

İSTANBUL TEKNİK ÜNİVERSİTESİ * SOSYAL BİLİMLER ENSTİTÜSÜ

**COMPETITIVE ADVANTAGES OF NATIONS
“GLASS INDUSTRY IN TURKEY”**

YÜKSEK LİSANS TEZİ

SELÇUK BÜYÜKÖZER

**İŞLETME - İKTİSAT ANABİLİM DALI
İŞLETME BİLİM DALI**

EYLÜL 1996

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Tezin Enstitüye Verildiği Tarih : 13 Eylül 1996
Tezin Savunulduğu Tarih : 24 Eylül 1996

Tez Danışmanı
Diğer Jüri Üyeleri

: Prof.Dr. Selime SEZGİN *S. Sezgini*
: Yrd. Doç. Nimet Uray
Doç. Füsun Ülengin *F. Ülengin*

EYLÜL 1996

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SUMMARY

International competition has become one of the most important issues facing firms and governments. Therefore, one must understand how firms create and sustain competitive advantage, and what role the nation plays in this process.

According to Michael Porter, firms gain and sustain competitive advantage in international competition through improvement, innovation, and upgrading. Innovation should include both technology and methods, encompassing new products, new production methods, new ways of marketing, identification of new customer groups. Nowadays, advantages can soon be nullified. Improvement and innovation in an industry are never ending processes.

This thesis will try to explain why a nation provides an environment in which firms improve and innovate faster than their international rivals. The real question is which nation will reap the advantages and why. Michael Porter indicates that this answer lies in six broad attributes of a nation:

- Factor conditions
- Demand conditions
- Related and supporting industries
- Rivalry and firm strategy
- Role of government
- Role of chance

The glass industry in Turkey is examined according to the above criteria. Glass is considered as one of the most essential industries and a pioneering industry in the industrialization process of Turkey.

In terms of factor conditions, Turkey has many passively inherited basic factors like low wages, and natural resources. However, such factors are either unimportant to international competitive advantage or the advantages they provide for a nation's firms are unsustainable. Advanced factors are now the most significant ones for competitive advantage. The quantity of domestic demand in Turkey is very high, but the quality is low. The quality of home demand is more important than the quantity because it is the high quality home demand that motivates firms to create sophisticated and high quality products that can be supplied in the global markets.

The domestic rivalry, related and supporting industries are not very developed, and government can not prepare all the necessary infrastructure for the glass industry to be more competitive internationally.

As a result, glass industry in Turkey has the potential to compete internationally and be a world leader in certain sections if the certain precautions are taken both by the government and the Turkish companies.

ÖZET

Uluslararası rekabet gücü günümüzde firmaların ve hükümetlerin karşı karşıya kaldıkları en önemli konulardan birisidir. Bir ülkenin uluslararası alanda rekabet gücünün yüksek olması, o ülkenin dünya ekonomik ve ticari pozisyonu bakımından büyük önem taşımaktadır.

Neden bazı ülkeler ve firmalar ilerleyip başarı elde ederlerken, diğerleri uluslararası alanda kaybediyorlar? Bu soru bir çok hükümetin ve firmanın ilgisini çekmiştir. Ürün tasarımlarında, yönetim ve pazarlama tekniklerinde, üretim teknik ve sosyal organizasyonunda ve finansal alanda gerçekleşen yenilikler, ülkelerin dış dünya ile ilişkilerini önemli ölçüde etkilemiştir. Yeni dünya ekonomik düzeninin aldığı biçim, gelişmekte olan ülkelere artık sadece ucuz iş gücü ve esnek kur ayarlamaları ile rekabet etme olanağı tanımamaktadır.

Uluslararası rekabet gücünü belirleyen faktörler üzerinde yapılan bazı çalışmaların sonuçlarına göre, döviz kuru ve ücret maliyeti gibi fiyat değişkenlerindeki değişimler, ülkelerin dış pazarlardaki rekabet gücünü ancak kısa dönemde etkilediğini, uzun dönemde ise ülkelere rekabet gücü ve yeteneği kazandıran en önemli faktörün teknolojik gelişme ve verimlilik artışları olduğu anlaşılmaktadır.

Bu çalışmada soracağımız sorular : "Neden bir ülke belirli bir endüstri alanında başarılı olurken, diğer bir ülke bunu başaramıyor?" ve "Neden bir ülkedeki bazı sektörlerin uluslararası rekabet gücü olurken, aynı ülkedeki diğer sektörlerin olamıyor?" olacaktır. Böylece, bir ülkenin firmalarının rekabet avantajı yaratıp devam ettirmelerini sağlayan belirleyici karakterleri anlayabiliriz. Firmaları global alanda rekabet ederken, bir ülkenin hangi özelliklerinin bunu etkilediği incelenecektir.

Günümüzde varolan dinamik rekabette esas olan özellik yaratıcılık ve değişimdir. Önemli olan devamlı yeni

ürünler, yeni pazarlama yöntemleri, yeni üretim metodları, ve tümüyle yepyeni pazar bölümleri ortaya çıkartmaktadır. Dolayısıyla getiriye yeni ürünler ve üretim metodları ile artırmaktadır. Böylece, bir faktör havuzunu üretime yatırmak yerine, daha önemli olan husus, ülke ve firmaların faktörlerin kalitesini nasıl arttıracaklarını ve yenilerini nasıl yaratacaklarını olmuştur.

Bu araştırma, Harvard Üniversitesi profesörlerinden Michael Porter'ın rekabet üzerine yazdığı kitaplara dayandırılarak hazırlanmıştır. Michael Porter, serinin son eseri olan "Milletlerin Rekabetsel Avantajları" (Competitive Advantages of Nations) adlı kitabında global rekabette başarılı olmuş onbir ülkeyi inceleyerek bunların başarıyı nasıl elde ettiklerini anlatmıştır. Bu başarıları "Diamond" diye adlandırdığı altı ana faktöre dayalı bir modele göre açıklamaktadır.

- Kaynak koşulları
- Talep koşulları
- Yan sanayi koşulları
- Rekabet ve firma stratejisi
- Hükümetin rolü
- Şansın rolü

Bu teoriye göre, ulusal çevre, firmaların başarısında merkezi bir rol oynuyor. Bireysel endüstri ve rakiplerinden başlayıp, bir ekonomiyi buradan hareketle bir bütün olarak inşa ediyor. Porter, ilerleme ve yaratıcılığı temel taş olarak alırken, devletin yaratıcılık sürecindeki rolünü açıklıyor ve önemli olanın ülkenin firmalar için yaratıcılıklarını arttırabilecekleri bir çevreyi sağlamak olduğunu vurguluyor. Teorinin temelinde rekabet stratejisi fikri yatıyor. Ancak teori teknolojik icat, uluslararası ticaret, coğrafi ekonomi gibi alanlarla da beslenmekte. Çünkü dün önemli olan doğal kaynaklar, pazarlara yakınlık gibi kalkınma unsurları artık önemini yitirmiş durumdadır. Ucuz işçiliğin önemi de yerini eğitimli iş gücüne devretmiştir. Ucuz ve vasıfsız iş gücü artık gelişmekte olan ülkelere önemli rekabet avantajı sağlamamaktadır. Bu tip avantajların kolaylıkla taklit edilmeleri söz konusudur. Rakipler başka düşük maliyetli bir yerleşim ve kaynak bularak veya aynı yerde üretim yaparak bu avantajları kolaylıkla önemsiz hale getirebilmektedirler.

Uluslararası pazarlarda rekabet eden ülkeler değil firmalardır. Bu bakımdan ülkenin oynadığı rolü açıklayabilmemiz için öncelikle firmaların nasıl rekabet avantajı yaratıp, bunu muhafaza ettiklerini anlamalıyız.

Bütün bu nedenlerden dolayı uzun vadede bir ülkenin rekabet gücünün, dolayısıyla ekonomik başarısı ve yaşam standardının tamamıyla verimliliğe bağlı olduğu belirginleşiyor. Eğitime daha fazla yatırım yapan ülkelerin, ekonomik yarışta avantaj sağlayacakları kesinleşiyor.

Bir ülkenin ve vatandaşlarının yaşam seviyesinin artması, firmaların rekabet ettikleri alanlarda uzun dönemde artan ve yükselen verimlilik seviyelerine ulaşmaları ile ancak mümkündür. Bu da ancak artan kalite ve etkinlik ile sağlanabilir.

Global stratejiler ile firmalar bir sürü ülkede aktivitelerini sürdürebilirler. Bu bakımdan global stratejilerin rekabet avantajına nasıl etki ettiklerini ve firmanın kendi ülkesinin rolünü nasıl yeniden yapılandırdığını incelemek gerekecektir. Globalleşmenin, hükümetlerin önemini azalttığını düşünmek hatalı olacaktır. Bu bakımdan firmalar ulusal çevrelerini gerçekçi bir açıdan anlamalı ve bunu geliştirmenin yollarını bulmalıdırlar. Hükümetlerin asıl görevleri, endüstrilerine yardım etmek yerine, mücadeleye davet etmek olmalıdır.

Globalleşmenin lokomatifi her gün daha da çok hız kazanan teknoloji fırtınasıdır. Bu alandaki en önemli gelişmeleri bilgi depolama ve işlemede, ulaşım ve haberleşmede, ileri teknoloji ile üretilmiş materyallerde, biyoteknolojide ve süper iletkenlerde görebiliriz. Zaten teknolojik alt yapı global bir niteliği sahip. Bu bakımdan her ülke global teknolojik alt yapı ve onun üzerine oturtulan ekonomik sisteme nasıl entegre olacağına karar vermek zorunda.

Özellikle başarılı ülkelerin artan verimliliklerini ve rekabet güçlerinin eğitimden kaynaklandığını ve yeni ekonomik düzende, eğitime daha fazla yatırım yapan ülkelerin ekonomik yarışta avantaj sağlayacakları görülmektedir. Araştırmacılar, bir ülkenin eğitim sisteminin kalitesi ile uluslararası rekabet gücü arasında tam bir karşılıklı ilişki gözlemliyorlar. Yüksek tasarruf ve yatırım oranları, gelişmiş bir

mühendislik ve üretim kültüre, iyi tasarlanmış ve yüksek katma değere sahip ürünleri üretip, uluslararası pazarlarda pazarlayabilen ve ticaret fazlası yaratabilen bir sanayi yapısı, üniversitelere giremeyenleri de kapsayan mükemmel bir eğitim sistemine sahip ülkeler, 21. yüzyıldaki rekabet yarışında öne geçebilirler.

Ülkeler gelişmelerini ve ilerlemelerini sürdürürken 4 önemli aşamadan geçmektedirler. Bunlar;

- kaynak güdümlü
- yatırım güdümlü
- yenilik ve icat güdümlü
- refah güdümlü

aşamalardır.

Kaynak güdümlü ekonomilerde rekabet ucuz iş gücü, doğal kaynaklar ve kur ayarlamaları ile sağlanmaktadır. Dolayısıyla ülke ancak kısıtlı pazarlarda rekabet edebilmektedir. Fiyat en büyük avantaj olarak görülmekte ve teknoloji yurt dışından transfer edilmektedir. Genelde bütün gelişmekte olan ülkeleri bu sınıfa sokabiliriz.

Yatırım güdümlü ekonomi ise, adından da anlaşılacağı gibi, teknolojik yatırımlara ağırlık veren bir devredir. Firmalar, global pazarlarda rekabet şansı elde edebilmek için büyük boyutlarda ve en son teknolojiyi içeren yatırımlar yaparlar. Yurt dışındaki üstün teknolojiye sahip firmalarla iş birliğine gidilir, ancak firma kendi modellerini ve özgün ürünlerini üretme çabasındadır. Kalifiye işçi ve teknik personel sayısı kaynak güdümlü devreye göre daha fazladır, ancak maaşlar hala düşüktür. Hükümetler kısıtlı kaynakları doğru endüstrilere kanallı ederek, risk sermayesi yaratarak, yabancı sermayeyi özendirerek ve iç pazarda rekabeti körükleyerek bu devrede rol oynarlar. Yatırımlar büyümenin en önemli unsurudur.

Yenilik ve icat güdümlü devrede, tüketici çok bilgili ve kültürlü olduğu için, talepleri de çok karmaşık ve tefarruatlı bir hal almıştır. Eğitim ve kişisel gelir yüksektir. Kaliteli ve yeni ürünler icat edilir ve bu daha çok kaynak avantajları yerine kaynak dezavantajlarından ortaya çıkabilir. Örneğin yeterli petrolü olmayan bir ülke, devamlı alternatif enerji kaynakları üzerine çalışmalar yapar ve yeni, ürünler

icat eder. Verimlilik yüksektir. Hükümet yeni iş yaratmada firmaları motive edici bir rol üstlenir.

Porter, refah güdümlü devrenin sonunda bir geriye dönüş başlayacağını savunmaktadır. Artık yenilikler yapmak ve ilerlemek için gereken motivasyon azalmıştır. Kişisel gelirler çok yüksektir.

Ülkemiz 2000 yılına yaklaşırken ihracatın kompozisyonu her ne kadar tarım ürünlerinden, %80'ler gibi yüksek oranlara ulaşan sanayi ürünlerini barındırır hale gelmişse de, daha önümüzde katedilecek çok uzun bir yol bulunmaktadır. İhracatta bundan sonraki aşama ve hedef emek yoğun ürünlerden, bilgi ve teknoloji yoğun ürünlere, yani yüksek katma değer içeren ürünlere yönelmek olmalıdır. Türkiye, 1980'lerin başından itibaren kaynak güdümlü devreden yatırım güdümlü devreye geçmek için uğraşmaktadır.

Türk üretim sektöründe üretim teknolojisinin yenilenmemiş olmasından kaynaklanan ciddi sorunlar bulunmaktadır. Türkiye'de rekabet gücü yüksek bir sanayi yapısının oluşturulabilmesi için pek çok sektörde fiziki yatırımların canlandırılması, optimal firma ölçeğine geçilmesi, ileri teknoloji ve kaliteli insan gücü kaynaklarını en iyi biçimde kullanabilmek amacıyla firma ve sektör düzeyinde yeni stratejilerin izlenmesi gerekmektedir.

Türkiye'de cam sektörü, yapısal ve ekonomik özelliklerinin yanı sıra, ekonomideki ağırlığı, çok sayıda sektöre girdi vermesi ve yüksek teknoloji düzeyi gibi özellikleriyle, öncelikli ve hassas sektör olarak değerlendirilmektedir.

Bu çalışmada, Türkiye'deki cam sektörünün gelişimi, ve Michael Porter'ın "Diamond" diye adlandırdığı modeli kullanılarak, cam sektörünün mevcut ve potansiyel yapısı incelenmiştir. Cam sektörünün kaynak koşulları, talep koşulları, yan sanayi koşulları, rekabet ve firma stratejisi, hükümetin rolü ve şansın rolü ele alınarak cam sektörünün Türkiye'de niye öne çıkmış sektörlerden biri olduğu sorusu cevaplanmaya çalışılmıştır.

Sonuç olarak, cam sektörünün uluslararası rekabete en açık sektörlerden bir olduğu sonucu ortaya çıkmıştır. Türk cam endüstrisi, kaydettiği hızlı gelişme ve ihracata dönük yapısıyla dinamik bir görünüm sergilemektedir. Cam sektörünün Türkiye ekonomisine en

önemli etkisi, yüksek ihracat kapasitesi ile sağladığı döviz getirisi ve dış ticaret dengesini iyileştirici işlevidir. Sektör, üretiminin %50'sini ihraç eder durumdadır ve ihracat ağırlıklı olarak Avrupa gibi istikrarlı pazarlara yapılmaktadır.



1. INTRODUCTION

Globalization and competitive advantage are the two concepts that have been used very frequently by many people since the last decade. Are they really kind of magic words that will suddenly enable companies to market their products worldwide?

The purpose of this study is to analyze the Turkish market, industries and firms with a global perspective. In the case section, the glass industry, which is one of the most competitive sectors of Turkey today, will be explained by the "diamond" model created by Michael Porter. The general outline of the study is shown in Section 1.

Section 2 gives information about the competitive environment in today's world, and tries to explain the reasons why firms need to globalize. A general look to Turkey will be implemented in this section

Section 3 explains the "diamond" model used in measuring the global competitiveness of different industries in a country or among countries. The six broad conditions are examined in details.

Section 4 takes the role of the government as a whole. Government's influence on the "diamond" is explained. All the positive and negative effects of the governments on firms are mentioned that will create the necessary environments for the firms to globalize.

Section 5 explains the effects of national economics on competitive development. Four different stages are mentioned, and the relations between these stages and the "diamond" is established.

Section 6 is the key section of this study. In this part, general information will be given about the glass industry in the world and in Turkey. Following that, the "diamond" model will be implemented for the glass industry in Turkey. The position of the glass industry both in Turkey, and in the international markets will be examined through the aspects of factor conditions, demand conditions, related and supporting industries, rivalry and firm strategy, role of government and role of chance.

Section 7 states the conclusions and provides some suggestions.

2. COMPETITIVE ENVIRONMENT and REASONS for GLOBALIZATION

There are only four years left to the next millennium. Due to this milestone, nations now carry more responsibilities. While the second millennium is ending, countries that can not decide their direction in the competitive arena are more likely to stay out of the race. The world map that has stayed unchanged since the World War II is now changing together with the economical and political structures of the countries.

Nowadays, one of the most essential subjects that governments and companies have to face is their international competitive powers in the international arena. If there are many companies that are internationally competitive in a country, then it means that, this country has a strong economic and political position in the world.

In this study, one has to ask "Why are some countries successful in some industries while others are not? Why are some countries successful in certain industries while they are unsuccessful in other industries?" As can

be understood, the main aim of this study is to determine the characteristics that make the companies internationally competitive and to define how they can achieve sustainable advantage.

Majority of the theories of competition, takes the static items as cost, quality, and differentiated product into consideration. However, in these days, competition should be taken as a dynamic process. New products, new marketing methods, new production methods and completely new market segments are arising every day.

In static competition, the production factors of a country are constant. Therefore, a company will invest its factors of production in the industry where maximum return is expected. However, creativity and change are the most important properties in dynamic competition. Income is expected to increase by launching new products by new production methods. Today, it becomes more important to increase the quality of the factors of production and to create new ones, rather than to use the existing factors of production in a production process. Companies have to define their global strategies under these facts. Another important point is achieving the most efficient output using these factors.

The environment after the World War II had a great impact on competitiveness of some industries and companies. Therefore, companies and countries were drawn into a greater economic war. The industrial society, born after the industrial revolution during the 18th century, had started to change phase after the second world war. Especially, in the 1970's, when the world economy narrowed, unstability increased, new demand structures occurred, new production methods were achieved, it became more difficult for the industrial society which was used to apply mass production methods. Technological storm has been the pioneering reason of this transformation, and a new form of technology based competition was formed.

Innovations in product designs, management and marketing strategies, production technics, organizational structures, and finance have affected the international relations of countries. According to the new economic world order, it is no more realistic for the developing countries to achieve international competitive advantages by using low wages, and flexible exchange rates. Today, studies done on international competitive advantages determine that exchange rates and cost of labor can only lead to a short term advantage. In the long term, the most important factors are found out to be technological development, productivity and increase in efficiency.

Low wages and low exchange rates are considered as short term advantages because they can easily be copied and imitated. Rivals can always find some other low cost sources, or even carry its production into the same area to nullify these kinds of simple advantages. In the long run, it becomes more clear that technology and efficiency determine the competitive power of a country. Investment in education is also another important aspect. One can observe that increase in efficiency is directly related to the increase in nation's life level.

In the international market, it is not the countries but the companies that compete. Therefore, in order to understand the situation better, first one has to find out how this advantage is created and maintained. Companies are no more bordered within a country. They can easily start their activities in any part of the world. Consequently, the effects of the governments are less important in shaping the companies' global strategies. Today, the main duty of the governments should be to create a fair competitive environment, instead of helping directly to certain industries. The companies that are globally successful have to be observed in order to understand the role of the government.

"Let's take the South Korean steel industry as an example. Three elements of structural competitiveness are: state autonomy, sound economic policy and

indigenous technological capability. These elements have a significant bearing on the bargaining capacity of the state, autonomous investment decisions, labour control, the acquisition and absorption of modern technology, and ultimately international competitiveness. Global competitiveness of South Korea does not refute the technological dependence of developing countries. Rather it suggests the kind of socio-institutional and economic policy contexts that are often necessary to foster competitive industries"⁽¹⁾.

Alvin Toffler defines the agricultural revolution 10,000 years ago as the first wave, and the industrial revolution 200 years ago as the second wave. According to Toffler, the third wave started after the World War II. He points out the new industries and concepts of computer, electronics, information, hi-tech, flexible production, marketing and management. Toffler claims that the source of power is no longer muscular power or wealth, but the most democratic power, the power of information and knowledge. He also reminds a phrase from W. Churchill "The empires of the future will be the empires of wisdom"⁽²⁾.

In his book "Megatrends", J. Naisbitt defines some global changes in our society:

Industrial society		Information society
Mechanical technology		High technology
National economy		Global economy
Short term		Long term
Centralization		Local management

Technology pioneers all these transformations. The most important developments in these area are in information storing and processing, transportation and communication, materials produced by hi-tech, biotechnology and super conductors. The opportunities created by new technologies also increase the speed of globalization.

Countries that have high saving and investment ratio, developed engineering and production culture, well designed high value added products, trade surplus, well organized education system that also gets benefit from non-university graduates are to take their leading places in the competition race of the 21st century. In the recent researches, the importance of education is especially emphasized.

2.1. An Overview to Turkey

So far, the subject is approached from a global perspective. The main aim of this study is to analyze the glass industry in Turkey. Therefore, it would be

useful to have a short look at our country at that moment. The effects of globalization and customs union on Turkey should carefully be examined. After that the questions of, what has to be done and how, should be answered.

In our country, the industrial sector has been protected against foreign competition until 1980, and monopolistic/oligapolistic market conditions had been preserved.

Over valued exchange rates, high custom tariffs, restrictions on imports left the Turkish industry without any competition. Although a liberal economy has been applied to integrate to the world economy since 1980, no priorities were given to increase the competitive power in terms of efficiency and technology developments. Consequently, the rise in export at certain periods is only the results of low wages, devaluation's or some direct incentives. This rise in exports which does not depend on strong basement of production and efficiency, scored a decrease in the years of lower devaluation and fewer incentives given by the governments. However, Turkey's exports increased around 3 times compared to the years before 1980.

Table 2.1: The share of Turkey's exports in the total
worlds exports⁽³⁾

Years	1980	1985	1990	1994
Export (mil \$)	2.910	7.958	12.959	18105
Import (mil \$)	7.909	11.343	22.356	23.270
Balance	-4.999	-3.385	-9.397	-5.165
Exports / World Export	% 0.15	%0.43	% 0.40	%0.44

Unfortunately, our exports are still below % 0.45 of the world exports, and this situation have been continuing since 1985. In the production sectors of Turkey, serious problems are faced today because of the reason that production technology is not renewed. In order to form a globally competitive industry in Turkey, new investments have to be done, optimum benefit has to be obtained from advanced technology and labor force, and new strategies have to be followed.

In the second half of 1995, new export incentives are declared by the state. All the direct incentives are removed. A certain proportion of the cost is given for participating in foreign fairs, promotion and advertising, office openings and R&D, etc.

In this new world order, everyone has difficult tasks to follow. Understanding and analyzing the competitive world around us, and learning how to implement them correctly in our society, will help Turkey to make a progress and take its place in the leading group of countries that will be pioneering the world economy.

3. DIAMOND : DETERMINANTS OF NATIONAL COMPETITIVE ADVANTAGE

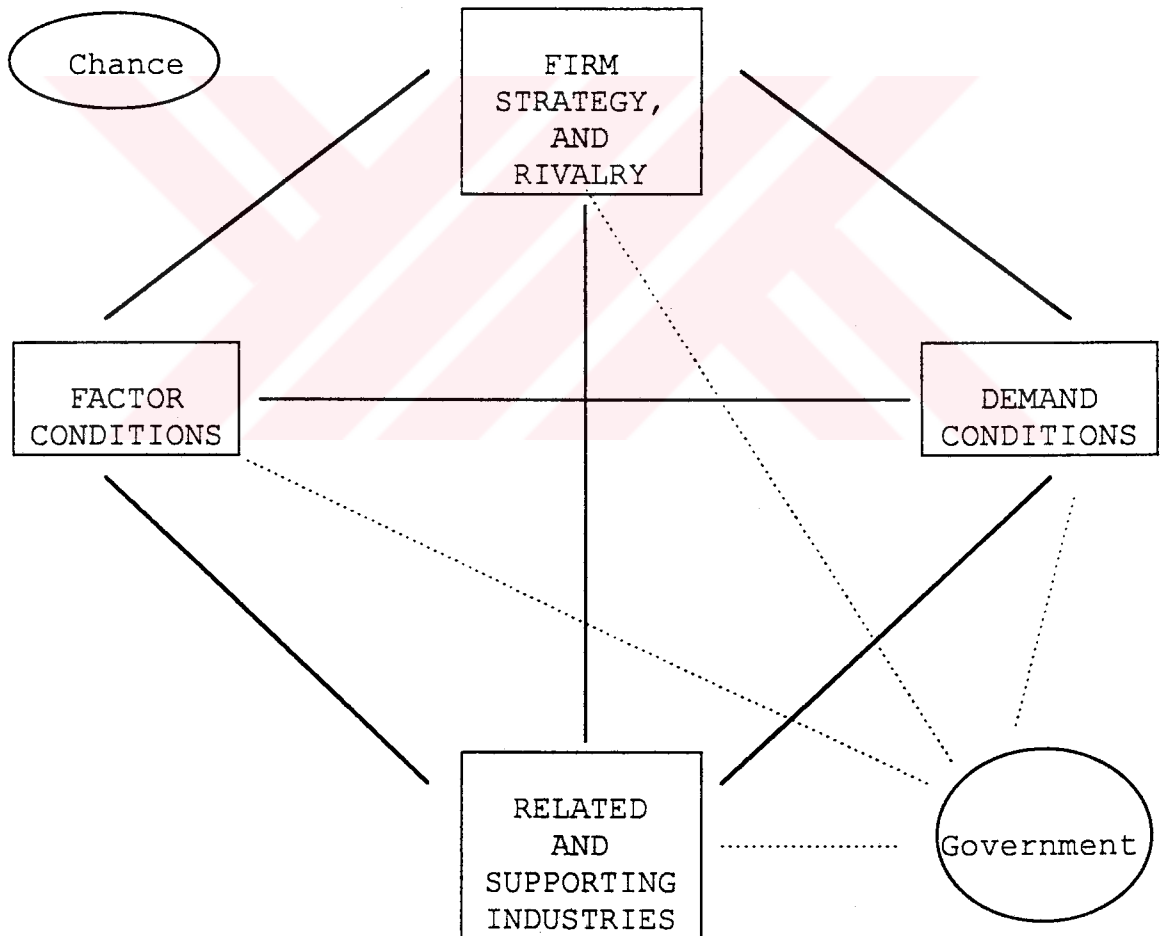


Figure 3. The Complete Diamond System⁽⁴⁾

3.1. Factor Conditions

The standard theory of trade rests on factor of production. According to this theory, nations are possessed naturally with different stock of factors. A nation will export those goods which make intensive use of the factors with which it is well possessed. However, according to Michael Porter, the role of factors is different and far more complex than it is often understood. His assertion is that the factors most important to competitive advantage are not inherited, but are created within a nation through processes that differ widely across nations and among industries. He explains that the stock of factors at any particular time is less important than the rate at which they are created, upgraded, and made more specialized to particular industries.

More surprising is that, he declares that an abundance of factors may undermine instead of enhance competitive advantage. Selective disadvantages in factors, through influencing strategy and innovation, often contribute to sustained competitive success.

Competitive advantage from factors depends on how efficiently and effectively they are deployed. Not only how but where factors are deployed in an economy is crucial. At the same time, globalization has made local

availability of some factors less essential. The modern global corporation can source factors from other nations by purchasing from them or locating activities there. The ability to deploy them productively takes a central importance to competitive advantage. To understand the role of factors in competitive advantage, Michael Porter discriminates among types of factors⁵¹.

1)Basic Factors: Include natural resources, climate, location, unskilled and semi-skilled labor and debt capital

2)Advanced Factors: Include modern digital data communications infrastructure, highly educated personnel such as graduate engineers, and computer scientists, and university research institutes in sophisticated disciplines.

Basic factors are inherited by the country. Their creation requires relatively modest investment. Such factors are either unimportant to national competitive advantage or the advantage they provide for a nation's firm is unsustainable, because they are available by sourcing on international markets. Advantages due to only basic factors are often not long lasting.

Domingo Cavello, the famous economist who has lowered the Argentinian's hyper-inflation rates to only one digit number without giving up from growing, resigned

recently at the beginning of August 1996 because he could not get along with the populist policies of President Menem. Domingo Cavello often used to say "We brought Argentina the monetary board and the fixed rate system. Because when the government makes devaluation in order to increase the exports, they lower the real income level of everybody in the country. Everybody is getting poorer. We declared that our companies should get rid of devaluation dependency to compete in the international markets. They have to increase their productivities in order to compete strongly. They have to use the human resources and technology in the most efficient way. We have abandoned some of the unlogical regulations and taxes that were avoiding them from increasing productivity. Anyway, high devaluation punishes everyone by increasing the inflation"⁽⁶⁾.

Advanced factors are the most significant ones for competitive advantage. They are necessary to achieve higher order competitive advantage such as differentiated products.

The world of uncertainties was explored by noted MIT economist and author Lester Thurow. "How do you build a corporation to sail into a fundamentally unknown world?" he asked. He reminded his audience that it is no longer a guarantee of success to have abundant natural resources because technology can supplant that advantage⁽⁷⁾.

The fall of Corning Inc. from the top reaches of U.S. industry seemed to happen in a moment. Only a few years before, Forbes magazine had called it "one of the strongest companies in American industrial history." But as its products grew old, and more nimble foreign competitors stole away its business, it shuttered five factories and laid off nearly a quarter of its workforce.

This familiar tale could describe the fortunes of a universe of companies, including IBM, General Motors, and Digital Equipment, and all within the last year. But the fall of Corning occurred in 1975. Corning's story is significant not as an early warning of what would befall many of the nation's leading companies. Rather, it is an example of how a company that once flashed like a bright comet across the sky and then disappeared from view can come around for a second pass.

In the mid-1960s, Corning was a diversified glass-ceramics company, manufacturing everything from medical optics to kitchenware. Its biggest product, however, was black-and-white television bulbs (the glass envelopes that house picture tubes), the market for which Corning completely dominated. That business evaporated as television manufacturing went overseas and competitors hammered away at the remaining customer base. In 1975,

Corning pulled out of the television bulb market altogether.

Even as it seemed to pass out of sight, Corning had in place all the elements that would propel it in the future. In its laboratories were the beginnings of promising new products. More important, it had managers who wanted something more than a formulaic return on investment.

The results have been stunning. Corning now dominates an optical fiber market that was targeted years ago by the Japanese Ministry of International Trade and Industry. And it is one of the few manufacturers capable of producing the high-performance glass required by Japanese makers of those ubiquitous liquid-crystal displays.

Is Corning a model for the many U.S. technology companies that have been battered by foreign competitors in recent years? You bet, says Joseph G. Morone, dean of management at Rensselaer Polytechnic Institute. In *Winning in High-Tech Markets: The Role of General Management*, Morone examines Corning and two other companies that dominate high-tech industries: General Electric in diagnostic medical systems and Motorola in mobile communications.

All three companies have achieved global leadership in the kinds of technology markets in which Japanese competitors have lately gained the upper handmarkets characterized by fast growth, short product cycles, and the necessity for heavy investment in new products that will not come to fruition for many years, if ever. As technology leaders, they stand in stark contrast to the innumerable U.S. companies that were pushed aside by the Japanese in markets such as semiconductors, electronic displays, and consumer electronics⁽⁸⁾.

3.1.1. Factor creation

Another important distinction among factors is whether they are inherited by a nation such as its natural resources or location, or were created. Factor creating mechanism includes public and private educational institutions, apprenticeship programs, government and private research institute, and bodies providing infrastructure. Nation's succeeding industries where they are particularly good at creating and upgrading the needed factors⁽⁹⁾.

During the last several years, the service sector in the US has been the single largest source of new jobs. Explanations of service sector growth have focused on the nation's competitive advantage in service functions in the international arena, growth of personal income,

female labor force participation, and national and global industrial restructuring⁽¹¹⁾.

Michael Porter says that the factor creating mechanism in a nation is more important to competitive advantage than the nation's current factor pool. Government investment in factor creation usually concentrates on more basic and generalized factors. Government efforts to create advanced and specialized factors often fail unless they are closely related to industry. No nation can create and upgrade all types and varieties of factors. Which types are created and upgraded depends heavily on other determinants such as home demand conditions, the presence of related and supporting industries, company goals and the nature of domestic rivalry.

3.1.2. Selective factor disadvantages

Disadvantages in basic factors such as lack of domestic raw materials, labor shortage, create pressures to innovate. Porter explains that innovation to offset selective weaknesses is more likely than innovation to exploit strengths. For example, Japanese firms faced extremely high land cost and factors space constraints. To overcome these difficulties they created just in time production technique that reduced needed inventory. Another example is that BASF and Hoechst spent many

years developing a synthetic dye to reduce dependence on imported natural dye unavailable at home. There was less pressure to innovate in Britain, because of large supplies of large natural dye in the colonies. Lack of domestic raw materials was a reason to innovate in Germany⁽¹¹⁾. Faced with high relative labor costs, for example, American consumer electronic firms moved to locate labor intensive activities in Taiwan and other Asian countries, leaving the product and the production process the same. Japanese rivals set around instead, to eliminate labor automation. They lowered cost and improved quality. Japanese firms were soon building assembly plants in the United States, the place American firms had avoided.

Porter used several illustrations to reinforce his point that managers should disperse some activities to get low-cost advantages of raw materials and labor, but that a clearly identified home base (not necessarily in the home city) remains critical. He noted that the Dutch are the world's biggest producers of cut flowers - without the climate and arable land required. Instead, they have state-of-the-art researchers and greenhouses and special auction houses. And, Dutch banks take bulbs as collateral⁽¹²⁾.

3.2 Demand Conditions

Porter's second broad determinant of national competitive advantage in an industry is home demand conditions. Three broad activities of home demand are significant⁽¹³⁾.

- 1)The composition of home demand
- 2)The size and pattern of growth of home demand
- 3)The mechanism by which a nation's domestic preferences are transmitted to foreign market

According to Porter the quality of home demand is more important than the quantity of it in determining competitive advantage. Firms compete globally, and can achieve a large scale even if their home market is small.

3.2.1. Composition of home demand

Nations gain competitive advantage in industries where the home demand gives local firms a clearer and earlier picture of buyer's need. Nations also gain advantage if home buyers pressure local firms to innovate faster. Product development teams are based with rare exceptions in the home market. Therefore, pressures from buyers to improve products are felt in the home market where

proximity and cultural similarity makes a clearer communication.

Although a nation's demand for a certain sector is small in absolute size compared to other nations, this segment can have competitive advantage if it occupies a relatively higher percentage of this nation's total demand. A nation's firm gains competitive advantage if domestic buyers are sophisticated and demanding. These buyers help a nation's firm to perceive new needs. Sophisticated buyers pressure local firms to meet high standards in terms of product quality features and service. For example, air conditioning is much needed in Japan because of the hot and humid summer. Japanese air conditioning firms have penetrated international markets with their compact and quite unit⁽¹⁴⁾. Another important issue is national passion of buyers. Japanese are very used to take pictures to records travels and family events. They are very sophisticated camera buyers and the Japanese camera industry now leads the world. Italians are known for their sophistication about clothes, foods, and fast cars, all areas of Italian international success.

An engaging contretemps developed during a question-and-answer period at the Top Management Forum in London, between Lester Thurow, MIT economist and author, and Noboru Hatakeyama, advisor to the Japan Economic Foundation and former vice-minister for international

affairs at the Ministry of International Trade and Industry, at the speakers' table onstage. During his talk, Hatakeyama had offered this provocative statement: "Falling wages in Japan will lead to more demand for low-quality foreign goods in the future."

When asked by an audience member to elaborate, Hatakeyama said, "In Japan, there is a strict quality-minded customer. In many areas, there is appropriate quality-consciousness that helped Japanese producers develop products that won against foreign competitors. But, if they stick to [these standards], ordinary products from abroad can penetrate the Japanese market."

The audience murmured. Thurow murmured. The questioner was still not satisfied. (He was later identified as Rudolf Beger, executive secretary of the European Automobile Manufacturers Association in Brussels and chairman of MCE's 1994 Global Automotive Conference in Frankfurt in November.) "Are foreign products of lower quality?" he persisted.

Thurow took up the challenge. "A Mercedes sells for \$100,000 in the United States. In Japan, it sells for \$300,000. If you triple the import price, you sell less. The only thing we can agree upon is, this can't go on. I'd be impressed if I heard this [opportunity for lower-priced goods] now. But I first heard it in 1978. It is

impossible for America to redesign Japan; Japan must redesign Japan."

Hatakeyama countered: "If Japan should be criticized for having a surplus, why don't you criticize your trade surplus of 34 years ago? A Ford subsidiary in Japan decides prices. It must take into consideration distribution, retail climate and other factors."

Then Hatakeyama, rather testily, brought out a big gun: "For the first time this year U.S. automakers are selling right-hand vehicles here [for Japan's left-lane driving]. We waited 25 years for this" ⁽¹⁵⁾.

3.2.2. Demand size and patterns of growth

Some authors argue that a large home market is a strength because of the existence of economies of scale. Others see it as a weakness, saying that limited local demand forces firms to export. Switzerland, Sweden, Korea, and Japan are examples of nations where limited local demand led to pressure to export. Large home market size lead to competitive advantage by encouraging a nation's firm to invest in large scale facilities, technology development, and productivity improvement. According to Porter, the rate of investment is a function of the growing home market. Rapid domestic growth leads to adopt new technologies faster. Early

local demand is important to move sooner into the market. Early saturation is as important as early penetration. Early saturation forces firms to innovate and upgrade. A saturated home market pressures to push down prices, introduce new features, improve product performance.

Some companies also create a large demand by seeing a little spark at the beginning. Cutting-edge companies are primarily interested in changing the rules of the entire game with fresh unique market offerings. Review some recent business history and consider the breakthrough impact of CNN's 24-hour news programming, Schwab's discount brokerage services, Dell Computer's price-friendly/mail-order/after-sale service mix, CCC Information Services' auto-collision estimating software, Hewlett-Packard's Laser Jet printers, and Merrill Lynch's early asset management account offerings⁽¹⁶⁾.

3.3. Related And Supporting Industries

According to Porter, the third broad determinant of national advantage in an industry is the presence in the nation of supplier or related industries that are internationally competitive⁽¹⁷⁾.

3.3.1. Competitive advantages in related industries

Related industries are in which firms can coordinate and share activities, or produce complementary products such as application software and computers. Sharing of activities can occur in technology development, manufacturing, distribution, marketing or service. An internationally successful related industry will provide opportunities for information flow and technical interchange. Interchanges are easier if the related firms have cultural similarities and are near located. Prior emergence of the facsimile industry, for example, Japan had leading position in copiers, other office machines, photographic equipment, telecommunication equipment covering all essential technologies important to facsimile⁽¹⁸⁾.

3.3.2. Competitive advantages in supplier industries

Supplier industries produce inputs that are widely used and are important to innovation or to internationalization. Semiconductors, software and trading, for example, are industries that have important impacts on many others. It is essential that, supplier provide efficient, early, rapid access to cost-effective inputs, components and machinery. Since all these materials are available on global markets, it is the

coordination function of the home based suppliers that provides competitive advantage. Competitive advantage comes from close working relationships between suppliers and the industries. The exchange of R&D and joint problem solving leads to faster and more efficient solutions. The nearer the locations of suppliers to the firms, the shorter are the communications lines.

3.4. Rivalry & Firm Strategy

3.4.1. Strategy and structure of domestic firms

How do the firms define their strategies? Which strategy is the best to achieve international competitiveness? Is there an ideal managerial system? In fact, none of the managerial system is the ideal one for all around the world. The most important factor of managerial success is created by the national environment. A managerial system may be the best in Italy while it will cause to many bankrupts in Sweden.

It is no longer enough for the most accomplished senior managers to anticipate the needs of their customers, supply those needs with proficiency and create a dynamically flexible organization. They also must place that organization in an uncertain world, a place in which old societal norms have faded, supplanted by fear,

uncertainty, displacement and strife in virtually all its nations⁽¹⁹⁾.

The goals, strategies, and ways of organizing firms in industries vary widely among nations. National advantage results from a good match between these choices and the sources of competitive advantage in a particular industry. The characteristics of each nation are strongly reflected on its firm strategies and managerial systems. In Italy, many successful international competitors are relatively small or medium sized firms that are privately owned and run like extended families. In Germany, the top management of many companies consists of individuals with technical backgrounds, and companies are hierarchical in organization and management practices⁽²⁰⁾.

Education, training, background, leadership, initiative using, decision making, customer relations, labor management, social history, religion, family structures, etc. are the main areas that make nations differ from each other, and hence effect firm strategies.

3.4.2. Goals

Nations will succeed in industries where their goals and motivations are aligned with the sources of competitive advantage. The goals of the firms are strongly

determined by ownership structure, the motivations of owners and holders of debt, and senior managers. Capital markets also play an essential role on firms. Since capital markets vary a great deal across nations, firm strategies also vary accordingly. While long-term capital investments are encouraged in some nations like Germany and Switzerland, in some other nations like Turkey, firms are forced to invest in short-term since they can not even predict the next six months. Nations will succeed in industries where the goals of owners and managers match the needs of the industry.

Role of the individuals is one of the most important factors in defining firm strategy. The motivations of the individuals who manage and work in firms can enhance or detract from success in particular industries. The central concern whether they are motivated to develop their skills for creating and sustaining competitive advantage. Attitudes toward reward systems, financial gains, tax structure, promotional practices, wealth, relationship between managers and employees, risk taking differ widely from nation to nation. In nations where these attitudes are positive, and in accordance with the national environment, firms will become more successful. A nation's success also depends on the types of education and careers that talented individuals choose. For example, after Sputnik was in space, many outstanding Americans were attracted to study and work in that area. The chemical sector in Germany prospered

because of World War II. Some important events motivate people to choose certain areas. Each developed nation has some prestigious industries where talented young people are attracted. In Italy, it is fashion and furnishings. In Switzerland, it is banking and pharmaceuticals. In the United States, it is finance and anything to do with the entertainment, including movies, pop music, professional sports. In Israel, it is the defense.

Firms which engage themselves in international strategies wish to benefit from global competitive advantage derived from comparative advantages offered by localizing their activities in different environments. The main location factors are products, technologies, market access conditions and local competencies. In the automobile industry, two strategic groups tend to emerge from the evolution of industrial activity localization. The "Japanese group" is adopting global strategies whereas the "American group" remains attached to multi-domestic strategies. In between, European producers have still to precise their choice⁽²¹⁾.

3.4.3. Domestic rivalry

According to the empirical findings, Porter says that existence of domestic rivalry in an industry is the main source of competitive advantage⁽²²⁾. On the other hand,

some other authors argue that domestic competition is wasteful, because it leads to duplication of efforts and prevents firms from gaining economies of scale.

M. Porter points that nations with leading world positions often have a number of strong local rivals, even in small countries such as Switzerland. For example, in the Swiss pharmaceutical market, firms like Roche, Ciba Geigy, Sandoz are three big firms which started competing in the same home market, and ended up competing globally because of the intense competition in the home market. This is true both in fragmented industries and in industries with economies of scale.

Joint ventures and alliances have been one of the most pervasive features of international business in the past decade. In the extensive literature on alliances, scholars have pointed out that two companies may be able to leverage complementary assets, but they also have to overcome the inevitable compromises associated with independent parties trying to produce a joint product. Rival states, rival firms have many features similar to a business alliance⁽²³⁾.

Achieving economies of scale in the home market is actually not a success. It can even lead to laziness. The home market should pressure firms to improve and innovate. Additional scale is obtained by selling world wide. Local rivals push each other to lower costs, improve quality and service, and create new products and

processes. One domestic rival's success signals or proves to others that advancement is possible and attracts new rivals to the industry. The presence of domestic rivals nullifies the types of advantage that come simply from being in the nation such as factor costs. This forces nation's firms to seek higher order competitive advantages. Without local rivals, a firm tends to rely only on basic factor advantages, and deploys them less efficiently.

Ideas, stock of knowledge, and skill accumulate when firms imitate each other, and personnel moves among firms. Therefore, it is important that rival firms are concentrated in the same geographic area. For example, many of the Italian jewelry firms are located around two towns, Arezzo and Valenza Po⁽²⁴⁾.

Domestic rivalry increase by new business formations. There are two basic mechanisms by which new businesses are formed. One is the establishment of entirely new companies. They are mainly established by spin offs from existing firms. New opportunities recognized in the market, new ideas or the results of academies researches will motivate employees to establish their own businesses. The dynamic of spin offs are often healthy for the industry because it creates more rivalry. The other mechanism for new business formation is internal diversification into new industries by established

firms. Knowledge and assets are transferred from the existing to the new business.

When managers overemphasize the idea of beating competitors, they become oblivious to something very important: mainly, that some of these competitors can provide valuable sources of strategic opportunity as allies. Indeed, in today's helter-skelter brain-based global economy, a failure to seek alliances that pool expertise and resources - even with traditional rivals - can be lethal. Hence, IBM, Germany's Siemens AG and Japan's Toshiba are collaborating in the development of a revolutionary computer memory chip.

Not to be left behind, Texas Instruments and Japan's Hitachi Ltd. have joined forces with the same goal in mind. The newly formed AtlantiCare Health Systems brokers - in fact, promotes - the services of competitor hospitals for patients in southern New Jersey. The value-add of AtlantiCare, and its projected revenues, come from the creation and management of a network of regional healthcare providers, many of whom are traditional rivals. Medical device manufacturer Nellcor has been able to document a significant boost in sales and brand equity as a result of entering into OEM relationships with a diverse group of domestic and offshore players, including competitors⁽²⁵⁾.

As a result it would be more sensible to deal with the competitors in the following way⁽²⁶⁾:

1. Accept them (they or others will always be there; that's the nature of free markets).
2. Be aware of them (keep a general lookout, but don't get bogged down in the paralysis of incessant competitive analysis).
3. Learn from them (a little benchmarking and a lot of dialogue can go a long way; besides, there may be an opportunity for collaboration).
4. Respect them (welcome them as spurs to your own motivation and efforts; remember that pride a la arrogance and a "not invented here" corporate culture are always precursors to a fall).
5. Go beyond them (don't simply copy or imitate - redefine the game; and always remember baseball great Satchel Paige's immortal words: "Don't look back, someone may be gaining on you").

3.5. Role of Government

Having described the determinants of national competitive advantage, Porter's final variable is the role of government. Governments real role in national competition is influencing the other four determinants. They can effect each of the four determinants either positively or negatively. For example, governments can influence education, can shape local demand by regulating the standards, and can change the tax policies, etc. Therefore, it is more logical to see the role of government as an influencer of the other four determinants of the "diamond".

In his article in the "Technology Review " magazine, Bennett Harrison gives his opinion about governments⁽²⁷⁾: When it comes to industrial policy, most of the responsibilities of national governments haven't changed much over the years. The public sector must set standards; provide for training (and retraining) the work force; build and maintain infrastructure; promote the diffusion of new technical know-how; and provide development finance to fill cracks in the system that private capital cannot or will not fill.

Secretary of Labor Robert Reich set off a bombshell a few years back with his proclamation that for all practical purposes, multinational corporations no longer exhibit loyalty to any national government (let alone to

any particular site or region) and that they no longer want or need a home base. They have become entities unto themselves, depending only on a steady supply of well-trained professionals and technicians.

But business is not really quite so footloose. Laura D'Andrea Tyson, chair of the Council of Economic Advisers points out that U.S.-owned companies still produce the lion's share of their output within our borders-and that the same domestic focus holds true for Japanese and German industry.

In fact, according to the Harvard Business School's Michael Porter, a home base of mutually supportive institutions is even more important to companies now. Success in global competition, he says, will come to organizations with access to highly trained workers, good infrastructure, and reliable sources of financing. At the same time, says Porter, a sizable and growing home market confers upon domestically based companies economies of scale and creates a population of "sophisticated and demanding" customers who push attention to quality, training, and innovation down the supplier chain. Sharp and pervasive rivalry among both local competitors and suppliers pressures companies to invest and innovate, further contributing to a company's competitive edge.

Porter believes that these complex relationships among customers, competitors, suppliers, and the governments that help to train labor and build the requisite infrastructure are more easily assembled and managed within the same geographic and cultural context. Moreover, since a company's (or sector's, or region's) initial lead in international competition may often be sustained over a long period of time, helping your own country's firms to "get there first" can have big payoffs.

But if a home base is so important, why are the offshore divisions of so many U.S. companies more profitable than their operations in this country?

The answer, according to economic historian William Lazonick of Columbia University, is that U.S. companies are deliberately situating their overseas divisions within the more highly developed home bases of their foreign competitors. If IBM of Japan and Ford of Europe are innovating more rapidly and producing more efficiently than their U.S. parents, it may well be because the overseas divisions have become deeply involved with local suppliers, customers, competitors, and governments in the Far East and Europe. In other words, these countries are constructing just the kinds of supportive environments that Porter describes while the United States is not and the results are revealed on the bottom line.

Nation-based industrial policy still has a role, then. Governments can work with business to erect supportive environments whose sheer complexity makes them unlikely to arise solely from market forces. In addition to strengthening one's own industries, such environments may also attract additional investment from foreign based companies bringing new jobs, taxes, and technical know-how. In the end, which companies are "ours," which are "theirs," and for whom such environments would be "home" may be less important than getting on with the business of creating and nurturing the supportive environments in the first place.

For a better understanding of what the governments do for a country and its firms to achieve competitive power in the international markets, the role of government will be examined under a different section.

3.6. Role Of Chance

Factor conditions, demand conditions, related and supporting industries, firm strategy and rivalry, and the role of government shape the competitiveness of a firm and a nation. However, there is one more important aspect, namely chance. Chance events have little to do with the circumstances in a nation and are often largely outside the power of firms. Chance events are important

because they allow shifts in competitive positions. They can nullify the advantages of previously established competitors, or create a new hero. For example, the advent of microelectronics was enormously important in neutralizing American and German dominance in numerous electromechanically based industries. It provided an opportunity for Japanese firms to gain position. Wars can also pressure nations to make innovations and produce new products. The three losers of the Second World War, Germany, Japan and Italy, became the three most successful nations in the postwar period in terms of broadly based successes in international competition. The oil shocks helped upgrade Japanese industry to innovate new instruments to cut energy costs. However, there is a fact that, the nation with the most favorable "diamond" will be most likely to convert chance events into competitive advantage. The "diamond" has also a major influence on the ability to convert an invention into an internationally competitive industry. Chance, if not backed by a strong diamond, and left alone, will soon lose all its effects.

4. GOVERNMENT POLICY

What is the role of a government to make a country economically successful? Have the governments in the South East Asian countries been more successful than the Latin American countries for the last 10-15 years? Is it better for the country if a government involves deeply in the economy, or let the market act free in terms of gaining competitive advantage?

These are some of the basic questions to be answered to have a clear idea about the functions of the governments to provide a world-wide competitiveness for the country. It is wrong to believe that governments are powerless. The policies implemented affect the national advantage both positively and negatively. Therefore, government have a great influence on national competitive advantage. The central goal of government policy toward the economy is to deploy a nation's resources (Labour and capital) with high and rising levels of productivity⁽²⁸⁾. Productivity is the key word in gaining competitive advantage. No one can deny that a productivity increase leads to improvement of the economy. Achieving continuous productivity increase needs continuous upgrading. Together with the

improvement and innovation, new business formations are also necessary.

Service sector is growing all over the world more than the manufacturing sector relatively. Between the years 1970 and 1990, USA had managed to create 38.2 million new jobs; therefore, could compensate both the diminishing of the manufacturing sector, and new comers to business life. These service sectors are mostly finance, health, education and business. However, Europe could only create jobs one third of what USA did. As a result, Europe has serious unemployment problems⁽²⁹⁾.

The role of government policy toward a nation's industry is to stimulate dynamism and upgrading. Government should create an environment where the firms can penetrate more advanced segments and support them to enter new industries where higher productivity can be achieved. The determinants of national advantage bear on the capacity of the nation's firms to innovate and upgrade and go far beyond wage rates, interest rates, and the exchange rates.

Governments in all nations are somehow trying to increase the nation's competitiveness. Some of the tools that are commonly used are; devaluation, deregulation, privatization, relaxation of product and environmental standards, encouragement of mergers, tax reform, regional development, efforts to improve the education

system, expansion of government investment in research, more active role in government procurement.

It is very important to emphasize that, when people talk about national competitive advantage, that means the competitiveness of the firms, because firms compete in the industries not the nations. Government should not directly involve in competition, but create an environment in which firms can gain competitive advantage.

Developing countries, in particular, may be losers in this new world, as governments, especially in the industrialized nations, seek to grab market shares, and firms locate production based on corporate, political, as well as economic imperatives. Multinational firms often dominate their industries, leading to global oligapolies⁽³⁰⁾.

One must always keep in mind that competitive advantage is set not within a nation but by firms in other nations. Therefore, an absolute level of growth of productivity means not a lot, if not compared with other nations. For examples, politicians enjoy giving statistical figures in TV programs. They say that, in their government's period, the productivity doubled in 5 years. This actually sounds very good; however, if most of the other nations improved three or four times more, then it means that there is no success story at all.

4.1. Governments Effect on Factor Conditions

Increase in the factor quality and quantity is the major forces to upgrade an economy. To achieve higher productivity, firms have to improve factors like human resources, scientific knowledge, economic information, infrastructure, etc. Governments should create an environment to enable firms to upgrade continuously.

The educational and training system must demand high performance, and students must have to compete for advancement. Quality education is simply not possible without well-prepared and competent teachers. This is only possible if teaching is considered as an important and prestigious career. They should be paid above average. Students must be equipped with skills as well as information. During their education period, students should have experience working in firms as a trainee, and integrate their theoretical knowledge with practice. Governments should also provide other higher education forms beside universities for students with different abilities to develop their skills. The connection between the educational institutions and employers must increase in order to catch up with the real world outside the schools. Immigration policies are also sources of attracting highly qualified and skilled

people in a country. USA is one of the most benefiting countries from such a policy.

An upgrading economy demands a steadily rising level of technology. This means improving efficiency, demanding higher prices through better quality, and penetrating new industries and segments. Encouraging firms to do R&D is a better solution than using government laboratories in terms of efficiency. Research activities should always accompany the market necessities.

U.S. industry has successfully adjusted to a competitive global marketplace. Industry has benefited from increased research and development spending, which has exceeded government R&D spending since 1980. U.S. exports of high-technology products steadily exceed high-tech imports. However, American business faces widespread competition, especially from foreign firms. In addition, regulatory and tax obstacles are created by federal, state and local governments, which cause more firms to move overseas. At the same time, trade is growing within regional areas of the world. The future share of U.S. companies in world markets will depend on the individual actions of a host of businesses, but decisions of government will exert a strong influence in helping or hindering their success⁽³¹⁾.

Another important factor is the infrastructure. Upgrading a nation's industry depends on a modern and improving infrastructure. When someone examines why firms only at a certain geographic region have an internationally competitive advantage, infrastructure will be found out as the most essential factor. Governments have a role in affecting both the supply and cost of capital as well as the markets through which it is allocated. A nation's supply of capital is most influenced by the personal saving rate, the size of the government surpluses or deficits, and foreign capital flows. Government policy can affect all three. For example, there can be a forced savings policy like in Singapore. Information, today, is the most essential weapon of the firms. Information about markets, technology and competition shapes the decision of firms. Governments play a role in most nations in expanding the stock of information available. Government subsidies are as important as infrastructure, capital and information. Subsidy delays adjustment and innovation rather than promoting it if left alone, or if they are too strict.

There is a general view that devaluation increases exports and decreases imports. Is that really the situation? Or even if this is the situation, is that a tool to improve nation's competitiveness? If there are no foreign or domestic perfect substitutes to the product of a firm, devaluation works as explained above. However, mostly this is not the case in real life. To

sustain advantage, devaluation leads to further devaluation, and this lowers a nation's standard of living.

Low input prices, subsidized by governments, also seems like an advantage, but not in the long-run as the experiences have proved everybody. The same misunderstanding is also valid for the wages. In order to achieve a healthy, long-term advantage, wages should be allowed to rise with or slightly ahead of productivity growth. Rising wages lead to increasing purchasing power for more and better quality goods, improving demand condition like in Japan towards electronic goods.

4.2. Government's Effect on Demand Condition

The most direct effect of government on demand conditions is through its role as a buyer of many goods and services. Government procurements can work for or against national competitive advantage. It is bad if firms see it as a guaranteed market. For example, a domestic monopoly can be sure that the government will buy from him, if procurement from abroad is prohibited. If government act as a private firm, and announces that both domestic and foreign firms are in competition, this will move the domestic firms.

Governments can upgrade national advantage by creating early demand, by demanding sophisticated products, so that firms have to work hard in order to satisfy the government needs and manufacture the required product as wanted. In Japan, government provided incentives for firms to purchase approved types of robots, and created a leasing company to aid in financing them. Defense procurements also become essential part especially in countries like the USA and UK since they demand new and sophisticated products.

4.3. Government's Effect on Related and Supporting Industries

Government plays an important role in shaping the competitive advantage of related and supporting industries. Some industries or clusters are pioneering ones and they affect many other industries. For example, in Japan the improvement in the semiconductor industry led to many other improvements in other industries.

Advanced media is another source of national advantage. The strength of American firms on advertising reflects on the success of the consumer goods, where mass marketing rather than unique products or services has often been the key to competitive success. Forming clusters and regional policies are also seen as effective tools in increasing the synergy between the related firms and industries.

4.4. Government's Effect on Firm Strategy and Rivalry

Government policy has many influences on the ways firms are created, organized, and managed, their goals, and how they compete through mechanisms such as regulations on foreign direct investment exchange and import controls, and the like. Government policy should actively encourage an international outlook and exports. For example, IGEME (Export Promotion Center), in Turkey, is such a center. They are more effective when closely connected to industries and industry clusters.

Both firms and the individuals should have goals to encourage hard work and success in their industry. Tax policy is one of these tools and if used effectively, has great impacts on national advantage. Long-term capital investments should be encouraged. Domestic rivalry is important to upgrade an industry or cluster. Creating a dominant domestic competitor is good. Firms that do not have to compete at home rarely succeed at foreign markets. Government should also prevent cartels by antitrust policy. Protection, in its various forms, insulates domestic firms from the pressure of international competition. Protection can only be helpful in infant industries. There can emerge a need to protect until the industry matures. After a certain time, protection must be raised degree by degree and the industry must be opened to international competition.

The success of protection works only under three conditions. First is the presence of effective domestic rivalry, second is the presence of the potential for a favorable national diamond, third is that it is limited in duration. For example, when the time came for Turkey to enter the Custom Union with EU, TOFAS had to improve its quality and start producing new models.

New business formation is essential in continuing a dynamic upgrading. As mentioned in the beginning of this section, USA has been the most successful new job creator in the last 25 years. New business formation is necessary to replace jobs freed up in established industries and segments as they improve productivity. An essential ingredient in new business formation is in ideas that have to be protected strictly by patent laws. The developed countries always help developing countries in terms of loans, and these loans have to be used for purchasing the products of the country that gives the loan. Therefore, one can not really talk about help. Developing countries suffer most from protectionist policies in the developed world. By lifting trade restrictions, in sectors like textiles, and agriculture, which contain many industries that should be the early export industries for a developing nation, advances nations would probably do more good than all the foreign aid program combined.

Government has an important role in influencing the diamond. Governments must help the firms in such a way that, the firms themselves should be able to upgrade and improve themselves. This is like the story the two friends. One of them, who new more about fishing, always gave his friend a fish so that he would not starve. The

poor guy did not know how to fish, and always depended on his friend and became very lazy. His friend should teach him how to fish instead, as the government should create an environment for the firms to catch up with their international rivals.

Government's proper role is as a pusher and challenger. There is a vital role for pressure for creating national competitive advantage.

5. THE COMPETITIVE DEVELOPMENT OF NATIONAL ECONOMIES

According to Porter, national economies are anything but static. There have been changes in the pattern of international successful industries in many nations since World War II.

Upgrading in an economy is the movement towards more sophisticated sources of competitive advantage, and towards positions in higher productivity segments. Porter mentions: "While the basic unit of analysis in understanding national advantage is the industry and industry cluster, the nature of competitive advantage achieved by many of the nation's industries tends to evolve together." He groups nations as differing in the stage of competitive development in international terms achieved by the industry. So he achieves stages representing the upgrading process in a national economy.

Each stage involves different industries and industry segments as well as different company strategies. The stages also differ in government policies towards industry. The stages provide a framework in examining the development of nations.

Economic prosperity depends on the productivity with which the national sources are employed. The level and growth of productivity are a function of industry and industry segments in which a nation's firms can successfully compete, and the nature of the competitive advantages achieved in them. Economic progress is upgrading the competitive positions through achieving higher order competitive advantages in existing industries and developing the capability to compete successfully in new high productivity segments and industries. Trade is essential to the upgrading process. Exports from productive industries allow imports of products that could be produced in the nation only at lower productivity. High productivity industries established at the home base will penetrate the foreign markets. The capacity to export in advanced industries, which allows imports in less productive fields, is important to the upgrading process.

The ability to upgrade an economy depends on the position of a nation's firms in that portion of the economy exposed to international competition. National economies show a number of stages of competitive development reflecting the source advantages of a nation's firms in international competition. Michael Porter's theory suggests four distinct stages of national competitive development:

- ◆ factor driven
- ◆ investment driven
- ◆ innovation driven
- ◆ wealth driven

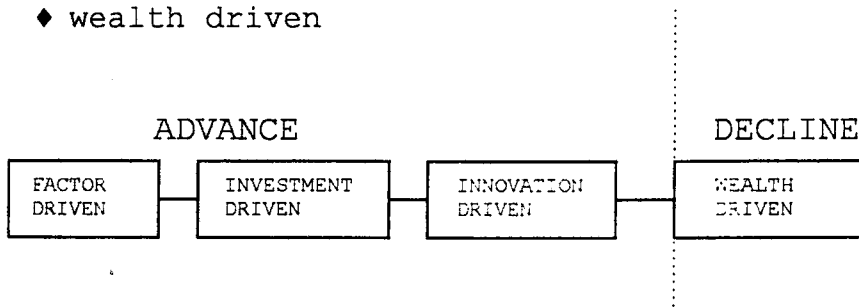


Figure 5. Four Stages of National Competitive Development⁽³²⁾

5.1. Factor Driven Economy

This is the initial stage. Industries draw their advantages from basic factors of production. This source of competitive advantage limits sharply the range of industries, and industry segments in which firms can compete successfully. Firms compete solely on the basis of price. Technology is sourced largely from other nations and not created. Foreign firms provide most of the access to foreign markets. In this stage an economy is sensitive to world economic cycles and exchange rates which drive demand and relative prices. It is also vulnerable to the loss of factor advantage to the other nations, and to rapidly shifting industry leadership. Nearly all developing nations are at this stage, as are virtually all centrally planned economies.

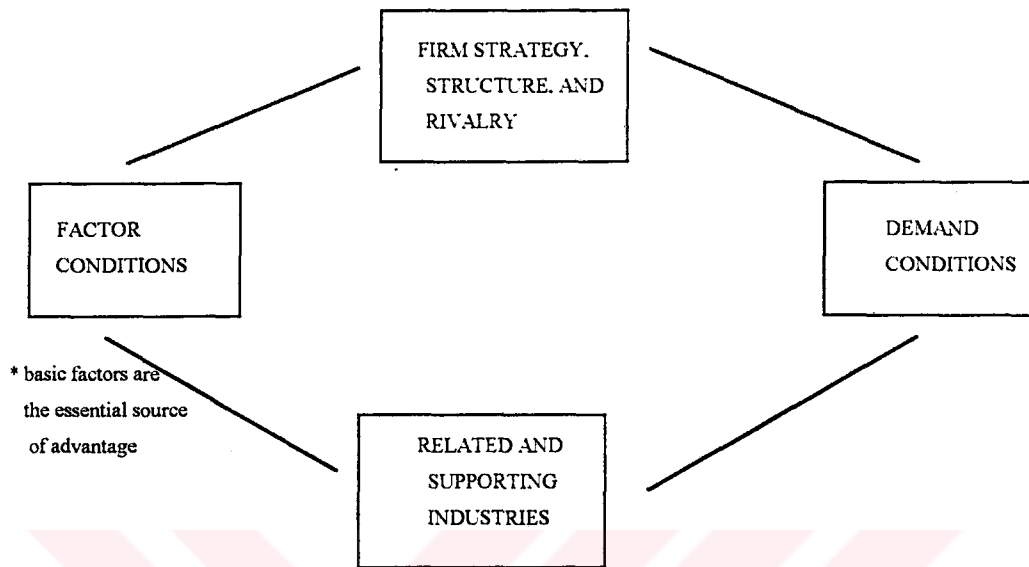


Figure 5.1. The factor driven economy⁽³³⁾

5.2. Investment Driven Economy

In this stage, national competitive advantage is based on the ability of a nation and its firms to invest aggressively. Firms invest to construct modern, efficient and often large scale facilities equipped with the best technology available on global market. They also invest to acquire more complex foreign product and process technology through licensees, joint ventures, which allow competing in more sophisticated industries.

The ability of a nation's industry to absorb and improve foreign technology is essential to reaching the investment stage, and is an important difference between

the factor driven and investment driven stages. Foreign technology and methods are mastered in house and firms from the nation begin developing their own refinements including their own product models.

Nations, the citizens and firms all invest to upgrade factors from basic to advanced, and create a modern infrastructure. The investment driven stage, as its name indicates, is one where the ability and willingness to invest is the principle advantage rather than the ability to offer unique products.

Increasingly skilled workers and a growing pool of technical personnel is still paid low wages. They provide the internal capability to assimilate and improve technology. Intense domestic rivalry forces firms to invest continuously to push down costs, improve quality, modernize processes. Essential to achieving this stage is that the nation's firms are risk takers. Competitive advantages include low cost, but more advanced factors and the presence of a factor creation mechanism.

Product designs are at least one generation behind the world's most advanced ones. Industries have many higher entry barriers than in the factor driven stage. Home demand is largely unsophisticated because the standard of living is modest. Upgrading competitive advantage in this stage is more from supply push than demanded pull.

Related and supporting industries are largely undeveloped at the nation in this stage. Production is almost based on foreign technology, equipment and components.

The role of government in such areas is channeling scarce capital to particular industries, promoting risk taking, providing temporary protection to encourage the entry of domestic rivals, stimulating and influencing the acquisition of foreign technology, and encouraging exports. Government also takes the lead in making investments.

The investment driven stage requires a national consensus. It favors investment and long term economic growth. A politically secure government and continuity in government officials are highly desirable to support advancement.

According to Porter, very few developing nations ever make the jump to this stage. More recently, Korea has succeeded. He mentions that Taiwan, Singapore, Hong Kong, Spain, and to a lesser extend Brazil are showing signs of achieving this stage.

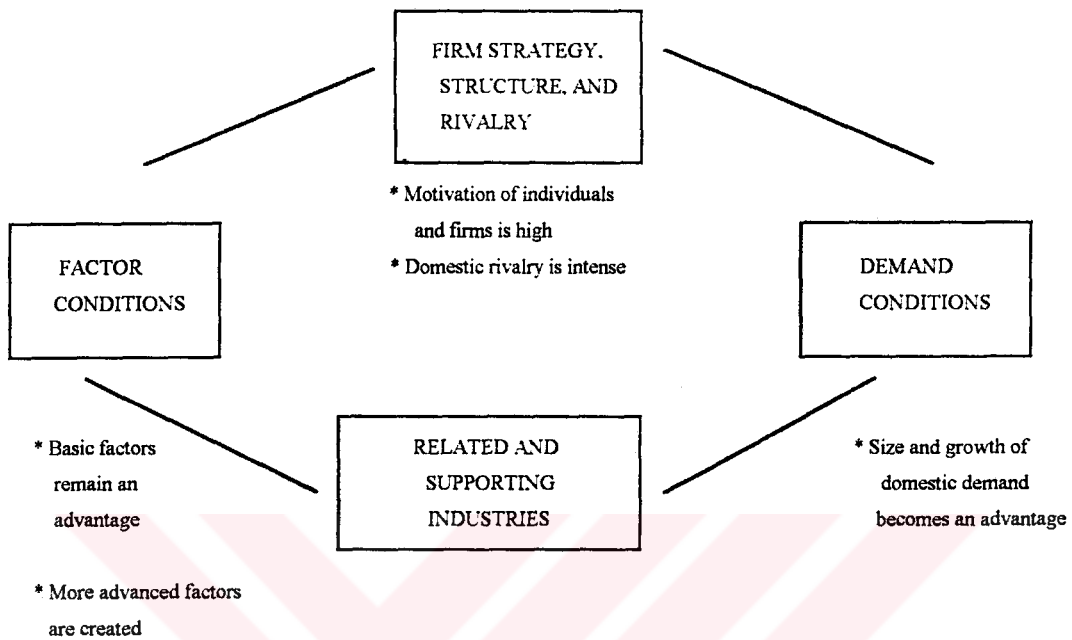


Figure 5.2. The investment driven economy⁽³⁴⁾

5.3. Innovation Driven Economy

In the innovation stage, the full diamond is in action. Consumer demand becomes increasingly sophisticated because of rising personal incomes, higher levels of education, increasing desire for convenience. New entries feed domestic rivalry, accelerating improvement and innovation. New competitive industries emerge out of related industries. Instead of factor cost advantages, selective factor disadvantages stimulate innovations. Porter called this stage innovation driven, because firms not only appropriate technology from other nations but create them.

Firms in an innovation driven economy compete internationally in more differentiated industry segments. According to Porter, they continue to compete on cost, not on factor costs, but on productivity due to high skill levels and advanced technology. He also explains that a growing international position in sophisticated services is also characteristic of an innovation driven economy.

In an innovation driven economy more advanced firms develop increasingly sophisticated service needs such as in marketing, engineering, testing. Industries are less vulnerable to cost shocks and exchange rate movements because they compete on technology and differentiation.

As an economy broadens and deepens, government can not keep up of every existing new industry. Therefore, governments' efforts are best spent in indirect ways such as stimulating the creation of more advanced factors, improving the quality of domestic demand and encouraging new business formation.

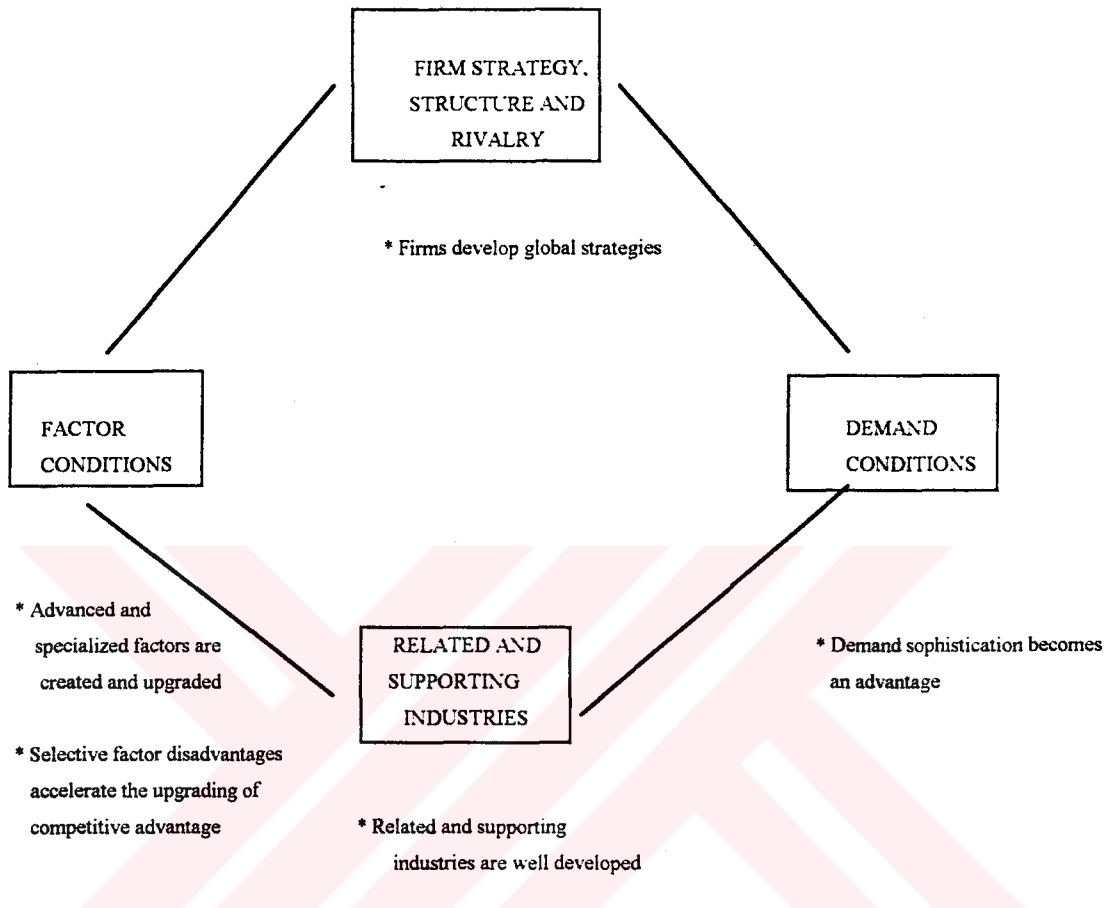


Figure 5.3. The innovation driven economy³⁵

5.4. Wealth Driven Economy

Porter asserts that the wealth driven stage is one that ultimately leads to decline, and the driving force in a wealth driven economy is the wealth that has already been achieved. He mentions that an economy driven by wealth in the past is not able to maintain his wealth, and this is because the motivations of investors, managers and individuals shift in ways that undermine

sustained investment and innovation, and hence upgrading.

Employees lose motivation as they reach high levels of income. Investment in financial assets supplants investments in real assets. According to Porter, a symptom that a company moves to the wealth driven stage is wide spread mergers and acquisitions. Companies with cash flow in excess of internal needs, seek rapid growth. Mergers may also reflect the desire to reduce rivalry and increase stability.

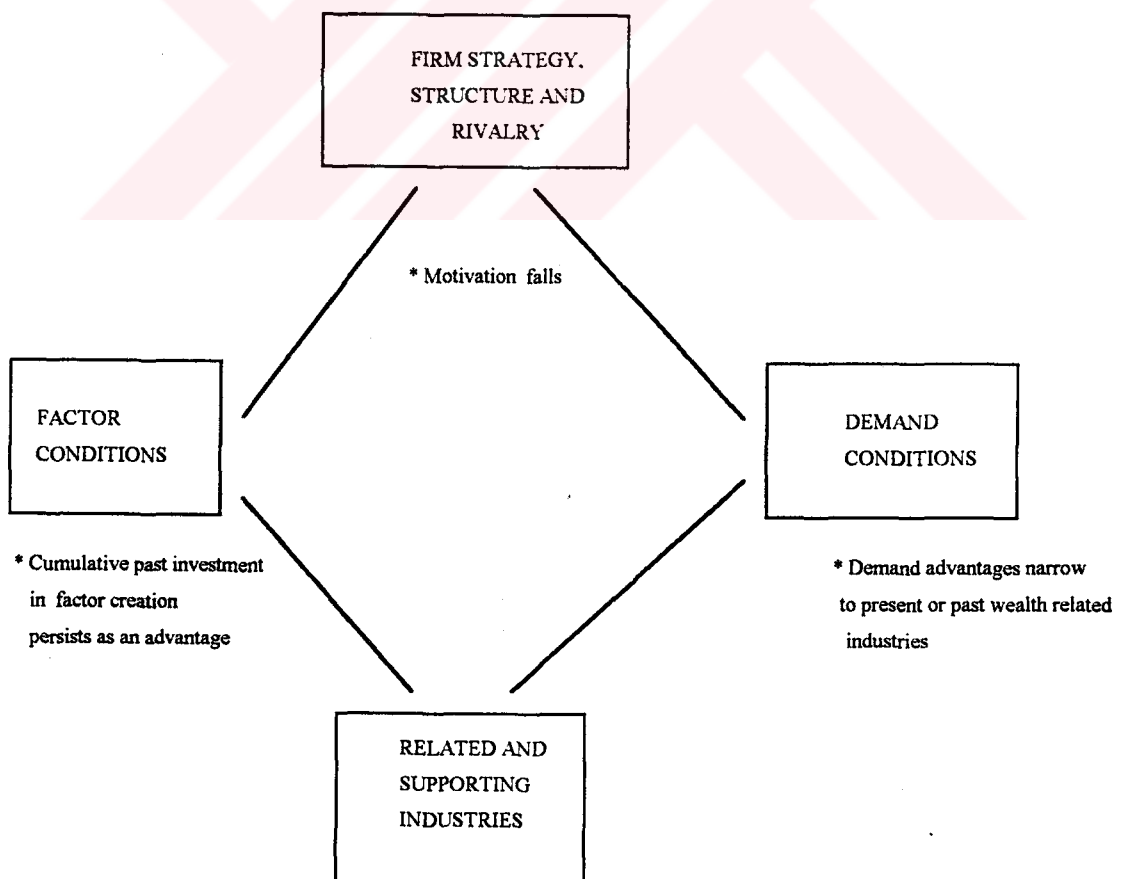


Figure 5.4. The wealth driven economy⁽³⁶⁾

6. GLASS INDUSTRY IN TURKEY

6.1. Recent History

Glass industry is considered as a preceding and delicate industry in Turkey since it creates many inputs for other industries by using latest technology and by using 98% domestic raw materials. Glass industry is also important due to its export potential. Turkey's production capacity was over 1 million tones per year at the end of 1995, and this is over 1.2% of the total world glass production. This ratio is 4.6 % in the EU ⁽³⁷⁾. These figures can be regarded as low at first glance; however, when compared to the Turkey's gross domestic product ratio in the world, which is 0.4% , 1.2% is an admirable success.

Türkiye Şişe ve Cam Sanayi A.Ş.⁽³⁸⁾, which was established in 1934, is the leader of the Turkish glass industry. In 1935, the first factory "Paşabahçe" for producing glassware was put into action. In 1960, there were around 30 small producers besides Paşabahçe and the total production volume reached to 70-80 thousand tones. After 1960, Şişecam accelerated its investments, and

opened many factories under different names. At the moment, Şişecam operates with its 34 participation and affiliated companies in glass sector⁽³⁹⁾.

In 1993, a reorganization work called "New Horizons Project" has been started under the consultancy of an English firm called the PA Consulting Group⁽⁴⁰⁾. The target of the "New Horizons Project" is to examine the whole group from top to the bottom, and find out the mistakes or missings in the structure, management and even mentality in order to become a more competitive company. A company mission, targets, and the strategies to reach to these targets are determined clearly. One of the most important decision has been to divide the group into four main departments according to the type of glass; i.e., flat glass, industrial glassware, household glassware, and other glassware products. This was achieved in 1995 and since then each department has its own targets and strategies⁽⁴¹⁾.

Şişecam can be regarded as a pioneering private investor in Turkey. The investments carried out in Mersin-Tarsus region, when completed, will be over USD 1 billion. This has been the largest amount invested for a project by one private company for the last 20 years. Şişecam uses its own resources to realize these investments. Furthermore, at the end of 1995, Şişecam exported to 107 countries with an income of USD 385 million. Şişecam aims to be the 2nd largest producer of glassware

products in the world in 1998 in terms of profitability and growth⁽⁴²⁾).

6.2. General Information about the Industry

Developing countries can increase their share of the world trade, and compete with the developed countries' relative advantages only by making intelligent investments in technology. The economic and industrial policies should be the enforcing forces for these technology investments. A stable and long term environment should be created to strengthen capital investments.

Glass industry is regarded as a delicate one especially in USA and EU, and has priority for protection policies. There are five main categories of products in glass and glassware products (The last two items can also be grouped as one).

- ◆ Flat glass
- ◆ Industrial glassware; glass bottles and other glass packing
- ◆ Household glassware; kitchen and table products
- ◆ Glass fibers; isolation products
- ◆ Other glassware products; mirrors, security glasses, glasswool, illumination products, tubular rods.

The two technologies used in flat glass production are grouped as the old and the new. The old one is called as the Pittsburg technology which is more labor intensive. It is created by Pittsburg Plate Glass Company. The new, capital intensive float glass production technology is regarded as the latest technology in the industry. It is first used by the Pilkington Company in the 1960s that captured a great deal of the market in Europe and is still the 3rd biggest glass producer in the world. This technology is also used by other manufacturers in the following years⁽⁴³⁾.

Float production technology has the characteristics of producing high quality glass, allowing dimension changes with the lowest loss, achieving non-stop production, employing less labor, and controlling the whole production process automatically. The production of other categories needs further processes.

Table 6.2.a. : Glass Production and Sales of Şişecam A.Ş.⁽⁴⁴⁾

	PRODUCTION <i>in 1000 tones</i>	SALES <i>in million USD</i>
1990	886	1,921
1991	871	1,641
1992	932	1,929
1993	947	1,816
1994	968	1,608
1995	1,048	2,196
%	18%	14%

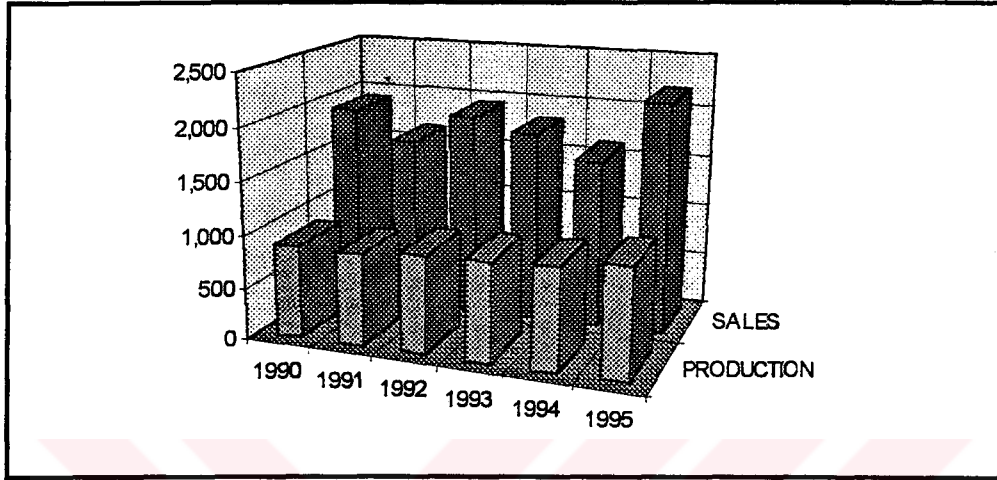
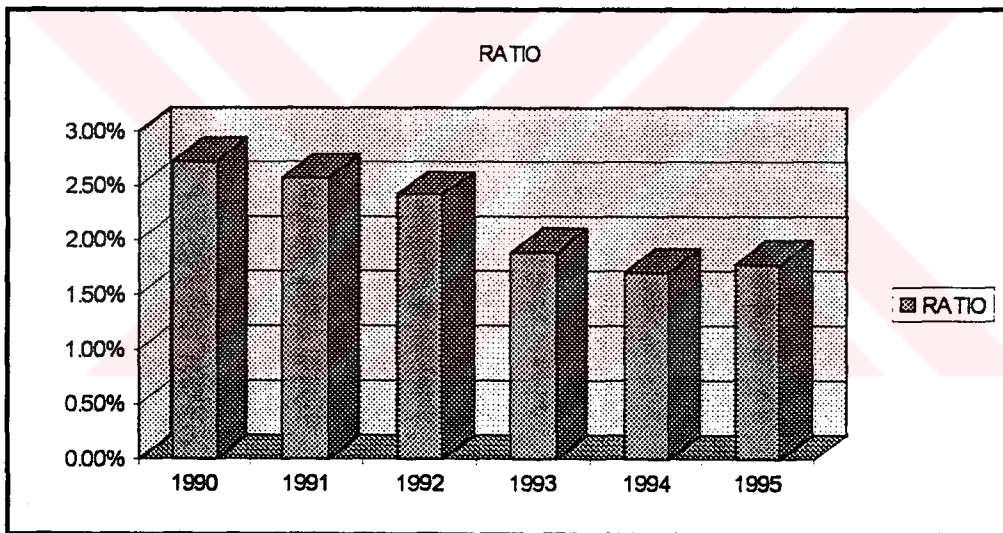


Figure 6.2.a.: Glass Production and Sales of Şişecam
A.Ş. (45)

As can be seen from the above table and figure, the glass production has constantly been increasing while the sales could only exceed 1990 figures in 1995. There are two main reasons for that. The low sales value in 1994 can be explained with the economic crisis. The high devaluation caused all the figures shrink in terms of a foreign currency. Besides that, the reorganization work that started in 1993 influences some changes in management, sales and marketing. The high sales volume in 1995 indicates the reorganization is being successfully implemented.

Table 6.2.b. : The exports of Şişecam in million USD⁽⁴⁶⁾

	ŞİŞECAM	TURKEY	%
1990	352	12,959	2.72%
1991	350	13,598	2.57%
1992	355	14,715	2.41%
1993	289	15,348	1.88%
1994	308	18,105	1.70%
1995	385	21,636	1.78%

Figure 6.2.b. : The ratio of Şişecam exports to Turkey's exports⁽⁴⁷⁾

From the above table and figures, one can see that Şişecam could not maintain the export figures that were achieved in 1990, 1991 and 1992. There is a sharp decline in 1993. Although in 1994, the export figure is higher than in 1993, the ratio continues to decline. In 1995, Şişecam succeeds a 385 million dollar export, however,

in terms of ratio, it is well below 1990. The situation can be explained with the same reasons of the total sales.

Table 6.2.c.: The production shares of different regions of the world. ⁽⁴⁸⁾

	<i>W.Europe</i>	<i>USA</i>	<i>Japan</i>	<i>Others</i>
Flat glass	20%	24%	12%	44%
Industrial glassware	18%	17%	6%	24%
Household glassware	29%	17%	13%	41%
Other	24%	27%	12%	37%

EU is the largest glass producer. In 1992, EU produced 23.2 million tones of glass with a value of ECU 22.2. USA produces 2/3, and Japan produces 1/2 of the EU.

Table 6.2.d.: The total glass production in million tones and its distribution in Turkey and EU countries in 1994. ⁽⁴⁹⁾

	<i>WORLD</i>	<i>EU</i>	<i>Turkey</i>
Total production (million tones)	88.1	24.9	1.21
Flat glass	30.64%	24.90%	42.76%
Industrial glassware	54.48%	63.45%	24.65%
Household glassware	5.12%	4.02%	12.32%
Other	9.76%	7.63%	20.28%
Total production	100%	100%	100%

The total glass production of Turkey reached to 4.8% of the EU countries in 1994 rising from a 1.3% in 1980. During the same period, the ratio for flat glass

increased from 2.6% to 8.4%, for industrial glassware from 0.6% to 1.9%, for household glassware from 3.1 to 15%, and for others from 4.6% to 13%. Turkey has increasingly given importance especially to household glassware, and thus has been one of the most important exporters to EU. The ratio of household glassware in total glass production is much higher in Turkey than in EU or in the world countries. This table shows that Şişecam has really found a gap and trying to fill it by giving the highest share.

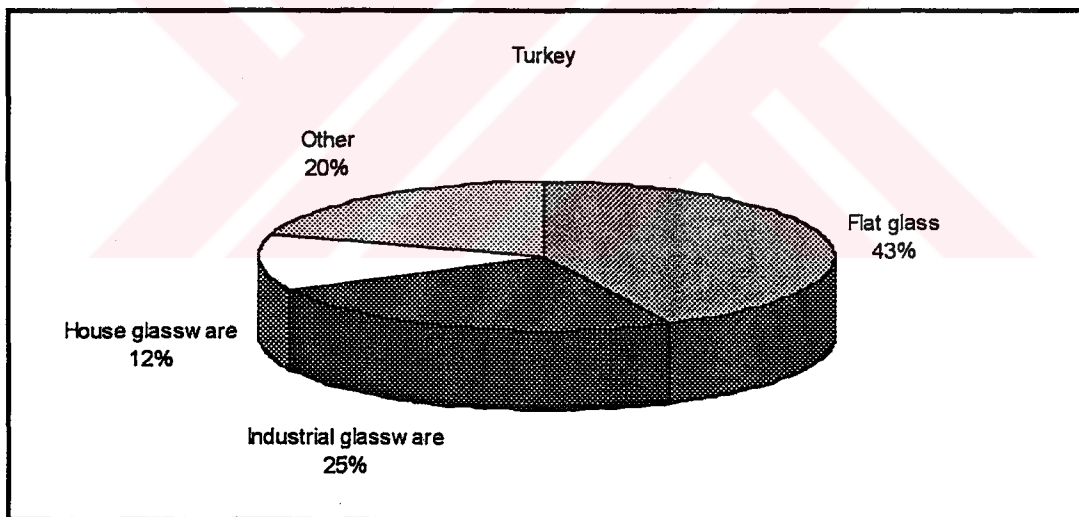


Figure 6.2.c. : The distribution of glass production in Turkey in 1994⁽⁵⁰⁾

In this figure, we can see that flat glass occupies the largest portion of the glass production in Turkey. Compared to the production ratio of EU, Turkey seems to give more importance to flat glass and household

glassware. This might be the main reason why Turkey is exporting a great amount of household glassware to EU.

Table 6.2.e.: The top 10 companies of the world in glass production in 1994⁽³⁾

Name of the Company	The Year Established	Total Sales (million USD)
Saint-Gobain	1655	11,480
Durand	1815	1,100
Pilkington	1826	4,700
Corning	1850	2,940
PPG	1883	6,021
Schott	1884	2,400
Asahi	1907	7,600
Nippon Sheet Glass	1918	1,800
Nippon Electric Glass	1949	1,400
ŞİŞECAM	1935	923

According to the interview realized at Şişecam, the ranking in 1996 is as follows: Saint-Gobain, Asahi, Pilkington, Schott, Owens-Corning, Corning, PPG, Owens-Illinois, NEG, NJG. Şişecam holds the 17th place in total glass turnover.

The growth rate of the Turkish glass industry has most of the time been greater than the average GNP growth. An estimation of 6-7% is supported by investments in new technology and an increasing domestic and foreign demand.

6.3. The Factor Conditions in the Glass Industry

Glass production requires a capital intensive investment based on fusion technology. Melting ovens (blast furnaces) are heated ceaselessly during certain periods. Energy is saved by keeping these ovens hot all the time, but, this leads to production surpluses. Glass industry requires continues investments.

There are two main characteristics in glass industry.

1) non-stop production 2) necessity to use high-capacity. Non-stop production aims to lower the high input costs, especially the energy input that is the pioneering one.

The main raw materials used in glass production are sand, soda, dolomite, feldspar, limestone and other additives. Soda, which is one of the most essential inputs, is produced in Mersin. On one hand, this can be seen as an advantage for the glass industry. However, on the other hand, the high inflation rate in Turkey can cause the domestic prices rise above international prices at certain periods.

The increase in the productivity rate of the machines, and the necessity for non-stop production leads to the necessity of making high scale production.

New investments have to be done every year just to maintain the present capacity. The high cost of the initial investment and the high modernizing costs make this industry a true capital intensive one. The amount of investment needed to renew a melting oven is between USD 10-15 million⁽⁵²⁾. The life cycle of an average oven changes from 4 to 10 years. Seven years can be taken as the average. Şişecam has 35 ovens; therefore, every year, 5 ovens have to be renewed⁽⁵³⁾.

In EU, since 1980, the usage of the capital intensive float technology has increased, and this caused around a %2 decrease in labor employment between 1985-1992. In Turkey, 5000 people became unemployed in glass industry between 1989-1993 which makes around 30% of the total employees. This was a result of modernization investments. As a result, the productivity in the glass industry increased and came to a level to compete globally.

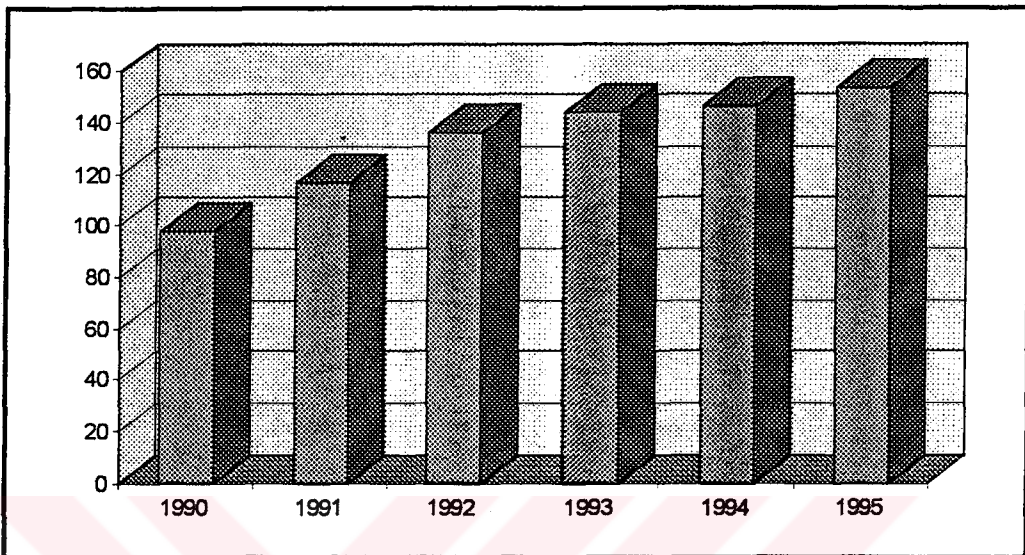


Figure 6.3.a.: Total glass production per employee in tones

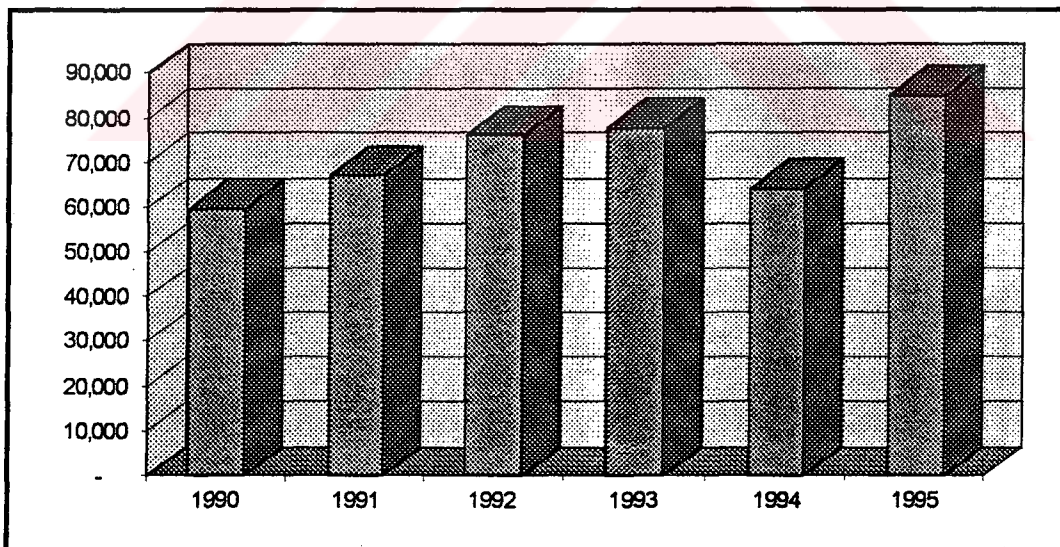


Figure 6.3.b.: Total glass sales per employee in USD

From these figures, we can see that in the last 5 years the increase in the production per employee has been

56% while the increase in sales per employee 43%. Both of them are very admirable amounts. The main reasons for such sharp increases are from reducing the number of employees. However, we can clearly notice from the figure 6.3.a and figure 6.3.b that sales have not been as much as the production. This leads to two alternatives. Either the stocks are increasing, or Şişecam started to produce cheaper products. The average wage of workers at Şişecam is highly over Turkey's average⁽⁵⁴⁾.

The productivity increased 43% in terms of sales per employee and reached to USD 84,959. Sales per employee calculated by dividing the total sales to the total number of employees in the world is USD 211,000. Therefore, the productivity in the world in terms of sales volume is almost three times more than in Turkey⁽⁵⁵⁾.

Another very important cost for the glass industry has been the energy. To lower the cost of energy, the ovens should be used with higher capacity. Therefore, searches have been made to find newer and cheaper sources of energy. Energy holds a ratio of 15-20% among the industrial costs, and this energy is divided as 44% natural gas, 37% fuel-oil, 10% electricity, and 9% LPG. Using natural gas and efficient use of the energy totally saved up a 30% of the energy costs in the last 15 years⁽⁵⁶⁾.

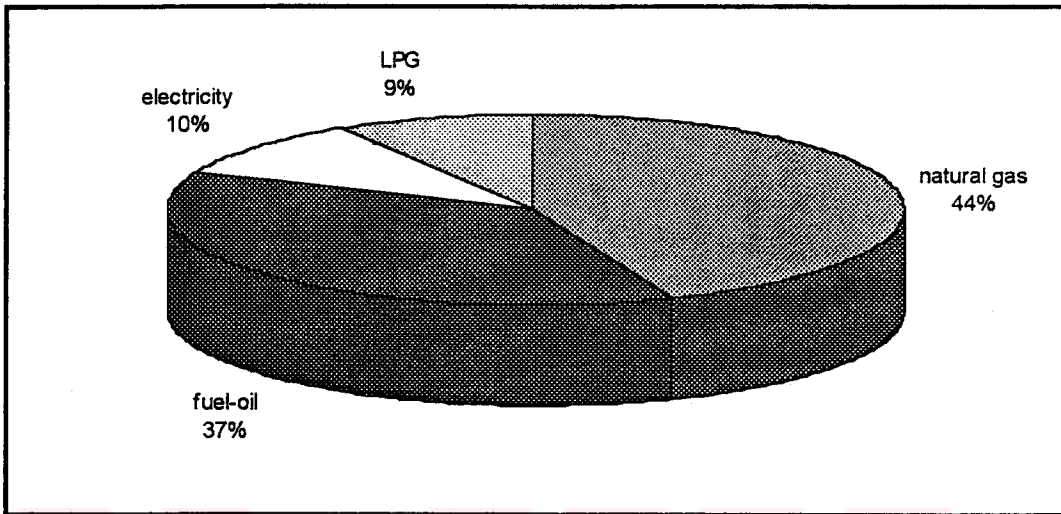


Figure 6.3.c.: The division of the kinds of energy used

In order to become more profitable, companies try to create brand image. Like most of other Turkish products, it is more difficult to create a brand image compared to its rivals in USA, Japan or West Europe. Giving know-how or transferring technologies are not very often in glass industry like in other industries. Therefore, technology becomes the number one item in achieving global competitive advantage. Foreign capital is very important for Turkish companies. These joint ventures will provide technology transfers, will enlarge capacity and bring economies of scale. Totally, there are 35 companies in glass industry today and the average share of the foreign investment is 40%.⁽⁵⁷⁾

Şişecam is trying to use the latest technology in the world in its factories. However, it can not create its

own technology yet. Glass industry is not like the computer industry where you can develop new technologies every day. Two companies have created technologies in the glass industry so far. Şişecam is adapting them into her factories. However, especially in the recent years, the importance of R&D in Şişecam has been increasing.

Investment is the key word at Şişecam. Continuous investments are being done at the factories, technology and human resources. Education is given to all employees. Workers, middle managers and top executives are educated throughout the year.

6.4. The Demand Conditions in the Glass Industry

There is a strong increase in demand variability in the glass industry. To satisfy this demand at the desired amounts, large scale plants are needed. There are seasonal changes in demand; however, production process continues regularly. Therefore, there is always a surplus and inventories cause a decrease in the profitability. The only way to make use of this surplus is to open to the export markets.

As in most of the developing countries, the glass consumption per capita in Turkey is also low compared to developed countries. However, the growth in Turkey is

around 7% in Turkey annually, while it is only around 3% in the world⁽⁵⁸⁾.

The positive trade balance of the EU fell between the years 1986 to 1992. The export import ratio in 1986 and 1992 was 2.19 and 1.42 successively⁽⁵⁹⁾. The EU is a net importer in terms of tones, but a net exporter in terms of value. This shows that EU based companies are the producers of more value added and high priced products.

Due to the Gulf War and the recession in Europe after 1990, both the domestic demand in Turkey and the foreign demand declined. Therefore, the stock figures increased between the years 1990-1993, and after 1993 it declined to the lowest levels. The import has also shifted when the Customs tax and duties were lowered to 25% in 1994 from a 150% in 1984⁽⁶⁰⁾.

The world recession that started in 1990 had come to an end in 1994. In 1995, the world economy and the world trade volume had grown 2.4% and 9.2% respectively⁽⁶¹⁾. However, the developed countries are still continuing slow growth policies to lower their trade deficits.

In Turkey, a 7% growth was recorded in 1995 against a 6.1% decline in 1994. The domestic consumption has increased rising the trade deficit. The Customs Union has been seen as the pioneering reason of the large shift in the import figures. Today, Turkey is still

facing with the problems of high inflation, high trade deficit, high domestic and foreign debts and political instability.

In 1986, Turkey exported to only 52 countries, while in 1996, the number of countries increased to 104. During the same period, the share of the exports made to the EU has augmented from 37% to 60%. Turkey exports half of what it produces. In the middle of 1980's, the export policy of Şişecam has changed and the exports are shifted from Middle East to EU where there is a more stable market. Germany is the pioneering export market for Turkish glassware products.

The demand in Turkey is very large due to the large population, and Şişecam sees it as an advantage. They are almost sure that they will sell their products in the domestic market. They are creating new products to attract new demand. These can be through new models in household glassware or industrial glassware. The latest development in the flat glass is the glass for glass houses. Especially, when the SAP (Southeastern Anatolian Project) starts to function smoothly there will be a lot of demand for the glass houses⁽⁶²⁾.

6.5. The Related And Supporting Industries in the Glass Industry

Glass industry creates inputs to many other industries; mainly, construction, automotive, beverage, food, white goods, furniture, pharmaceuticals and medicine, marine commerce, electric and electronic, sports, and recreation.

Flat glass is mostly consumed by construction and automotive industries. Industrial glass packing is used by food and beverage, pharmaceuticals and cosmetics industries. Household glassware is consumed by households, hotels and restaurants. Glass fibers are used in transportation, construction, automotive, electric and electronic industries. Other glassware products are used in many different industries. For example, glasswool is consumed for construction and infrastructure purposes.

Vertical integration brings the necessity to invest in raw materials, packing and marketing as well as the main product. Şişecam includes the following companies to produce inputs for glass production. Soda Sanayi A.Ş., Ferro Döküm Sanayi A.Ş., Makina Kalıp Sanayi A.Ş., Cam İş Ambalaj Sanayi A.Ş.⁽⁶³⁾. Unfortunately, in Turkey, some of the raw materials can not be produced under required specifications. The glass companies in the EU do not use vertical integration as much. Instead, they

work with specialized producers of the raw materials. So they can purchase the best quality raw material for a very reasonable price. However, Şişecam believes that the vertical integration in their group functions very well and all the supporting industries in their group have also got economies of scale so they are as competitive as their rivals in the rest of the world⁶⁴.

Horizontal integration provides product differentiation. This is achieved to a certain extent in Turkey in all groups.

6.6. The Rivalry And Firm Strategy in the Glass Industry

In the world, one can observe that, a limited number of companies have the highest market shares. It is only 10 companies that produces 70% of the total world production. In Turkey, as a total average, 87% of the total production is carried out by only one company. Due to high investment costs and large scales production, it is very costly to enter the market. As a result, an almost monopolistic market has been formed.

In order to have competitive advantage in glass industry, one has to create technology, not to transfer it. Technological developments stimulate production of high value added products by increasing productivity and saving costs. These new products play an important role

in augmenting the competitiveness and market share of a country in the international arena. For example, in EU, one of the main technological developments is the creation of the heat isolated glasses.

In Turkey, there are 35 companies functioning in the industry today. The majority of the market belongs to T. Şişe Cam A.Ş. In flat glass, that company covers more than 90%, in industrial glassware 90%, in household glassware 85% and in others like TV glass, semi-transparent glass 50% of the domestic demand. The competition comes from imported goods rather than local rivals. High entry costs avoid new entrants⁽⁶⁵⁾. For example, in household glassware group, Paşabahçe, Kırklareli Cam, Teknik Cam, and Denizli Cam belongs to T. Şişecam A.Ş. Toprak Cam belongs to Toprak Holding. Some of the other glass companies in Turkey are privately owned small processing companies.

Turkey has less competitive advantage in heat isolated household glassware, medicine bottles and small jars. The demand for these products is not high in the domestic market, and as a result there is no economies of scale in their production⁽⁶⁶⁾.

However, achieving economies of scale in the home market is actually not a success. It can even lead to laziness. The home market should pressure firms to improve and innovate. Additional scale is obtained by selling world

wide. Local rivals push each other to lower costs, improve quality and service, and create new products and processes.

Türkiye Şişe ve Cam Fabrikaları A.Ş. is a 62 year old giant company that includes 34 companies. It is established by an order of Atatürk in 1934. Mr. Adnan Çağlayan, the member of the board and general manager, gave detailed information about his group of companies in an interview carried out by "Dünya" newspaper⁽⁶⁷⁾.

They have invested around USD 700 million in the last 2 years, and are planning to invest USD 400 million every year until 2000. New investments in Mersin are over USD 1 billion. A USD 385 million of exports are realized to 107 countries in 1995.

Şişecam is totally managed by professionals. İş Bankası has 75% of the shares. The target of the company is to take the second position in the world rank order in terms of growth and profitability in 1988. Şişecam is negotiating for giving know-how to Egypt for the first time in its history.

Adnan Çağlayan announces that they are at the 2nd place in total world production of household glassware. After the latest investments are completed, they will be placed at the top. They are a very respected and

reliable company. Backed by İş Bankası, they did not face many serious financial problems.

At the moment, the French firm Durand has the highest market share of the total world production of household glassware with 8%. Arcoroc is its most well known brand also in Turkey. Adnan Çağlayan complains about the production campaign of a newspaper in his interview in Yeni Yüzyıl newspaper in March 1996. He says that one of the newspapers advertised Arcoroc brand in very large scale, and during this campaign they compared the unfragile glass type of Arcoroc brand with their fragile type glasses. It is like comparing an apple and a pear. They give wrong information and image to the Turkish Public. As a result, a Turkish newspaper has provided around 15% market share for a foreign firm.

Although the home market is monopolistic, the competition outside is very fierce.

Table 6.6.a.: Turkey's import markets and their capacities ^(a)

FLAT GLASS	Capacity
CIS	9,000,000 tones / year
BULGARIA	165,000 tones / year
POLAND	250,000 tones / year
ROMANIA	350,000 tones / year
ISRAEL	150,000 tones / year
CZECHOSLOVAKIA	...
HUNGARY	...
INDUSTRIAL GLASSWARE	
BULGARIA	370,000 tones / year
ROMANIA	...
HUNGARY	...
CIS	...
IRAN	...
SYRIA	...
EGYPT	...
HOUSEHOLD GLASSWARE	
INDONESIA	460,000 tones / year
MALAYSIA	...
ROMANIA	...
CZECHOSLOVAKIA	...
BULGARIA	...
MEXICO	...
BRAZIL	...
GLASS FIBERS	
MACEDONIA	10,000 tones / year
CIS	...
BULGARIA	...
ROMANIA	...

Majority of the imports are realized from the Russian Federation, Bulgaria, Macedonia, Indonesia and Malaysia. Turkey mostly imports flat glass, and household glassware products.

The main competitive advantages of Şişecam are its strong vertical integration, controlling the most important raw materials like soda, relatively lower wages than the EU, large domestic demand, brand image "Paşabahçe", and very well established distribution network. Şişecam continuously makes investments to maintain the existing advantages and to create new ones. Şişecam has started to think and act as a global company since 1960's. The strategies have been modified then to start a healthy globalization process⁽⁶⁹⁾

The main target of Şişecam is to become a global company backed by low costs, superior products and service. They claim to be the 2nd glass company in the world in terms of growth and profitability in 1998. The strategies to be followed to reach to the target are⁽⁷⁰⁾:

- To grow in global markets
- To use the latest technology
- To give priorities to large and stable markets. To watch the developing markets.

- To follow up growth policies that lead to not only quantitative growth but also qualitative growth which increase the competitive power
- To give more importance to strategic planning and make the investments on time
- To create new technologies by emphasizing on the R&D
- To evaluate the organization system continuously, and modify it according to the new conditions
- To participate actively in international glass foundations
- To create new strategies for the opportunities and threats, and implement them when necessary.
- To increase the quality and productivity of human resources
- To lower down the costs
- To be environmental friendly

6.7. The Government Policy in the Glass Industry

In Turkey, liberalization of the economy after 1983, has stimulated the glass industry to open its doors to foreign markets both by export encouragement and low import duties.

EU assisted the member countries to form common policies against unfair competition coming from ex-Comecon

countries and Far East. Having qualified labor force, different sources of energy and high technology, EU can sustain its competitive edge and profitability, if it can take precautions against the dumping policies of especially ex-Comecon countries' low priced products. The countries in the Far East are also extensively supported by their states. Together with relatively low energy costs, and low wages, state dumping becomes very effective in these countries.

The decisions taken under GATT laws bring restrictions to state supports. EU countries have taken a precaution as to increase the price of the imported product if that product had taken direct state support as dumping from its origin country. The increase in the price should be at the same percentage as the dumping.

EU has also maintained a quota policy to these countries. Before Turkey entered the Customs Union with EU, these third countries were using Turkey as a passage to Europe since Turkey did not have any restriction while exporting to Europe. However, since the beginning of 1996, Turkey also has to put the same restrictions and regulations to the third countries as the EU countries.

Normally, globalization decreases the power of the governments at home. Since a company starts to invest more in other countries all over the world, the risks

will be shared. Although the government at home has still got the prior importance, other parts of the world bring a kind of freedom to the global company.

6.8. The Role of Chance in the Glass Industry

"There are giant investments in this industry so it is difficult to mention about the role of chance. Well, if a bomb explodes in a nearby factory in another country, this will be a chance for us, and we will increase our market share and exports"⁽⁷¹⁾ jokes the executive at Şişecam.

Since it takes years to start producing glass from the date of decision, this joke actually stresses an important fact. Furthermore, having İş Bankası as the founder and main shareholder of Şişecam, I believe that the company is quite lucky in finding financial sources either in Turkey or from abroad.

7. CONCLUSION

One can conclude that the glass industry in Turkey is able to compete with Europe or other parts of the world taking the facts of labor cost, productivity, capital cost, quality, technology, qualified labor force, availability of the raw materials, domestic rivalry, country image, and geographic situation into consideration. However, the industry has general disadvantages because of unstable macro economic situation and insufficient infrastructure in Turkey. Therefore, at first hand, the macro economic situation of Turkey should become more stable.

Turkish glass industry gets its main power from ceaseless investments in new factories, renewing existing factories, and in human resources. Against all disadvantages like the lack of infrastructure, the glass industry has succeeded to export almost half of what it produces. The industry is also working hard to become a technology creator rather than just a user by giving more importance to R&D facilities.

Table 7.1: The general advantages and disadvantages in the glass industry

ADVANTAGES	DISADVANTAGES
• The quality and the technology are similar to the ones in Europe. • Soda, the main raw material for the glass can be obtained domestically, not imported like in Europe. • The labor cost is relatively cheaper. • ISO 9000 standards have been achieved • Large home demand • Financially supported by İş Bankası, one of the leading banks in Turkey • Actively participated in international foundations • Created a very well established distribution network • Skilled labor force as a result of education given • Recently more importance is given to R&D • Latest technology is used	• The number of qualified work force is limited. • Energy is expensive and there are not many alternatives like in Europe. • Insufficient infrastructure for transport and energy increase the cost. • There is no macro economic stability • The high inflation makes credits very expensive. Interest rates are very high. Investments can not be credited • Insufficient R&D facilities • Labor force productivity is one third of Europe • Domestic rivalry is very limited • New glass factories are being opened in nearby countries • Sometimes exports are not realized due to strong domestic demand • Scale of production is not as large compared to giant rivals.

Şişecam is represented in the official foundations in the EU like CPIV (The Glass Industry Committee in the EU), GEPVP (European Flat Glass Producer's Association), EDG (European Household Glassware Producer's Association), EGM (European Industrial Glassware Producer's Association), FEVE (European Industrial Glassware Federation)⁽⁷²⁾.

Nearby countries like Saudi Arabia, Iran, Egypt and Israel are heavily investing in glass production. The factories in the Arab countries are expected to be finished in 1-4 years. The new factory in Israel producing colorless flat glass threatens both our domestic market and our export markets like Egypt, and Italy⁽⁷³⁾.

Railroads are very widespread in Europe. They even reach to the factories of some big glass companies like Heye Glass and Flachglass. Therefore, these companies can easily get the raw materials like sand in their factory and transport the finished goods to the market. Whereas in Turkey, glass companies pay extra costs just to send their goods from the harbor. The harbor at Tekirdağ does not have enough capacity so all that are produced at Tekirdağ factories are carried to Istanbul Haydarpaşa harbor, and this adds an extra 3% to the total cost⁽⁷⁴⁾.

Another important difference is in energy costs. For example, according to the 1992 figures, the cost of

electricity in France was 0.048 \$/Kwh and in Turkey 0.085 \$/Kwh. Besides that, due to the electric cuts in Turkey, another 3% .in production efficiency had been lost every year⁽⁷⁵⁾ .

In EU countries, due to strong environmental campaigns, people are motivated to collect glass in certain places. Therefore, these glasses are easily used as raw material for the glass industry.

As a result, Turkish glass industry has the competitive advantages to compete globally. However, there are still a long way to go to compete with the world's giant companies; therefore, the disadvantages should carefully be examined and both the companies in the glass industry and the government should come together in order to improve all the shortcomings.

7.1. What Can Be Done?

7.1.1. Factor conditions

- ◆ Basic factor advantages should be turned into advanced factor advantages
- ◆ More investment banks should be opened to give longer term investment credits.
- ◆ The cost of credit should be reduced.
- ◆ There must be alternative sources of energy.

- ◆ The raw materials should not be found in a monopolistic environment.
- ◆ There should be better infrastructure for transport; like harbors, railroads, etc.
- ◆ More qualified work force should be educated
- ◆ Productivity should be increased
- ◆ More importance should be given to R&D to create new technologies
- ◆ All the factories that are supporting the glass industry should also work with economies of scale

7.1.2. Demand conditions

- ◆ In terms of environmental purposes, glass products should be demanded more, since glass is totally a recyclable product.
- ◆ It should be explained to the public that it is more healthy to consume food and beverages in glass packing rather than in plastics or PVC.
- ◆ As the home demand turns into better quality and more sophisticated goods, the local companies will try to adapt to this situation and will increase their competitiveness internationally. Sophisticated buyers pressure local firms to meet high standards in terms of product quality features and service

7.1.3. Related and supporting industries

- ◆ There should be more vertical and horizontal integration.
- ◆ There should be better coordination and information transfer among related industries
- ◆ The geographic positioning of related and supporting companies should not be very far from each other. The nearer the locations of suppliers to the firms, the shorter are the communications lines.
- ◆ All the factories that are supporting the glass industry should also work with economies of scale

7.1.4 Rivalry and firm strategy

- ◆ There should be more domestic rivalry. Local rivals push each other to lower costs, improve quality and service, and create new products and processes.
- ◆ Firms should make longer term plans.
- ◆ Investments abroad should be considered
- ◆ The organizational structure should be more flexible in order to better satisfy the customer needs.
- ◆ More investment should be done on technology. Firms should compete with each other with the technologies that they have created.

7.1.5. Role of government

- ◆ There should be macro economic stability.
- ◆ The glass industry in Turkey should be protected against unfair competition and unfair claims. Anti-dumping law and quotas should be as powerful as in the EU. Both the governments and vocational associations should be more active.
- ◆ Since glass is an industry where designs are very important, patent laws should be protecting the rights of the inventor.
- ◆ Support should be given to R&D activities by the state
- ◆ State should provide extensive information to exporters about political risks of the countries to be exported. Any changes in their import laws should be informed to our exporters.
- ◆ Necessary infrastructure investment should be carried out n-by the governments.
- ◆ The price of the raw materials produced by certain SEE should not be over world prices.
- ◆ Since glass industry is obliged to keep large inventories, longer term credits by Eximbank should be provided.

REFERENCES

- (1).ANTHONY, P. - D'COSTA, "State, Steel and Strength: Structural Competitiveness and Development in South Korea", Journal of Development Studies, October 1994, p.44
- (2).TOFFLER, Alvin, The Third Wave, 1980.
- (3).State Statistics Institute, "International Financial Statistics Yearbook", IMF
- (4).PORTER, Michael. Competitive Advantages of Nations, p.127
- (5).ibid, p.77
- (6).GÖKÇE, Deniz. Yeni Yüzyıl newspaper dated 15 August 1996.
- (7).Management Review, Sep 94, Vol 83, Issue 9, p.33-38, "Top Management Forum", London
- (8).SOLOMON, Stephen D. Technology Review, Oct 93, Vol 96, Issue 7, p.74-76
- (9).PORTER, Michael. Competitive Advantages of Nations, p.80
- (10).ANDREW Krmenec - ADRIAN Esparza, "Manufacturing and the Externalization of Services: A Theoretical Model", Regional Science Perspectives, 1989, p.29
- (11).PORTER, Michael. Competitive Advantages of Nations, p.84

- (12).Management Review, Sep 94, Vol 83, Issue 9, p.33-38,
"Top Management Forum", London
- (13).PORTER, Michael. Competitive Advantages of Nations,
p.86
- (14).ibid, p.89
- (15).Management Review, Sep 94, Vol 83, Issue 9, p.33-38,
"Top Management Forum", London.
- (16).HARARI, Oren. Mangement Review, Sep 94, Vol 83,
Issue 9, p.53-56
- (17).PORTER, Michael. Competitive Advantages of Nations,
p.100
- (18).ibid, p.107
- (19).Management Review, Sep 94, Vol 83, Issue 9, p.33-38,
"Top Management Forum", London.
- (20).PORTER, Michael. Competitive Advantages of Nations,
p.108
- (21).JEAN-CLAUDE, Tarondeau. "International Localization
Factors of Industrial Activities", Economies et
Societes, October 1993, p.55
- (22).PORTER, Michael. Competitive Advantages of Nations,
p.117
- (23).YOFFIE, David B. "Rival States, rival firms:
Competition for World Market Shares", Journal of
Economic Literature, September 1993, p.1462
- (24).PORTER, Michael. Competitive Advantages of Nations,
p.120
- (25).HARARI, Oren. Mangement Review, Sep 94, Vol 83,
Issue 9, p.53-56
- (26).ibid, p.53-56

- (27).HARRISON, Bennett. Technology Review, JULY 93, Vol 96, Issue 5, p.64
- (28).PORTER, MICHAEL E. The Competitive Advantages of Nations, p.617
- (29).GÖKÇE, Prof. Dr. Deniz. Daily article in Yeni Yüzyıl in February 1996. Based on the research executed by McKinsey Global Institute,
- (30).YOFFIE, David B. "Rival States, rival firms: Competition for World Market Shares", Journal of Economic Literature, September 1993, p.1462
- (31).MURRAY, Weidenbaum, "A Neglected Aspect of Global Economy: The International Handicap of Domestic Regulation", Business Economics, April a995, p.37-40
- (32).PORTER, Michael E., Competitive Advantages of Nations, p. 546
- (33).ibid, p. 547
- (34).ibid, p. 550
- (35).ibid, p. 553
- (36).ibid, p. 558
- (37).Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996.
- (38).Şişe Cam A.Ş. Türkiye Şişe ve Cam Sanayi A.Ş. occupies aound 91% of the total glass market in Turkey in general. Therefore, most of the time during this research, Şişecam is taken as the primary example.
- (39).Şişe Cam A.Ş. Interview with an executive.
- (40).Şişe Cam A.Ş. Annual Report of 1993

- (41).Şişe Cam A.Ş. Interview with an executive.
- (42).Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (43).Şişe Cam A.Ş. Interview with an executive in August 1996, and the Glass Industry Report carried out by the ISE (Istanbul Stock Exchange) in April 1995.
- (44).Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (45).Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (46).Undersecretary of Foreign Trade and T. Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (47).Undersecretary of Foreign Trade and T. Şişe Cam A.Ş. From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (48)."Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995
- (49).International Glass Review Autumn/Winter, 1995 and "İhracat" magazine printed by Orta Anadolu İhracatçı Birlikleri, March-April 1996 and Interview with an executive in August 1996.
- (50).International Glass Review Autumn/Winter, 1995 and "İhracat" magazine printed by Orta Anadolu İhracatçı Birlikleri, March-April 1996.
- (51)."Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995.

- (52). "Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995.
- (53). From the speech of GM Adnan Çağlayan at the opening of the new factory in Mersin in June 1996
- (54). Şişe Cam A.Ş. Interview with an executive in August 1996
- (55). Şişe Cam A.Ş. Interview with an executive in August 1996
- (56). "İhracat" magazine printed by Orta Anadolu İhracatçı Birlikleri, March-April 1996.
- (57). Undersecretary of Foreign Trade, Glass Industry Report 1994
- (58). "Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995
- (59). Panorama of the European Industry 94, p.5-29
- (60). "Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995
- (61). Şişe Cam A.Ş. Annual Report of 1995
- (62). Şişe Cam A.Ş. Interview with an executive in August 1996
- (63). "Glass Industry Report" carried out by the ISE (Istanbul Stock Exchange) in April 1995
- (64). Şişe Cam A.Ş. Interview with an executive in August 1996
- (65). Şişe Cam A.Ş. Interview with an executive in August 1996
- (66). "İhracat" magazine printed by Orta Anadolu İhracatçı Birlikleri, March-April 1996.

- (67).Dünya Gazetesi. 12.04.1996. p.15
- (68).“Glass Industry Report” carried out by the ISE
(Istanbul Stock Exchange) in April 1995
- (69).Şişe Cam A.Ş. Interview with an executive in August
1996
- (70).From the speech of GM Adnan Çağlayan at the opening
of the new factory in Mersin in June 1996, and from
T. Şişe Cam A.Ş. Annual Report of 1995
- (71).Şişe Cam A.Ş. Interview with an executive in August
1996
- (72).“İhracat” magazine printed by Orta Anadolu İhracatçı
Birlikleri, March-April 1996.
- (73).“İhracat” magazine printed by Orta Anadolu İhracatçı
Birlikleri, March-April 1996.
- (74).“Glass Industry Report” carried out by the ISE
(Istanbul Stock Exchange) in April 1995
- (75).“Glass Industry Report” carried out by the ISE
(Istanbul Stock Exchange)

OTHER SOURCES

BOOKS:

- KOZLU, Cem - "Türkiye Mucizesi için Vizyon Arayışları ve Asya Modelleri", Türkiye İş Bankası Kültür Yayınları, 1994.
- PORTER, Michael - "The Competitive Advantage of Nations", New York, 1990.
- PORTER, Michael - "Competition in Global Industries", Harvard Business School Press, 1986.
- PRICE WATERHOUSE - "Doing Business in Turkey", USA 8/93.
- TERPSTRA, Vern , SARATHY, Ravi - "International Marketing", Sixth Edition, The Dryden Press, 1994.
- TOFFLER, Alvin and Heidi - "Yeni Bir Uygarlık Yaratmak", Türk Henkel Dergisi Yayınları, 1995.
- YENTÜRK Nurhan, KEPENEK Yakup - "Türkiye Ekonomisi", Remzi Kitabevi, 1994.

MAGAZINES, BULLETINS AND ARTICLES

- ADNAN, Çağlayan - "Gümrük Birliğine Nasıl Hazırlanıyoruz", Türkiye Şişe ve Cam Fabrikaları A.Ş., İstanbul, 13.4.1994.
- ADNAN, Çağlayan - "Opening Speech of the Mersin plant of Trakya Cam", Türkiye Şişe ve Cam Fabrikaları A.Ş., İstanbul, 14.8.1996.
- ALPAR, Cem - "Türkiye'nin Yeni Dış Ticaret Modeli", İstanbul İhracatçı Birlikleri Birlik Dergisi, Ocak 1996.
- BERKOL, Değer - , "2000'li Yılların İhracat Hedefleri", Orta Anadolu İhracatçı Birlikleri Bülteni, Ocak - Şubat 1996.
- Cumhuriyet Gazetesi, "Cam ve Sorunları", 22 Mayıs 1991.
- Devlet İstatistik Enstitüsü, "Türkiye İstatistik Yıllığı", Ankara, Şubat 1993.
- Dünya Gazetesi, "Cam Sektörü", 16-25 Eylül 1992.
- Dünya Gazetesi, "Şişecam'ın Hedefi Dünya İkinciliği", 12 Nisan 1996.
- Devlet Planlama Teşkilatı, "Cam Sektörü Raporları", Aralık 1994, Ocak 1995.

- GÖKÇE, Deniz - "Avrupa'nın Bombası İşsizlik", Yeni Yüzyıl Gazetesi, Ocak 1996.
- Finans Gazetesi, "Borsa Şirketlerinin İhracat Potansiyelleri", 21 Şubat 1996.
- İNCESU, Yakup - "Cam Gümrük Birliğine Hazır", Orta Anadolu İhracatçı Birlikleri Bülteni, Kasım - Aralık 1995.
- İNSEL, Ahmet - "Rekabet Gücü ve İsyan Ettiği", Yeni Yüzyıl Gazetesi, Şubat 1996.
- İstanbul İhracatçı Birlikleri Birlik Dergisi, "Türk İhracatında Öncelikli Sektör ve Ürünler", Ocak 1996.
- ÖZDEMİR, Özlem - the Glass Industry Report carried out by the ISE (Istanbul Stock Exchange) in April 1995.
- ŞAHİNALP, Bülent - "İhracatta Uluslararası Pazarlama Stratejileri Rekabet Gücü Kazandırıyor", Orta Anadolu İhracatçı Birlikleri Bülteni, Ekim 1995.
- Türkiye Şişe ve Cam Fabrikaları A.Ş. Annual Reports of 1993, 1994 and 1995
- Yatırım Finansman Bülteni, "Cam Sanayi", Türkiye Şişe ve Cam Fabrikaları A.Ş. kütüphanesi.
- Yeni Yüzyıl Gazetesi, "Paşabahçe Dünya Liderliğine Aday", Mart 1996.

EK-A

ANKET SORULARI

GENEL

- 1.ŞİŞECAM'IN TÜRK CAM SEKTÖRÜNDEKİ KONUMU NEDİR?
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- 2.ŞİŞECAM NASIL BİR GLOBALLEŞME SÜRECİ İZLEMEDİĞİDİR?
- 3.ŞİŞECAM'IN TÜRK CAM SEKTÖRÜNDEKİ SAHİP OLDUĞU REKABET
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- 4.REKABET AVANTAJI YARATMAK VE MUHAFAZA ETMEK İÇİN HANGİ
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- 5.CAM SEKTÖRÜNDE ULUSLARARASI REKABET PİYASASI NASIL? BU
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- 6.CAM SEKTÖRÜ NEDEN TÜRKİYE'DEKİ BAŞARILI SEKTÖRLER
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7. ULUSLARARSI REKABET GÜCÜNÜ BELİRLEYEN FAKTÖRLER ÜZERİNDE YAPILAN ARAŞTIRMALARIN SONUÇLARINA GÖRE, DÖVİZ KURU VE ÜCRET MALİYETİ GİBİ DEĞİŞKENLERDEKİ DEĞİŞMELER, ÜLKENİN DIŞ PAZARLARDAKİ REKABET GÜCÜNÜ ANCAK KISA DÖNEMDE ETKİLEDİĞİNİ, UZUN DÖNEMDE İSE ÜLKELERE REKABET GÜCÜ VE YETENEĞİ KAZANDIRAN EN ÖNEMLİ FAKTÖRÜN TEKNOLOJİK GELİŞME, YARATICILIK VE VERİMLİLİK ARTIŞI OLDUĞU ANLAŞILMAKTADIR. ŞİŞECAM'IN BU KONUYA YAKLAŞIMI NASILDIR?
8. ŞİŞECAM'IN KULLANDIĞI TEKNOLOJİYİ, DÜNYADA KULLANILAN TEKNOLOJİYLE KİYASLAR MISINIZ? TEKNOLOJİYİ SİZ Mİ YARATIYORSUNUZ, YOKSA İTHAL Mİ EDİYORSUNUZ?
9. TÜRKİYE'DEKİ İŞ GÜCÜ VERİMLİLİĞİ DÜNYADAKİNE GÖRE NE DURUMDA?
10. ÇALIŞANLARINIZA EĞİTİM VERİYOR MUSUNUZ?
11. MEVCUT KAYNAKLARI GELİŞTİRMEK İÇİN NELER YAPIYORSUNUZ?

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12. TÜRKİYE'NİN TALEP YAPISI NASIL? ULUSAL TALEP YAPIMIZ GLOBAL TÜKETİCİ İHTİYAÇLARINI YANSITMAK BAKIMINDAN ŞİŞECAM'A YÖN GÖSTEREBİLİYOR MU? (KALİTE AÇISINDAN)
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14. TÜRKİYE PAZARININ DOYMUŞLUĞU NE DURUMDA? (İSTATİSTİKİ VERİLER VE GELECEK TAHMİNLERİ)
15. TÜRKİYE'DEKİ TALEBİN DURUMU SİZCE BİR AVANTAJ MI, DEZAVANTAJ MI?
16. İHRACAT YAPTIĞINIZ ÜLKELER HANGİLERİ? MİKTARLAR NEDİR? ŞİŞECAM'IN İHRACATI, CAM SEKTÖRÜNDEKİ TOPLAM İHRACATIN YÜZDE KAÇINA ULAŞMAKTA?
17. TÜRKİYE'YE EN YAKIN TALEP YAPISI OLAN ÜLKELER HANGİLERİ?
18. SON YILLARDA HANGİ TÜR ÜRÜNLERLE YENİ TALEP YARATABİLDİNİZ?

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19. TÜRK CAM YAN SANAYİNİN BÜYÜKLÜĞÜ VE RAKABET GÜCÜ NEDİR? GLOBAL PAZARDAKİ YAN SANAYİYLE KARŞILAŞTIRILDIĞINDA REKABET GÜCÜNÜ NASIL DEĞERLENDİRİYORSUNUZ?
20. İHTİYAÇ DUYDUĞUNUZ YAN SANAYİ ÜRÜNLERİNİ ŞİRKET BÜNYESİNDEKİ KURULUŞLARDAN MI KARŞILIYORSUNUZ?
21. CAM SEKTÖRÜYLE BENZERLİĞİ OLAN SEKTÖRLER SİZCE HANGİLERİ? (ÖRNEK: FOTOKOPİ TEKNOLOJİSİ KULLANARAK FAKS MAKİNASI ÜRETMEK GİBİ - AMPUL, SÜRAT MOTORU)

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22. TÜRKİYE'DE ŞU AN BİRBİRİYLE REKABET EDEN KAÇ FİRMA VAR?
23. MEVCUT REKABET DURUMUNUN GETİRDİĞİ AVANTAJLAR / DEZAVANTAJLAR NELERDİR?
24. ŞU AN PİYASAYA YENİ RAKİP GİREBİLİR Mİ? NEDEN?
25. TÜRKİYE'DE CAM SANAYİNİN AĞIRLIKLI OLARAK YER ALDIĞI BİR BÖLGE VAR MI?
26. ŞİŞECAM'IN GLOBAL PAZARLAMA STRATEJİSİ NEDİR?

27.ŞİŞECAM'IN MİSYONU, HEDEFLERİ VE BEKLENTİLERİ
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28.YURTDIŞINA KNOW-HOW SATIYOR MUSUNUZ? YATIRIMLARINIZ
VAR MI? (OFİS, TEMSİLCİLİK, DOĞRUDAN SATIŞ MAĞAZASI,
VS.)

DEVLETEN VE HÜKÜMETLERDEN BEKLENTİLER

29.TÜRK HÜKÜMETİ'NİN KAYNAK, TALEP, REKABET KOŞULLARI VE
SEKTÖRLER ARASINDAKİ İLİŞKİLER ÜZERİNDE ETKİSİ NEDİR?

30.HÜKÜMETİN ŞU ANKI İCRAATLARINI NASIL BULUYORSUNUZ?

31.REKABET GÜCÜNÜZÜN ARTMASI İÇİN HÜKÜMETTEN NELER
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32.SİZCE GLOBALLEŞME HÜKÜMETLERİN ROLÜNÜ AZALTIYOR MU?

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RESUME

- Name** : *SELÇUK BÜYÜKÖZER*
- Address** : Ortaklar Cad. Görüntü Sok. 12/7 Mecidiyeköy - İstanbul
- Tel** : 272 45 44
- Date & place of birth** : 13.09.1969 . İstanbul
- Nationality** : Turkish
- Marital status** : Married
- Education** : İstanbul Technical University. MBA program. Still studying. (1993 -)
Boğaziçi University. Bachelor of Science in Economics with a marketing minor. (1987 - 1992)
Nişantaşı Anadolu High School (1980 - 1987)
- Work Experience** : Export Area Representative and Export Manager in Kurtsan İlaçları A.Ş. (OTACI). Since May 1994.
- : Market researcher in Aviato A/S. A Danish company that manufactures and sells mobile telecommunication systems. September 1992 - August 1993. Denmark
- : Professional tourist guide. Guided tours all over Turkey for several tourism agencies. July 1990 - September 1992.
- Activities** : Member of the Executive Board of the Turkish-Uzbekh Business Council in DEİK (Dış Ekonomik İlişkiler Kurulu). Responsible for strengthening business relations between Turkey and Uzbekhistan through bilateral meetings. Since March 1996.
- : An active volunteer of Gençtur since 1985. Gençtur is a member of CCIVS-UNESCO (The Coordinating Committee for International Voluntary Services). Participated in 15 international workcamps, six of them being abroad. Demonstrated leadership and cross-cultural communication abilities by leading six international workcamps.

- : Being involved in Aiesec activities since 1992. Aiesec is an international student organization that exists over 75 countries all over the world. One of the main targets of Aiesec is to increase the cultural understanding and perceptivity in the business world by raising jobs for foreign trainees in domestic companies.
- : Being selected as the only representative of Gençtur to participate in an international seminar in the Netherlands. The topic was "International Volunteer Projects - Tool for Development and Cultural Exchange". Delivered the closing speech of the seminar.
September 1989.
- : Represented Gençtur in an international seminar arranged by "Arbeiter Wohlfahrt der Jugendwork" which is a youth organization dealing with leisure time activities, social rights, disarmament, etc.
February 1991.
- : Joined in a four week course on stock markets by Turyap.
October 1990.
- : Participated in an acting course directed by Şahika Tekand.
September 1991 - September 1992.
- : Member of Fine Arts Club and Folk Dance Club at Boğaziçi University.
1988 - 1989
- : Private tutoring in English, mathematics and science.
1988 - 1995

**Language
skills**

- : English.....very good
- French.....fair
- Danish.....fair

**Other
interests**

- : Reading business periodicals, traveling, swimming and dancing