural resources, capital and infrastructure⁴⁸.

- Human resources; the quality and quantity,
- Physical sources: Land, water, climatic conditions, raw material, energy and similar,
- Sources of information; Scientific and technical information for goods and services, market,
- Sources of capital, size of investments, costs and capital market situation,
- Infrastructure, types and quality of transportation, communication systems, shipments, capital transfers, accommodation, health, education and cultural institutions.

These passive factors could explain the place and existence positioning of a company or sector, but not enough to explain all. These can only be enough to explain local, agro industrial business companies. For existing as a broader functioning company, with competitive advantage there are other more important and active factors. Porter emphasizes the importance of the level and quality of education, infrastructure of the country and the quality of this infrastructure. Porter also mentions that these factors would be developing innovative, creative, new factors⁴⁹.

⁴⁷ Bakoğlu, R (2003): “Talep Yapısı ve Koşullarının Ulusal Rekabet Avantajına Yansımaları: Türkiye’de Erkek Gümleği Segmenti Örneği”, A.K.Ü, İ.İ.B.F, 11. Ulusal Yönetim ve Organizasyon Kongresinde sunulan Bildiri, 22-24 Mayıs, Afyon.

⁴⁸ Erkan, H., Erkan, C., (2004): “Bilgi Ekonomisinde Teori ve Politika”, Osmangazi Üniversitesi İ.İ.B.F., 3. Ulusal Bilgi, Ekonomi ve Yönetim Kongresi. 25-26, Kasım, Eskişehir.

⁴⁹ Erkan& Erkan (2004): İbid.

For many types of industries, as long as they don't require to much developed technology and automation, (usually these are local agricultural industries) there is not much international competition and other company forcing the market.

The other active factors like expectation of high level, high quality personnel, transport, communication, and dense technology competitive power becomes stronger. Additional patented product development and differentiation will be more important in international competition.

The development of ship building and sea transport, navy forces in the United Kingdom, Indonesia, lots of islands, and forestry industries and technology in forest rich countries like Sweden, Ukraine, Russia are "luck" factors of these countries. This is how IKEA became a world leader, after the II World War. Sweden was a forestry rich country, were not destructed by second world war, and started to produce various furniture for all destructed cities of Europe. This can be a solid example for the DIAMOND model of Parker.

According to Porter the demand conditions are the most effective factor for product development and percentage of new and innovative share in the product. It is emphasized that more than the quantity, the quality is much more important. The local demand within a country effects the competitiveness either positively or negatively by these three factors⁵⁰:

- the composition of local demand,
- the quantitative growth of local demand,
- the growth of local demand over the countries borders.

The composition of local demand defines the importance of the product when the demand in the local market is higher. When demand and purchases start from external countries the competitive advantage accompanies this position. The type of demand brings new export possibilities, new markets coming together with new products, higher standards and innovative developments. These changes will attract other local producers to adopt to the changes and local competition would start due to new demand pressure. Local demand has three main characteristics to achieve competitive advantage⁵¹.

⁵⁰ Aktan, C.C., Vural, Y.İ., 2004, Rekabet Gücü ve Rekabet Stratejileri, TİSK yayınları, Rekabet Dizisi: 2, Yayın no: 254, Ankara, Aralık.

⁵¹Porter (1990): İbid.

The departmental composition and parts of demand;

This structure is leading to distribute demand for changes. A local company is more adequate to gain global competitive power.

The sophisticated demanders, with their pressure drafted producers towards higher quality. When buyers are expecting higher qualities, this will press the company or sector to develop higher standards and thus more competitive power, and advantage.

When the local buyers are asking for future needs and functions on products, and these will be common needs of society, this again will lead to an advantage for the company.

The growth of local demand in quantity would lead to a higher competitive advantage because of large scale operations and production, requiring better technology and developed efficiency. To achieve these goals, there will be more investments as well.⁵²

The size of the local demand and market size would mean more investment, more production and more learning during this process. These will be helpful for the company in competitive achievement.

The role and large size of independent buyers do effect companies in innovation and development.

The percentage of growth rate of local demand will lead to local new technologies and would show less discount.

The early local demand will enlighten international demand.

The early saturation should derive companies for change, innovation, and to target new markets. This force will lead to positive results.

The demand coming from international markets will force local companies to follow changes in global markets. To develop local competitive advantage the company needs to see and behave proactively about the factors of the demand, the components, the type of consumers and their variety of expectations. The dynamic behaviour and needs of consumers will force the development of the company which will make competitiveness more powerful. If the company does not focus on local buyers due to the ambitious large market situation, this

⁵²Porter. (1990): Ibid.

would lead to slow down and lousiness.⁵³

Porter emphasizes that the local demand and its composition is the fundamental locomotive basis of competitive power and prepares for global competition. The companies organization management structure and methodology, company culture, internal and external relations will effect competition power positively or negatively.

Local and international competition structure are closely related with each other. Even though companies may see that the low competition in local market as an advantage, a high level regional competition will push the firm to move beyond its economical borders to be more innovative to be ready for international competition.⁵⁴

The related and supportive factors, if they are competitive, are effective on costs and help with innovative inputs as contribution. This contribution will become stronger as they face international competition and develop. All related and supportive industries are the most important component for the development and ability of the exporting sector. The non governmental organizations, universities, think tank groups and all information developing centers belong to this supportive elements group.⁵⁵

The industries with global competitive power are highly supported by supporting and supplying industries. If these are globally competitive they have low costs, fast delivery and high adaptation ability. As they develop they also face international competition and up grade themselves in quality, efficiency and flexible variety of production. The global competition and demand will develop side industries and as a result the main producers will have better service, quality and these will support competitive power⁵⁶.

States function on the other different hand is to guide, control and encourage institutions and companies towards expected future products. This anticipation and planned support of state should also be restricting monopoly or trust type of cooperation among sector players⁵⁷.

Luckiness or chances are uncontrollable factors which are reality that companies face during their economic life. Unexpected wars, floods, earthquakes or a new trend pushing a product

⁵³ Bakoğlu.2003: İbid.

⁵⁴ Bulu, M., Eraslan, İ.H., Şahin Ö., 2004, Elmas Modeli ile Ankara Bilişim Kümelenmesi Rekabet Analizi, 3. Ulusal Bilgi, Ekonomi ve Yönetim Kongresi, 25-26 Kasım, Eskişehir.

⁵⁵ Barca, M., vd., 2006, Uluslararası Pazarlarda Türk Gıda Sektörünün Rekabet Gücü Ve ihracatta Aranan Kriterler / Karşılaşılan Engeller, İ.T.O, projesi.

⁵⁶ Erkan& Erkan 2004: İbid.

⁵⁷ Porter, 1990: İbid.

are among some examples. Unexpected discoveries (new like petroleum, gas reserves) which are decreasing factors of costs or new technologies, the behaviour of other countries will finally effect the demand. The restriction or encouragement of a country on a product definitely effect the demand.⁵⁸

A REAL MARKET CASE - 1

For state being as an effective actor in production, development and competitiveness power there are some examples from the real life, real events which needs to be noted of. The pandemic CORONA Virus was informed and alarmed by WHO in 2019. The governments were informed to take precautions against this illness. Some countries behaved in a proactive way and started to develop mask producing machinery and best non woven fabrics to protect entrance of virus to the body by breething. This was a nose / face mask made of fabric. When the fabric is available any garment producer can produce these masks but they must be done in a hygenic machinery and packing conditions. In a regular garment factory 4 standart sewing machines were able to produce 1.000 pieces / day. China developed an automatic machine with high capacity and there is no touch of personnel. The capacity of this single machine is 50.000 pieces / day. The regular sewing machines cost about 1.000 usd each. The new technology automatic machines price started as 52.000 usdollars in March 2020 and in June 2020 the same machines prices climbed up to 100.000 usd in three months. The production cost of the machine didnt change but the shift in demand pulled up the price of the same machines to about double in three months. The illness started to rush around by beginning January 2020, made a peak during May 2020. The medical mask, fabric and producing machinery made peak prices during a period of 3 months, between March, April and May 2020. By end of June, the illness had a slowdown and the raw material and machinery prices balanced at lower levels.

There is a high expectation in the medical world that there would be more illness observed in fall and winter of 2020 / 2021 season.

In Turkey during this period of high demand and profits the Turkish government restricted medical products exports for the welfare of the local citizens. People had easy reach to these products but medical industry lost the lucky shifted demand coming from EU, USA and Gulf countries.

A new methodology and policy must be prepared by government for fall season to protect the industry and the citizens, and this must be announced months before the active market conditions.

- a) The Chinese government made early developments to be powerful in this market,
- b) The Chinese producers were able to reach to this technology earlier than the world competitors,
- c) Due to the shift in demand for the surgical masks the prices and profits increased more than 7 times and Chinese industry earned a lot of profit,
- d) The machinery prices for this product increased by 4 times, which is a huge profit for machine producers of China.

⁵⁸ Aktan & Vural, 2004: İbid

A REAL MARKET CASE - 2

The Turkish ready made sector turned into an industrial transformation during the early 1980s. Before that time there were huge tailor shops with 150 personnel producing in a tailors manner. The first large exports contracts were made for the Moscow Olympics 1980. The first men suits were exported to Iraq by Osman Benzeş, produced by SARAR in 1980 as well.

The early producers in an industrial way were VAKKO 1970, Beymen 1971, IGS 1972, SARAR 1981, KİĞİLİ 1983.

The IGS company started open shops as franchise in many cities. In Adana there was the opening of IGS retail shop in 1982. The local Turkish garment was growing very fast in this period due to economical development, urbanization, increase of wealth and division of labour.

There was demand, competitions, enough raw material and labor force. In 1980 the government declared a development model based on exports. There were suitable credits and other incentives for investors, exporters and transporters. The demand for export forced the factories to cut supplying to their retail shops in Anatolia. To satisfy the local demand in the different cities franchised representatives asked permission to produce some simple products which they can in Adana. This local production developed and diversified the variety and the capacities became small factories.

In addition to the brand name IGS the local merchants developed their own brands and shops and became a new line of distributors. Starting with 1985 / 87 period the Adana branded shops Toros, Koza, especially ENDER became country wide a retailer with 27 department stores.

(Orhan Gizer: interview by Tarık Bozbey, June 2020)

This can be an example of how producers face local demand, local competition, opening for exports, and new brands start developing and grow to huge amounts of distribution. The effect of the decision of government, the effect of local and global buyers and competitors in developing quantity, technology and quality.

The definition of value chain and model is the total of all steps, process, and factors that create a product or a service. This model includes the starting and creation idea of the product, processing, retail and consumption total.

Porter has developed this idea of value chain concept and this has found a place both in theory and practice. The model consists of two parts where the first part is the input logistics, processing, output logistics, marketing, and sales and services. The supporting factors are the companies infrastructure, human resources management, technology development and purchasing chain.

Value chain of a company actually is a systematic analysis method which develops the competitiveness. This model gives ability for a focus of analyzing every step of the operation. A general look to a company will not give a clear idea of competitive advantages. The competitive power of a company includes all different parts and operations of a company starting from the first idea and development stage to the final consumption stage. All these different operations make a total power force therefore each and every component specific to the company must be identified.⁵⁹

The aim of the value chain is to decrease the costs to the minimum level and at the same time increase the present value to the maximum level.⁶⁰

The main idea behind value chain is that, the higher value presented to the consumer, the higher will be the gain of competition power.

The company develops a value after all processes, if the cost of the product is less than the presented value, this shows profit. The process shows an upward move for value development and downwards support to value from contracted suppliers. The value chain is a total of all of these factors involved supporting competition power.

The primary operations of value chain model are the physical presentation or delivery of a product and this is related with all the other factors that upgrade and increase the supporting elements.

Input logistic operations are all kinds of material purchases from suppliers, warehousing, stocking, and keeping the inventory.

Operations are all kinds of processing which converts the raw material to semi product, final product, productions and assembling which are leading to add value to the product.

Output logistics operations are the stages where the products are in process of wholesale, retail, transportation to reach to the consumer.

Marketing and sales operations are to find the needs, expectations, and demands of the consumers from the product or service, and this is where the prices are born. Services are the operations where the after sales follow up and evaluations of buyers.

Value chain model supporting operations can be explained as follows; the supportive factors

⁵⁹ Porter, M. E., 1996, What is Strategy? Harvard Business Review, (November-December).

⁶⁰ Porter, 1990: Ibid.

start to contribute to the primary processes, the achievement becomes easier to reach and easier. This will bring up the level to the desired goal. There are four main headlines⁶¹:

Company Infrastructure, will be contributing by the institutional position and strategic planning to make the first major factors to function in an easy way, these are general administration, quality management, planning, finance and accounting.

Human resources management, the personnel involved are usually considered as expensive fundamental sources. Human resources management is involved in selection, recruitment, education, training, payment and prize operations. Porter mentions that this qualified human resources increases competitive power.

Technology development, is the most important input in obtaining competitive power, also research and development, automation, are factors that contribute by cost reduction and innovative new products. This will lead the companies to have sustainable competitive advantages.

Purchasing, is the function of buying new raw material which are processed to produce various values for market. Porter focuses not on the products purchased but points on the function of purchasing process. This function should buy the best quality at lowest possible prices of all kind of goods and services coming to the company to guarantee lowest cost and reach to the best competitive sales price.

Profit margin, Porter defines this margin as the difference between the cost and the price that the customers are willing to pay for the product. In other words this concept profit is the influence, interaction and effect of all inputs to the cost and value accepted by buyers.

Competition analysis and implementation examples have been analyzed by local and international experts, the results and developed solutions are recommendations are presented.

3.2. Porters DIAMOND Model Implementations

Academicians, states managers, and entrepreneurs have been questioning how and why some countries are performing much better in some industries and others are not doing as well. The neighboring countries who start to establish an industry at the same period were showing very different outcomes. This was a question among companies within a country as well, who are not able to obtain successful results as the competitor.

⁶¹ Porter, 1985: PORTER, M. E. (1985). "Competitive Advantage: Creating and Sustaining Superior Performance", New York: The Free Press.

Among many studies Michael Porters studies were accepted to be an important guide to understand the key to the situation of power to developing a power for local and global competition.

Tülek and Büyüközkan (2016)⁶², in their studies targeted to develop a strategy to contribute to the olive oil sectors competitive power for Turkey. They used AHP (Analytical Hierarchy Process) methods base on Porters DIAMOND model. They proposed that the focusing on expert evaluations, research and development, and innovative, creative struggle will be the best strategy on competitiveness of olive oil sector.

Riasi (2005)⁶³ in his study analyzed shadow banking systems and tried to find out, how the shadow banking system could be effective and successful, with high competitive power in the global finance system. The study is based on Porters DIAMOND model. In the studies Riasi could not find the contribution of state to the competitive power of shadow banking directly. Actually all other related sectors and other banking systems contributed rather than the state.

Baltacı, Burgazoğlu and Kurtuldu (2014)⁶⁴; In their group study the food and beverages production sectors competitiveness of Kırklareli was analyzed. Porters DIAMOND model was used as a master. The results of this study pointed out that there are factors which needs improvement on sustainability, competitiveness. The qualified labour, physical infrastructure, using technology factors were found in competitive, on the other hand reaching ability to high grade raw material, energy, transportation and financial sourcing advantages obtain competitiveness.

Akdağ, Mete and İmhan (2014)⁶⁵ analyzed Diyarbakır Textiles and ready made sector and developed a cluster map with a diamond competitiveness. The results were that the sector has advantages and have high competitive power but, there were also many disadvantageous factors as well which needs improvement.

Yazgan and Yiğit (2013)⁶⁶ analyzed the Turkish civil air transport sector with the Porters

⁶² Tülek, B. D. ve Büyüközkan, G. (2016). Elmas Modeli Temelli AHP Yaklaşımı ile Zeytinyağı Sektörü Rekabetçilik Stratejilerin Değerlendirilmesi. Yönetim Bilimleri Sempozyumu Bildiriler Kitabı, İstanbul, İTÜ.

⁶³ Riasi, A. (2015). Competitive Advantages of Shadow Banking Industry: An Analysis Using Porter Diamond Model. Business Management and Strategy, 6(2).

⁶⁴ Baltacı, A. Burgazoğlu, H. ve Kurtuldu, S. (2014). Kırklareli İli Gıda ve İçecek İmalatı Sektörünün Rekabetçilik Düzeyinin Analizi, AİBÜ Sosyal Bilimler Enstitüsü Dergisi, 14(1).

⁶⁵ Akdağ, R., Mete, M. ve Emhan, A. (2014). Diyarbakır Tekstil ve Hazır Giyim Sektörünün Elmas Modeli ile Kümelenme Analizi. Süleyman Demirel Üniversitesi, İktisadi İdari Bilimler Fakültesi Dergisi, 19(2).

⁶⁶ Yazgan, A. E. ve Yiğit, S. (2013). Türk Sivil Havacılık Sektörünün Uluslararası Rekabetçilik Düzeyinin Analizi, Selçuk Üniversitesi İktisadi ve İdari Bilimler Fakültesi Sosyal ve Ekonomik Araştırmaları Dergisi, 13(25).

DIAMOND model to propose solutions and new ideas to the sector. According to this study the civil navigation sector is in need of high quality, educated human resources and have difficulties in high fuel costs. On the other hand the advantages found were the high population. Turkey has, the geographical position and growth ability of the sector is promising.

Kılıç (2013)⁶⁷ made a study covering calculations on Turkey's cotton and related weaving sectors comparative advantages in the international markets. The effecting factors were analyzed to find solutions and proposals to the sector. The study covered selected eleven cities in Aegean, Mediterranean and South Eastern Anatolia regions and had questionnaire with several companies. The result was that cotton, yarn and weaving sectors would face comparative advantage problems in the near future.

Bakan and Doğan (2012)⁶⁸ analyzed Kahramanmaraş cities four sectors by using Porters DIAMOND model, to measure competitiveness and already made their strategy proposition to the city authorities.

Sun, Fan and Shi (2010)⁶⁹ analyzed the relations between factors which are effecting competitiveness in real estate sector. This was done in China, cities are Beijing and Tianjin. The Porters DIAMOND model was used as a master and factors were separated into four different groups. All groups categories were analyzed and their indexes were collected. The results showed that among the top effecting factors in these cities are related factors and demand for real estate.

Bulu and Eraslan (2008)⁷⁰ analyzed the touristic international competitiveness of Bolu, Turkey by using Porters DIAMOND model and tried to determine the level. They proposed how to achieve global competitiveness because Bolu was found to have average level power.

Altay and Gürpınar (2008)⁷¹ analyzed the Turkish furniture sector based on the import and

⁶⁷ Kılıç, A. (2013). Türkiye'de Pamuğun Uluslararası Rekabet Analizi ve Rekabet Koşullarını Etkileyen Faktörlerin Belirlenmesi. Çukurova Üniversitesi, Fen Bilimleri Enstitüsü, Tarım Ekonomisi ABD, Doktora Tezi, Adana.

⁶⁸ Bakan, İ. ve Doğan, F. (2012). Competitiveness of the Industries Based on the Porter's Diamond Model: An Empirical Study, IJRRAS, 11(3).

⁶⁹ Sun, H., Fan, Z., Zhou, Y. ve Shi Y. (2010). Empirical Research on Competitiveness Factors Analysis of Real Estate Industry of Beijing and Tianjin, Engineering. Construction and Architectural Management, 17(3).

⁷⁰ Bulu, M. ve Eraslan, H. İ. (2008). Bolu İli Turizm Sektörünün Uluslararası Rekabetçilik Analizi, Seyahat ve Otel İşletmeciliği Dergisi (SOİD).

⁷¹ Altay, B. ve Gürpınar, K. (2008). Sektörel Açıklanmış Karşılaştırmalı Üstünlükler ve Bazı Rekabet Gücü Endeksleri: Türk Mobilya Sektörü Üzerine Bir Uygulama, Afyon Kocatepe Üniversitesi İktisadi İdari Bilimler Fakültesi Dergisi. 10(1).

export figures of 2001 - 2006. The comparative advantages figures and other indexes were used for measurement. The results of this study showed that after 2005 - 2006 period Turkish furniture sector started to reach a comparatively advantageous position.

Bulu, Eraslan and Barca (2007)⁷² made a study using Porters DIAMOND model searching the competitive power of the Turkish food industry in the global markets. They proposed how to move to a better competitive level since the sector was competing with average standards.

Eraslan, Karataş and Kaya (2007)⁷³ made a study in the Turkish plastics sector, using the DIAMOND model of Porter and proposed strategies how to rise to a more powerful level on competitiveness in global markets. In this study both primary and secondary factors are measured and found out that the plastics sectors competitiveness power is scoring 2.85 out of 5 which is barely over average.

Inputs score was	2.75
Company strategy competition structure	2.52
Related supporting factors	2.28
Demand conditions	4.22
Effect of state	2.25

Dögl, Holtbrügge and Schuster (2006)⁷⁴, used Porters competitive power DIAMOND model to analyze ability of German companies in sourcing for the demand of Indian and Chinese companies about renewable clean energy. The results are that even though there is an important demand from these countries, there was a lot of difference to be answered between the biological mass, solar and wind energy areas.

Miral (2006)⁷⁵ concentrated the study on the years between 1994-2005 to measure the comparative competition advantage power of fresh fruits and vegetables sectors of Turkey. The lower headlines and product groups were selected.

⁷² Bulu, M., Eraslan, H. ve Barca, M. (2007). Türk Gıda Sektörünün Uluslar arası Rekabetçilik Düzeyinin Analizi, Afyon Kocatepe Üniversitesi İİBF Dergisi, 9(1).

⁷³ Eraslan, H., Karataş, A. ve Kaya, H. (2007). Türk Plastik Sektörünün Rekabetçilik Analizi. İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi, 6(11).

⁷⁴ Dögl, C., Holtbrügge, D. ve Schuster, T. (2012). Competitive advantage of German renewable energy firms in India and China: an empirical study based on Porter's diamond. International Journal of Emerging Markets,

⁷⁵ Miral, Z. C. (2006). Açıklanmış Karşılaştırmalı Üstünlükler Ve Türkiye'nin Avrupa Birliği'ne Karşı Rekabet Gücü: Seçilmiş Tarımsal Ürünler İçin Bir Uygulama. Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü, Avrupa Birliği ABD, Yüksek Lisans Tezi, İzmir.

Porters DIAMOND model was used to analyze the construction and contracting activities of Turkish companies in the global arena. Their success were analyzed on focusing cultural similarities with neighboring countries geographic close distance and by lucky coincidences. The results shows that, there were not limited coincidence factors to the constructors advantage, but there is a great effort and achievement under this success story.

Curran (2000)⁷⁶ analyzed the UK universities competitiveness by using Porters three leveled model and used four major components. These are factor inputs (scientific researches ambition, and institutional experiences, demand conditions, related and supportive institutions, the university departments strategies and structures).

In Konya area; Güleş and Arıcıoğlu⁷⁷ in 2005 finalized a study about interpretation of companies about competitiveness. The automotive companies who in the top 500 level of Turkey replied that to be in a better competitive level or even to keep the existing position of their competitive power the best way is keeping up with the latest technology. The result is that there is a positive relation between company competitive performance and technology.

In Adıyaman and nearby cities there was a new incentives system announced by government in 2008. There was an industrial zone built nearby the city of Adıyaman and many companies were ambitious to invest. The only problem was that they all wanted to invest in an open end yarn factory. As the chairperson of the exporters union the proposition made to the entrepreneurs is to diversify their products, in a system which is complementary and supporting each other. There is incentives, cotton, labour, developed market and environment for technological support. If all invest on open end yarn they might be facing a lot of unnecessary local competition, transfers of technicians and managers and maybe even higher cotton prices. They were convinced to make investment of different but complementary products. Several of them made investment on yarn production, a group made investment of knitting machines, some companies invested in dying and finishing, a larger group with limited capital made investment on ready mades and underwear products. Since those days, 2010, these companies formed a natural cluster being each others customer and compleating the chain from yarn to finished garments.

⁷⁶ Curran, P. J. (2001). Competition in UK Higher Education: Applying Porter's Diamond Model to Geography Departments. *Studies in Higher Education*, 26(2).

⁷⁷ Güleş and Arıcıoğlu (2005): "İşletmelerin rekabeti algılamaları ile üretim teknolojileri kullanımı ilişkisi: Yeni nesil üretim teknolojileri kullanımının rekabet üstünlüğü ve işletme performansına etkisi üzerine otomotiv sektöründe bir alan çalışması".

CHAPTER IV

RESEARCH FINDINGS AND EVALUATIONS

The textiles sector analysis was performed by making a field survey covering the textiles companies involved in Çukurova region, center being Adana.

There are 324 companies registered to the Adana Chamber of Commerce, textiles division (attachment1) Among these companies about 45 were not considered because they were not being directly involved in the sector. These companies were generally very small scale, with less than total six personnel, and they were generally indirect, supportive producers for minor consumers. Small bleachers, accessories producers or textiles repairing workshops. They are not included in this survey

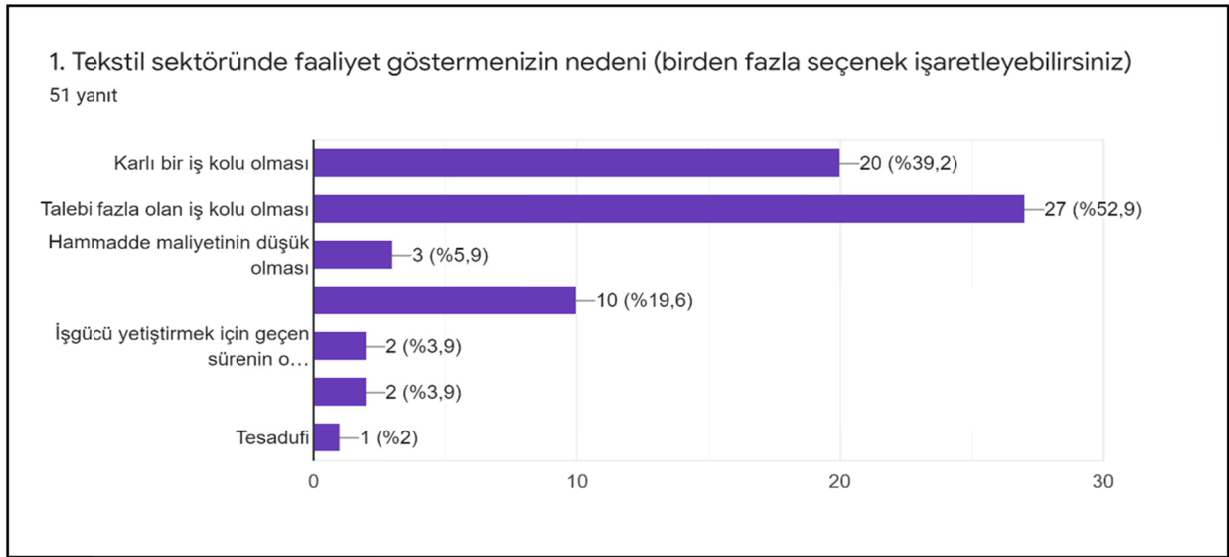
The small to medium companies (KOBİ) total number being 259 were taken into consideration. In the survey. There are 20 questions with multiple answers to be chosen. 51 companies replies were received, which is considered as high response level.

The survey analysis was designed to be a qualitative one, to evaluate the position of the sector. The questioner randomly targeted the available 259 companies, and expected to reach to 10 % of the members.

Boddy's (2016)⁷⁸, has emphasized that in qualitative studies even small scale sampling can give meaningful data. Actually about 20% of the companies gave feedback and data are summarized.

This high return can be considered as a very active and responsible sector members. The quick reflex replies in a short time can encourage all kinds of cooperation, training and cooperative solidarity, even forming powerful clusters. The questions and reply percentages to different answers are listed below with the interpretation of what is found and reached by these answers.

⁷⁸ Boddy, C.R. (2016), "Sample size for qualitative research", Qualitative Market Research, Vol. 19 No. 4, <https://doi.org/10.1108/QMR-06-2016-0053>.



1 - Why are you involved in the textiles sector?

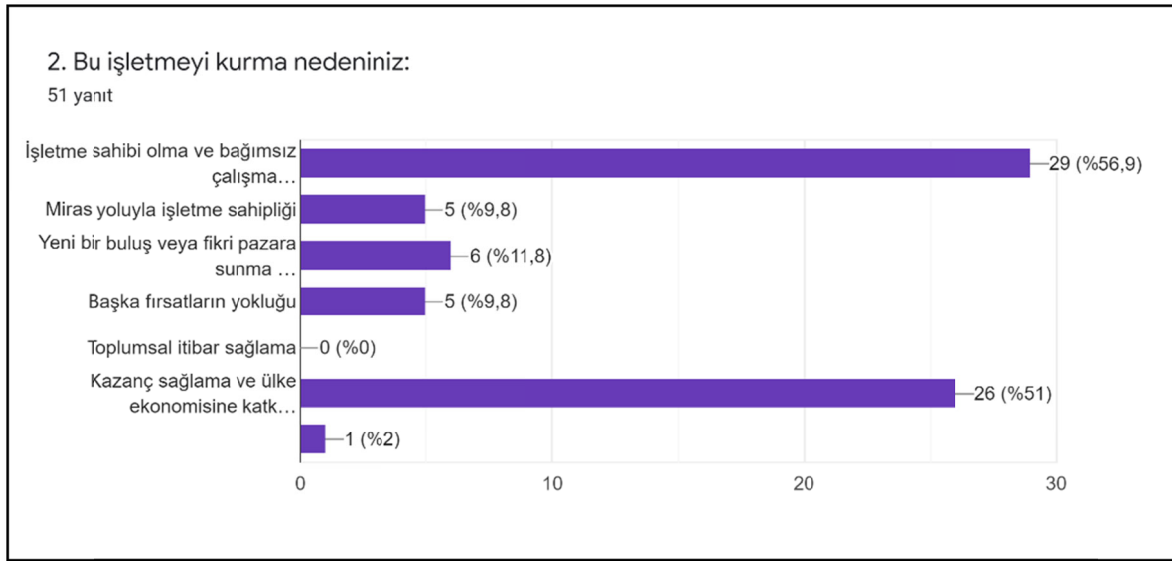
%53 because there is high demand

%39 because there is high profit

%19 input costs are low

Majority of the companies are attracted because there is high demand and high profit and entrance to the sector, especially ready made inputs are relatively cheaper in comparison to other sectors. A company can buy in small amounts of weekly inputs which is not possible in many other industries.

There is high demand because the boundaries of the market is over the local demand since 65% of the production is exported. The demand is coming from more than 83 million local consumers, but other countries as well. In 2019 about 45 million tourists visited Turkey and they are additional consumers as well.



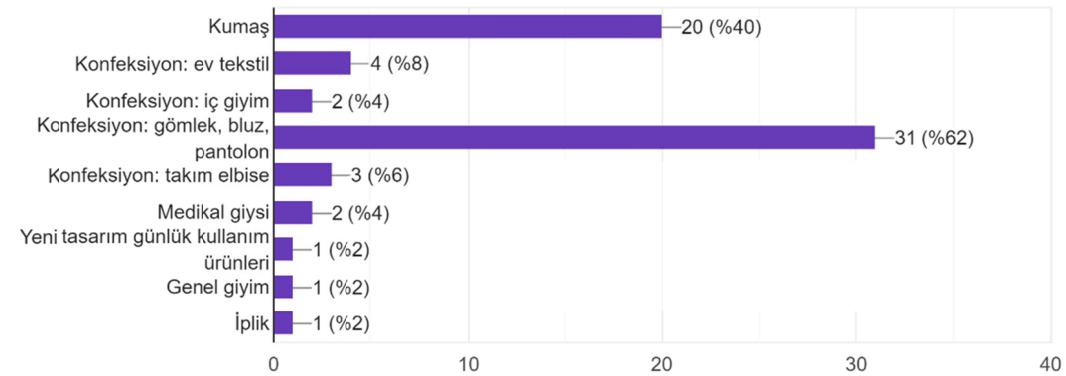
2 - The reason of your establishing this business

- %57 to have a private factory and to work on my own
- %51 it is a profitable business, and supportive to national economy
- %12 to present a new idea and product to the market
- %10 no other choice for me

There are many examples in the neighborhood, many investors starting their own companies facing high demand and profit.

3. İşletmenizde ana ürün hangisidir?

50 yanıt



3 - What is your main product ?

%62 shirt, trousers, blouses

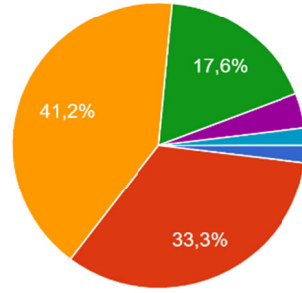
%40 fabric

%8 home textiles

The products are fundamental, basic items, so starting becomes easier to understand about final product. In case of chemical, electronics or IT industry investments there will be needed a lot of new training to get familiar with the final product.

4. Yurt dışı ile alışverişiniz hangi boyuttadır?

51 yanıt



- İthalat yapıyoruz
- Hem ithalat hem ihracat yapıyoruz
- İhracat yapıyoruz
- Yurt dışı bağlantımız yok.
- İthalat, tamamen hammadde ve makina parçaları için yapılıyor. İhracat ise mamullerimizden yapılmaktadır
- İhracata fason üretim yapıyoruz

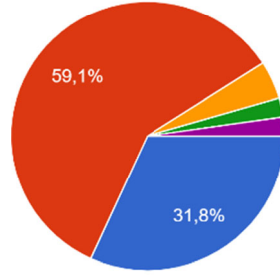
4 - What is your international trade volume, exports-imports

- 41 we are exporting
- 33 both exporting and importing
- 13 only local trade

The companies are in multinational markets. Only 13% declared just local market. This character of the industry shows they face local competition, local cooperation and a huge international competition. These forces will force the companies to compete with a large spectrum of companies, world wide or diminish from the market.

5. Firmanız ihracat yapıyorsa, ihracatta kullandığı marka şekli nedir?

44 yanıt



- Kendi markamız ile ihracat yapmaktayız.
- Müşterinin istediği marka ile ihracat yapmaktayız.
- Konfeksiyon ünitesinde, müşteri markası ile üretim yapılıyor. Kumaşta ise kumaşımız zaten marka olmuş durumda
- Fason
- Müşteri markası ile

5 - If exporting, what is your brand type

59 customers brand

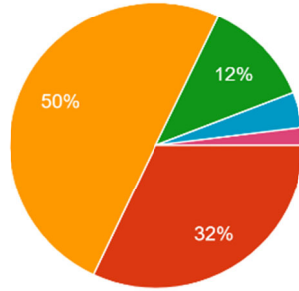
32 our own brands

5 in fabric our own brand, in garments customers brands

Many companies are 59 %, producing for customers brands. The companies producing with their own names are usually fabric companies. Most of the garment companies are working on a contract basis for international or local brand names. Many famous local brands are producing majority of their products outside the company capacity.

6. Üretilen ürünlere ilişkin talep yeterli midir?

50 yanıt



- Talep çok yüksektir
- Talep yüksektir
- Talep ne yeterli ne yetersizdir
- Talep yetersizdir
- Talep çok yetersizdir
- Öncelikle rekabetçiliğimize aynı zamanda sezonsal dalgalanmalara bağlı olarak talep değişkenlik gösterir
- Talepler 2015 yılına kadar yüksek olup bu tarihten sonra birçok nedenden dol...

6 - Is market demand satisfactory?

50	normal
32	high
12	unsatisfactory

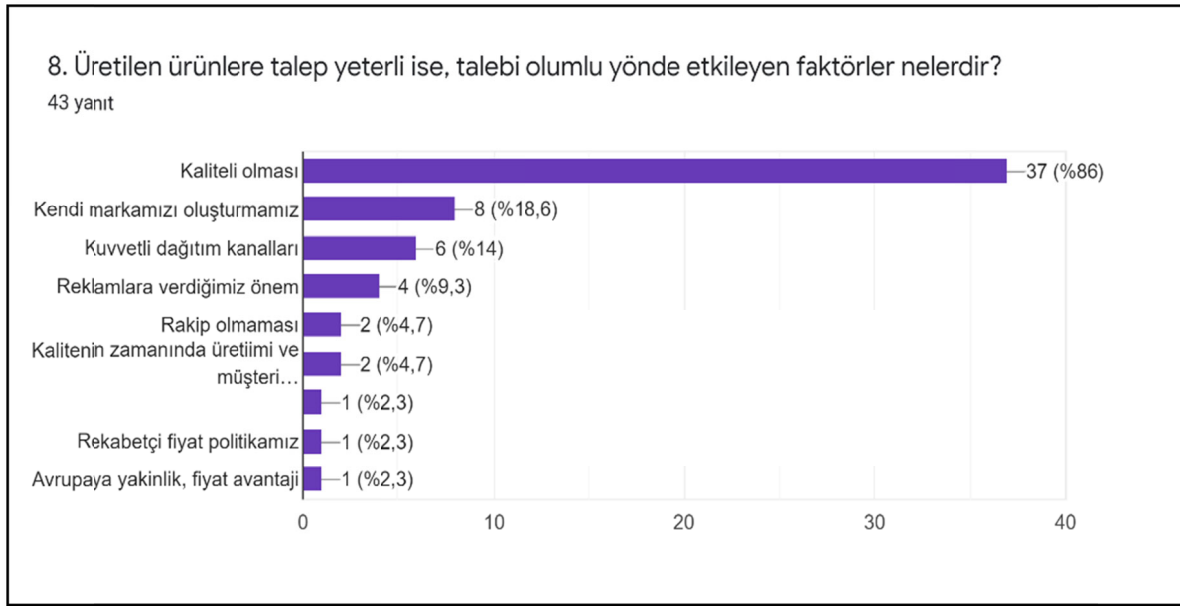
Demand capacity is naturally normal to high level, only 12% is complaining from unsatisfactory demand. This is mainly from demand from other countries, visiting tourists, and Turkey has been in the international markets for 30-35 years continuously.



7 - If demand is unsatisfactory what factors are effecting

- 69 competition
- 55 high production costs
- 27 high tax costs
- 20 high social security premiums

The demand is closely and elastically related with prices, at this point production cost area major component. The international competition pushes the prices down and cost factors are pushing the prices upwards. The best solution would be increasing efficiency, methodology and developing new colors, fashion and creative designs.



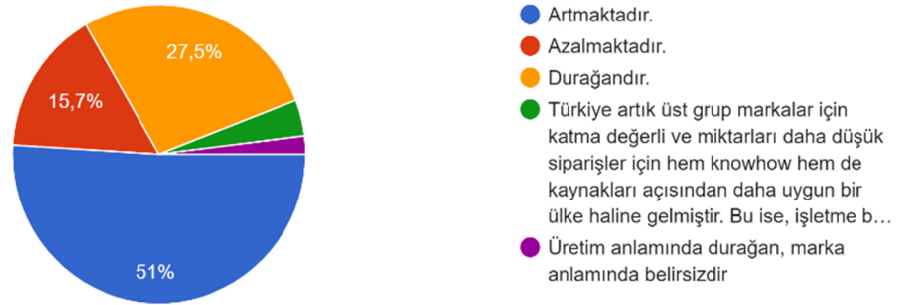
8 - If demand is satisfactory what factory affecting positively

- 86 high quality
- 19 own brand name
- 14 strong distribution channels

The local and international competition urges the companies to achieve sustainable high quality to satisfy the customer demand. A very high reply approval 86% shows that even though companies are complaining about costs, because of developed quality they are able to survive and beat up the problems.

9. Türk tekstil sektörünün küresel rekabet gücü sizce nasıldır?

51 yanıt



9- How is the Turkish textiles sector competitive power

%51 increasing

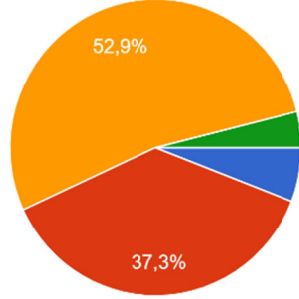
28 stable

16 decreasing

Only 16% of the answers are declaring that Turkish textiles competition power is decreasing
51% is optimistic and 28% has no complaint about sector competitiveness.

10. Türk tekstil ve hazır giyim sektöründe pazarlama anlayışı bakımından uluslararası rekabet gücünün artması hangi faktörlere bağlıdır?

51 yanıt



- Ucuz ve fason üretim yapılmalıdır.
- Teknolojiye dayalı, kaliteli, çok fonksiyonlu ürünler üretilmelidir.
- Rekabet gücünün artması marka oluşturulmasına bağlıdır. Firmalar marka ve imaj oluşturmaktadır.
- Kaliteli ürün, kaliteli beyaz yaka, müşteri isteklerini veya firma hedeflerini açıkça anlamış mavi yaka çalışanlar tarafından verimli üretim, rekabet gücümüzü artır...

10- In relation to marketing understanding what factors would increase international competitiveness?

- 53 companies must develop a brand name
- 37 high technology, high quality, multipurpose products
- 5 cheaper products for brands

Most of the companies propose a brand name development to increase competitiveness. This would require long term planning, patient effort and government support both financially and politically. The top popular international brands were supported a lot by their state powers. The top prices EU brands are about 100 years old and middle level brands are about 50 years old. Turkey was able to develop several brands in the last 20 years and efforts must continue to make them long live in the market. The TURQUALITY support of government was a strong support but premium payments should not be delayed too long.

11. Herhangi bir işletmenin tekstil sektöründe rekabet edebilmesi için üretim tarzı nasıl olmalıdır?
49 yanıt



11- What should be the production strategy of any to compete in textiles sector

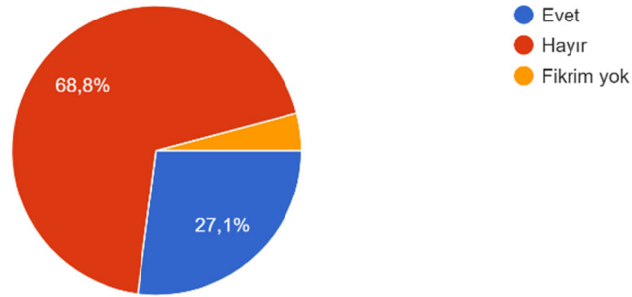
%39 valuable multifunction products production

%37 fashion products

%18 special customer choice products

The production strategy answers mainly points out a strong research and development department at company level and fast reply to fashion fluctuations. This can be achieved by a good cooperation strategy with all powers of the sector, companies, society and state should work hand in hand.

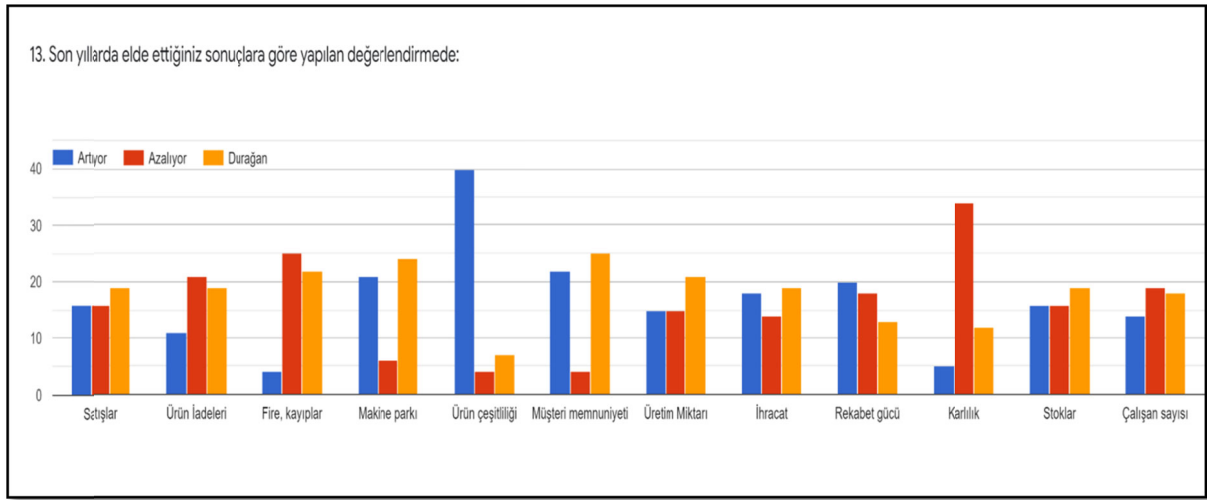
12. Üretimin arttırılması amacına yönelik devletin sağladığı destekleri yeterli görüyor musunuz?
48 yanıt



12 - Is the state support enough to increase production

69	No
27	Yes
5	no idea

Majority of the answers to state support is negative, meaning that state is not supporting enough. 69% believes that there is more to do by the state. This can be lowering several taxes or having a supportive general long term program.



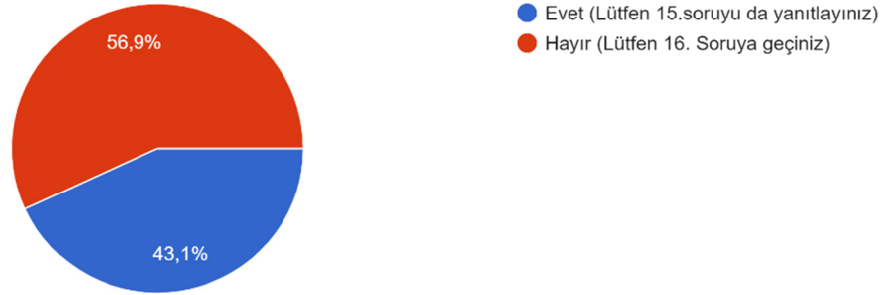
13 - According to the results of the last several years

	Increasing	Decreasing	Stable
Sales	18	18	19
Product returns	10	21	19
Scrap losses	4	25	22
Machine capacity	3	25	22
Product diversity	40	3	6
Customer satisfaction	22	3	25
Production	15	15	20
Exports	18	15	19
Competitiveness	20	19	13
Profitability	4	35	11
Stocks	16	16	19
Employment	15	19	18

The above table shows that in general there is an even distribution of developments in the Turkish textiles sector. Even though there are decreases and slow downs, customer satisfaction, quality, capacity, competitiveness are either better or not to mention any complaint about the past several years. There seems to be a steady betterment on general terms.

14. Tekstil sektöründe yeni yatırım düşünür müsünüz?

51 yanıt



14 - Do you plan new investment in textiles sector

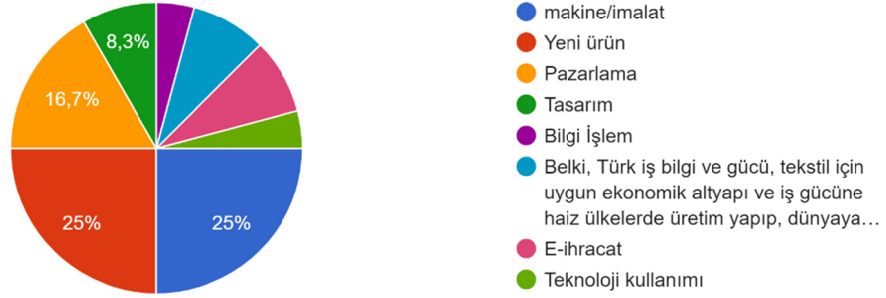
43 yes

57 no

Nearly half of the replies 43% plan for new investments and more than half of the replies 57% don't plan any new investment. Each and every company has their own reasons but there is a balance in both directions of expansion or staying the same level.

15. Cevabınız evet ise; yeni yatırımınızı hangi alana yoğunlaştırırsınız?

24 yanıt



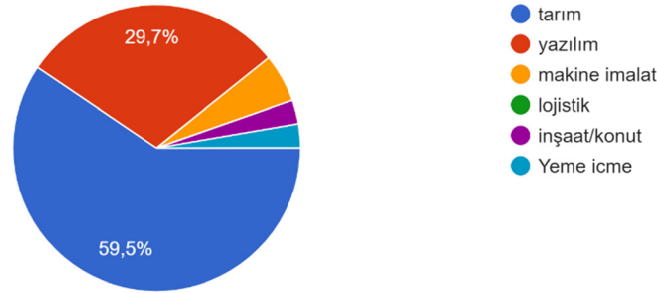
15 - If your answer is YES which direction will your investment be

- 25 machines/production
- 25 new products
- 16 marketing
- 8 design & pattern
- 8 online sales, internet marketing

The companies who are answering YES, they have ambition in the future and planning to invest in machines and production, marketing and research and development with new design, patterns and online, internet marketing. They are adapted to the new coming era.

16. Cevabınız hayır ise, yatırım yapacak olsanız, hangi sektöre yatırım yaparsınız?

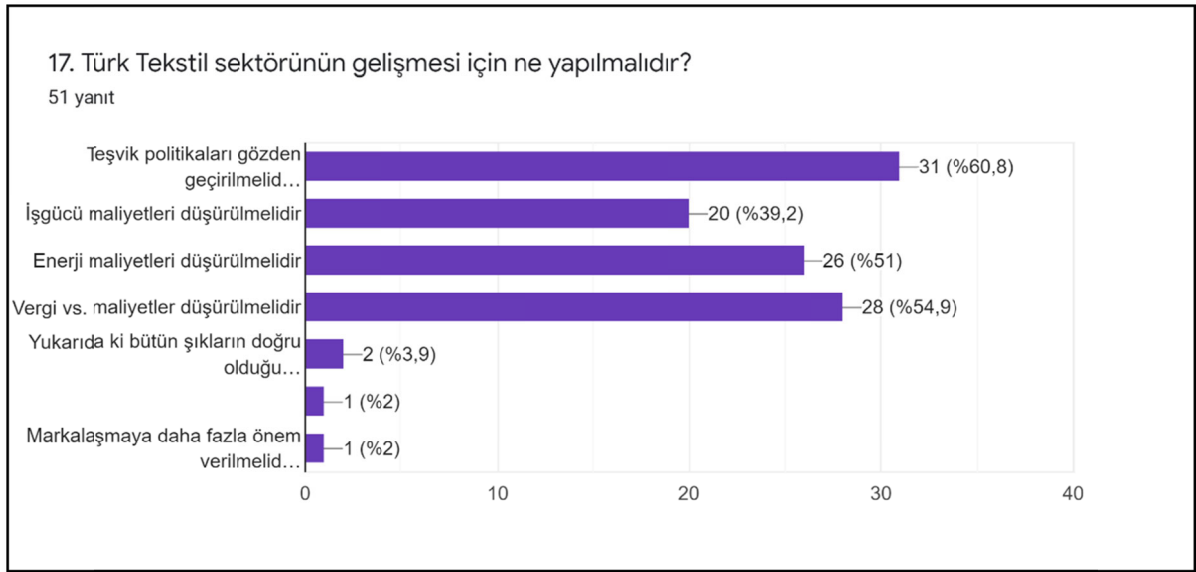
37 yanıt



16 - If your answer is NO which other sector you prefer to invest

- 60 agriculture
- 30 IT sector, software
- 4 machines, production

Industry has a high control and plan characteristics, on the other hand agriculture is an area where control and intervention is limited due to nature of the sector. Companies who say NO. they want to invest in another sector prefer 60% agriculture. A considerable percent of 30 is inclined to invest in IT and software, which is far on the other edge of technology, education and training. There is also a high international competition. If a company has difficulty in competing in garment making, the competing in IT and software would be much more difficult. This case should be deeply questioned and can be another study.

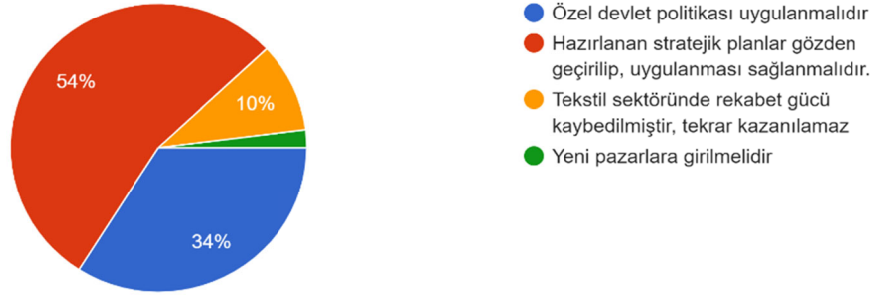


17 - What should be done to develop Turkish textiles sector

%	61	government incentive policies should be reorganized
%	55	tax and costs should be decreased
%	51	energy costs should be decreased
%	39	labour costs should be decreased

The answers to the above question refers strongly a government support and assistance to develop the textiles sector. Majority asking for tax cuts, energy prices and supportive incentives from government. Labour costs can be arranged both by minimum wage levels declared by government and new technology automatic faster machinery investments. Training labour for higher productivity is also necessary.

18. Türk tekstil sektörünün atılım yapması için:
50 yanıt



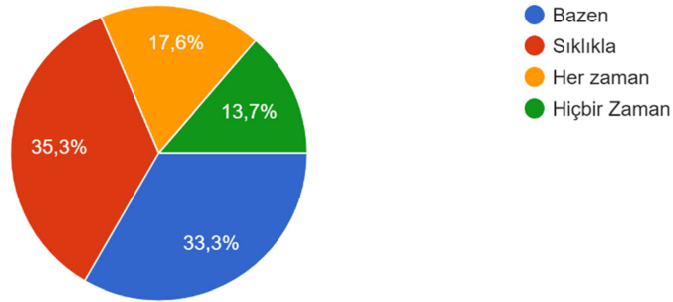
18 - For textiles sector to leap up and develop, what should be done

- 54 the prepared strategic plans should be re evaluated and implemented
- 34 special state policy should be implemented
- 10 competitiveness of textiles has lost power this should be regained
- 2 new markets should be targeted

A majority of the answers point out to the fact that there is the need of long term strategic plan, but this should be implemented as declared by government so companies can make long term planning as well. This is a very essential point for prosperity and sustainability in international markets for competitiveness.

19. Üretim aşamasında fasoncu kullanıyor musunuz?

51 yanıt



19 - Do you have contracted satellite producers?

35% usually, frequently

33% sometimes

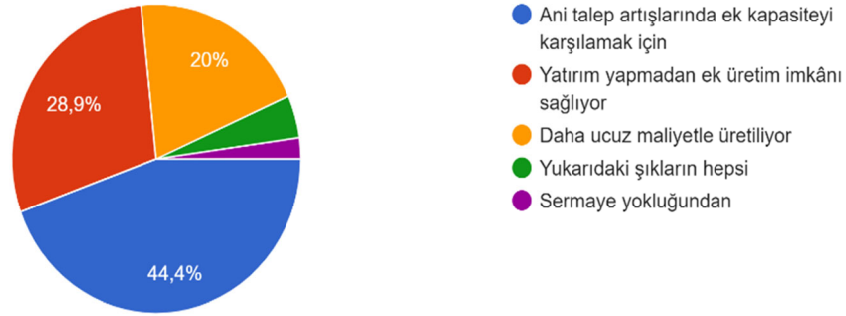
18% always

14% never

Only 14% of the companies never use contracted satellite producers, the others use side producers usually 35% sometimes 33% and always 18%. This is a sign of cooperation and support to each other in the industry. This may be understood that a total group movement can be done for development.

20. Fasoncu kullanıyorsanız, öncelikli nedeni nedir?

45 yanıt



20 - If you have satellite producers – why?

- 44% during demand shifts instant additional capacity
- 29% additional capacity without investment
- 20% they have cheaper costs
- 4% all above answers

The satellite side producers are very useful for additional capacity during peak demand times. They have cheaper costs because they are family type workers or unregistered labour with no cost of official insurances or taxes.

CHAPTER V

CONCLUSION and SUMMARY

The aim of this study is to understand and evaluate the position of the textiles and ready made industries in Turkey with comparison to historical voyage of the world and Anatolia. Personal experiences and witnessed success stories helped to enrich this study. The grand son of Seyit Tekin of 1926, with the same name now, has summarized personally the development of Milli Mensucat Mensa A.Ş., Akbank for this study. The local experienced authorities, Zeki Kıvanç, Fahri Gülek, Dr. Bülent Günay, also contributed for the details of the textiles history and development in Adana and general Turkey. It is analyzed with the studies made by academicians, technicians and state authorities, the conclusion is very clearly specifying that Turkey should not and cannot leave aside these sectors.

- The roots of textiles and garments in Turkey goes back to almost 6300 BC, this is more than eight thousand years from today. Since then there is an accumulation of experience, culture and style of living in Anatolia. Accumulated experience is considered as another valuable factor besides land, labor, capital and entrepreneurship.
- Turkey is gifted by God, by location in geographical positioning. There is good climatic conditions, a dynamic population with talented workers, open social mobility for upper social levels of society, easy reach to consumers. There are more than three billion populations within 3 hours of flight distance. This is almost half of the world population with high purchasing power. A young and strong person from Kayseri, moves to Adana, starts working as a physical porter in Kalağöğlu Çırçır Fabrikası in Adana. After twenty years he becomes a partner to Milli Mensucat, learns more and more from environment and elders. He establishes his own factory in 1952, and becomes a textiles holding. This is a gift of Turkey and fertile environment. This person is Hacı Ömer Sabancı. In other countries this is rarely seen. In the last forty years there are newcomers to textiles and garment industry, nowadays they are huge producers and exporters. This is another good example of coordination and cooperation of geography, experience and government clustering.
- In the Turkish economy textiles and ready made industries is contributing about 12-18% to employment, taxes, exports. Especially in ready made industries majority of the personnel about 85% is young single shortly or non educated girls. The joining of these

girls to the garment production takes only several weeks of training. This is a very valuable support to gender, positive selection and differentiation helps social development of women in society, which is very essential in developing societies.

- There are nearly 2,5 million employees directly involved, busy in these two sectors where majority is woman. Starting with cotton fields, ginning, transportation retailing there is another one million people engaged in these industries.

Turkey has a production of local cotton in bales of about 700.000 tons. This gives Turkey a 7th rank in global production. Turkish agriculture has a cotton production capacity of about two million tons of bale cotton. When this yield is achieved Turkey will have a rank of 4rd level in general but almost first level in comparison to cultivated land and productivity. When this potential is completely used the net contribution of textiles and ready made, will be more than three times. The side profits of textiles and ready made by demanding cotton are supportive and developing vegetable oil from cotton seeds, cattle feeding, soap producing and cattle breeding farming and leather industry as well. The similar net foreign currency contribution to Turkish economy should be considered in marble processing, agricultural production and exports which also show similar very high contribution to the economy. This is a much more profitable, local and national, independent approach.

- The net contribution Scala should be taken into consideration to for general sectors and the calculation must be made in chemical, electronics and other sophisticated sectors. Some of these sectors are targeting more robots in production with the industry 4.0 generation models and need very small amounts of labor. The labor these high tech sectors will be demanding highly educated personnel with 25 - 30 years of training.
- Especially the garment sector requires a comparatively smaller investment to build a factory. A minimum optimum investment of about 100.000 usd will require 100 personnel. This is the investment amount of one person in high tech industries. The high tech industries are generally developing in highly educated population, decreasing population countries like Japan, Germany, USA. There is a long way to go in space, chemical and electronic industries.
- The necessary synthetic fibers are also being produced in Turkey by SASA, Korteks, Nergis, Sifaş and by AKSA. Turkish fabric production is as well very developed and can produce a wide variety of different kinds of fabrics. A ready made producer can find almost any kind of yarn or fabric locally made. This strengthens the availability, easy

reach, short delivery time and smaller amounts of daily transporting. Turkish textiles production capacity is almost equal to the total capacity of the EU. This is a big power.

- Turkey has almost 40.000 active ready made producers, producing about 40 billion us dollar value of garments, where nearly 30 billion us dollars is directly exported.
- One of the other major important inputs of a ready made is the interlining, accessories, embroidery, buttons and zippers type of other elements necessary. Turkey is a producer of all of these elements locally.
- Turkey is the only gifted country in the world with a huge capacity of natural and synthetic fibers, a huge capacity in fabric and garment production with all accessories and able to deliver orders in the fastest way to the retail shelves. Some countries are able to do parts of these but not all in one. China can do some these but with late delivery, slowly, India can do some of these with misprogram.

Turkey needs to keep textile industry for the welfare of,

- agricultural industry,
- social stability and happiness of women contribution to homes,
- absorption of unemployment,
- net foreign contribution to economy
- keeping the tradition of covering and dressing of homes and people which has been a way of life in Anatolia since 6300.

There is a study done by Bilim ve Teknoloji Bakanlığı, (Ministry of Science and Technology). “Turkish textiles sector evaluation Commite”⁷⁹ comitee was an “Ad Hoc “group with a special mission to analyze and try to upgrade all necessary aspects the textiles, garments and leather sectors. Many different participants who have any direct or related connection and information related to these sectors were asked for contribution.

All kinds of studies, figures, recommendations, problems presented with alternative solution recommendations were taken into consideration and evaluation. These groups were from business life, universities, and many kinds of institutions who have any word to say.

⁷⁹ Bilim ve Teknoloji Bakanlığı Sektör Çalışma Grubu, 2015

When the areas of problem were identified the contribution were received about weak and strong points of these sectors. The weak and strong points were ranked according to importance degree. The below points were amongst the basic headlines for the study:

- Competition power policies
- Input costs and production infrastructure
- Research and development, product development
- Creative and innovative labor
- Marketing, presentation and foreign trade
- Sectoral rules and regulations and surveillance

The study of this commission in 2015 declared a new mission to the Turkish textiles sector was “To be the world leader in textiles ready made and leather industries with top design and technology.” The general desire is to get the maximum share of the world textiles, ready made and leather markets by concentrating on innovation, high technology, design to produce the top value added products. This type of approach to the global markets will be a strong competitive and sustainable structure.

The document “Turkish Textile, Ready Made and Leather sector” industries strategic document and action plan is prepared with conformity and taking into consideration of the Turkish five-year development plans of 9th, 2007-2013, 10th 2014-2018, middle run plan of 2015-2017, the yearly plan of 2014, the strategic plan of Science and Technology ministry 2013-2017, Turkey’s industry strategic plan 2011 – 2014. Turkey’s Export strategy 2023.

The common denominator of all of these studies was to give more importance and recognition to the textiles sector. Finally the result of all of these results were listed below:

Sectoral policies and intervention areas;

- Textiles, ready made and leather industries to be incentivized for higher technology multi function products and more research and development efforts. These sectors are to follow closely rapid changing fashion, innovation and product differentiation methods will be used to effect fashion and gain power of competition.

- Textiles, readymades, leather, ceramics, glassware, furniture, jewellery sectors will be proposed to develop unique designs for final consumption.
- These sectors will be supported for advertising and marketing activities and helped to educate high level designers for export activities.
- Textiles, ready made, leather are traditional labor intensive sectors, these will be concentrating more on higher value added products, and activities and their efforts for international competition, and transformation of upgrading will be supported.

The common result of the experts and authorities shows that the textiles sector is very important and cannot be left away. In all the studies, the implementations which should be done were identified, described and presented to the government. The things to be done is to implement the proposed supports and recognition for the textiles sector. By this way the sector will stand up again, with higher global competitive power and reach to higher shares in Turkish and global export figures.



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Interviews

Interview, Seyit Tekin by M. Tarık Bozbey , 2020

Interview, Fahri Gülek by M. Tarık Bozbey, 2019

APPENDICES

Appendice 3: Adana Chamber of Trade Textiles Sector Members

Number of

MEMBERS Producing

126.....	Outer wear, suits, jackets, robes, woven and knitted
22	shirts, T-shirts, blouses, trousers, skirts
18	cotton wholesalers
14	cotton woven fabric, weil (tulle) fabric
13	Industrial work overalls
12	yarn producers, spinners
11	garments made from non woven fabric
9	fabric made from artificial and synthetic filament yarn / fiber
8	bleachers and dyers of yarn and fiber
8	yarn wholesalers
7	brenda, tent stork ,sail fabrics
7.....	all kinds of curtains, ruffles, embroidery
6	fabric and piece dye of garments
5	bags, sacks produced from fabrics used for packing
5	uniforms for officers and schools
5	dresses made from nonwoven fabrics
4	tailoring on order base
4	artificial and synthetic fiber spinning to produce yarn
4	underwear both men & women top and bottom, jups
3	home textiles, bed, table covers,bedsheets, pillow cases, towels
3	rosette, badge, labels and embroidery tags
3	synthetic filament yarns
3	wholeseller of fibers, wool, raw silk, cotton
3	other finishing process for textiles products
2	non woven felt, pressed, shoelace
2	wedding gowns
2	denim fabric
2	lace, handcraft material, embroidery
2	wool and mohair fibers spinning for yarn
2	sportswear from woven fabric
1	duster and cleaner cloth, matris
6	other accessories and supplement products

Appendice 4: Resume

Mustafa TARIK BOZBEY

Doğum Yeri ve Tarihi: Silifke, Mersin, 1949

E-Mail: tarikbozbey@yahoo.com,

GSM: 00 90 532 412 28 63

EĞİTİM

Talas Amerikan Ortaokulu	1965
Tarsus Amerikan Lisesi	1968
ODTÜ, İşletme Fakültesi	1973
Çuk. Üniv. Üst. Lisans	
Pedagoji Psikoloji	1990
ABTÜ Adana Bilim Tek. Üniv.	2017-2020
Yüksek Lisans	

TECRÜBE

Sabancı Holding SASA Polyester	1973-1979
Maliyet Muh. ve Yatırım Projeler Şef ve Pazarlama	
Dünya Bankası Kredi Takip Raportör, Sabancı	1974-1979
Kendi Şirketlerimde Kurucu Yönetici - Ortak	
Kumaş, Konfeksiyon Üretimi ve İplik İhracatı	1979-2004
Türkmenistan Tarım ve Tekstil Projesi	
Kurucu Yön. Ortak, Devlet ile Ortaklık	1998-2004
Mensa AŞ. Adana Genel Müd. Yrd.	2003-2004
CEO, CNR Holding, İstanbul	2004-2005 CEO
Mensa AŞ. Adana Genel Müd.	2009 CEO

Akper Tekstil, Addis Ababa Gen. Md.

2016 CEO

SEÇİMLE VERİLEN GÖREVLER

Akdeniz İhr. Birl. Tekstil Yn Kurul yesi	1982-1996
Akd.Hazırgiyim ve Konf İhr. Brl. Bařkanı	1995-2013
AKİB, Bařkanlar Kurulu Bařkanı	1998/2005
TİM Bařkan Vekili	1999-2002
TİM Trkiye Konf. Sektr Kurul Břk. Vekili	1998-2012
TOBB Tekstil Konf. Sektr Kurul. Břk. Vekili	1998-2008
Adana Sanayi Odası Meclis yesi	1998-2002
DPT 8. V Yıllık Kalkınma Planı Kom. Břk.	1998-2001
Avrupa Birlięi - Trkiye Grřmelerde, Bařkan	1985-1997
TİM - AKİB Afrika Masası Bařkanı	2010