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An integrated approach to the interconnected maritime services of Turkey

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AN INTEGRATED APPROACH TO THE INTERCONNECTED MARITIME SERVICES OF TURKEY

By

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DECLARATION

I certify that all material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Dissertation: An integrated approach to the interconnected maritime services of Turkey.

Degree: **MSc**

The dissertation is a study of the need for a new integrated maritime policy which will truly encompass all aspects of the Turkish shipping industry in a holistic, integrated approach. This (approach) is necessary for the growing economy of the Nation which is on the road to European Union membership. Therefore, instead of looking only at compartmentalized maritime activities, all economic and sustainable development aspects of the Turkish shipping industry, including the marine environment, should be handled in an overarching fashion. Accordingly, one of the main objectives of the Turkish Maritime Cluster study was to assess the significance and map the networks of this cluster in Turkey as well as to describe its National importance.

The economic output and the wealth created within the maritime industry is one of the main concerns of clustering studies. However, the well organized structure of the Cluster is an indispensable item to achieve the high economic output target. Therefore, a supreme body to take the regulator role in order to define this "well organized structure" such as in the case of the Dutch Maritime Cluster should be introduced into the Turkish maritime industry where self-regulating conditions prevail. The main aim of this thesis is to introduce the necessity of this supreme body within the cluster terms. Therefore, rather than focusing on the economic concerns which is the nature of the clustering regime, the need for a supreme body to regulate the cluster is explained. The developments and improvements in the national economy through a well organized Maritime Cluster are expected to be the natural result of the effective activities of the above mentioned supreme body.

KEY WORDS: Interconnected maritime services, Integrated Maritime Policy, Maritime Cluster, Harmonization of Services, Coordinating Body

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LIST OF ABBREVIATIONS

ABS	American Bureau of Shipping
BV	Bureau Veritas - (France)
DNV	Det Norske Veritas - (Norvay)
DTO	Turkish Chamber of Shipping - Deniz Ticaret Odasi
ENMC	European Network of Maritime Clusters
EU	European Union
FMA	Finnish Maritime Administration
GL	Germanischer Lloyd - (Germany)
LR	Lloyd's Register - (England)
MOT	Ministry of Transport
NKK	Nippon Kaiji Kyokai - (Japan)
NSC	North Sea Commission
RINA	Registro Italiano Navale – (Italy)
RO	Recognized Organization
SPO	Prime Ministry, State Planning Organization
TL	Türk Loydu - Turkish Lloyd
TPAO	Turkish Petroleum Corporation
UMA	Undersecretaries of Maritime Affairs
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific

CHAPTER 1

INTRODUCTION

The maritime industry development of Turkey is gradually increasing. The factors for that increase depend on many aspects such as the national maritime policy, investment opportunities for the private sector, quality and availability of labour. All these aspects need to be regulated through a strong, decisive management. However, despite the fact that there is a significant organic relation among these aspects, in most cases these are considered separately.

Furthermore, this separate approach raises a lack of coordination among the industry which causes negative affects on specific fields such as economy, labour safety and public perception/awareness. The 86% of Turkish imports and exports is being carried by sea transportation but only 20% of this carriage belongs to Turkish flagged vessels according to the statistics of Turkish Chamber of Shipping (DTO, 2008a). The increase in this figure through a more organized structure contributes to the National economy in terms of a more regular tax regime and the value of the ships as mortgageable assets. On the other hand, rapid developments in the ship building industry have brought fatal accidents together which is again a result of the relatively unorganized maritime industrial structure. In 2008, more than 50 ship yard workers had lost their lives due to unsafe working conditions in the boom of demand to Turkish shipyards.

Furthermore, the reactive approach of solving problems as they occur, results in the deviation in public awareness through wrong media information. In other words, due to the absence of a supreme body which might have a coordinating role in public-media relations beside its overall control of planning, managing and monitoring, even a very small incident is being amplified or attenuated through wrong media

news which might end up with serious damage both to labor safety and one of the most profitable sectors which is an economic asset.

In this respect, it is being thought that having a healthy, environmentally friendly and competitive cluster, which is able to coordinate its all services will contribute to the national economy, labour safety and the public perception/ awareness about the maritime related risks in a more proper way (Viitanen, Karvonen, Vaiste, & Hernesniemi, 2003). Moreover, public interests in issues such as the environment, labour safety, quality, availability of labour, maritime safety and most importantly public awareness, can only be improved through a synchronized industry with its all services. Therefore, an expanded maritime cluster picture needs to be depicted which covers the whole country. Thus, this dissertation aims to consider all the possible segments of the interconnected maritime services and analyze them in order to reach a conclusion and make remarks.

Nevertheless, maritime clustering can be observed in number of countries such as Finland (Viitanen et al., 2003), Norway (Benito, Berger, Forest, & Shum, 2003) and Holland (Wijnolst, 2004) and England (Associates, 2004) where the maritime industries of these countries are relatively developed and organized. The advantages of a cluster structure and the development processes can be exemplary cases when applying the clustering model to the Turkish maritime industry in order to provide an integrated approach to this field. Therefore, an analysis of these countries' implementation of the maritime cluster concept will be given in the preceding chapters in order to provide a comparative analysis.

On the other hand, the economical output and the wealth created within the maritime industry is one of the main concerns of clustering studies. In this respect, the well organized structure of the Cluster is an indispensable item to achieve a high economic output target. Therefore, a supreme body to take the regulator role in order to define this "well organized structure" such as in Dutch Maritime Cluster, should be introduced into the Turkish maritime industry where self-regulating conditions

prevail. The main aim of this thesis is to introduce the necessity of this supreme body within the cluster terms. Therefore, rather than focusing on the economic concerns which is the nature of the clustering regime, the supreme body to regulate the cluster is explained. The developments and improvements in the national economy through a well organized Maritime Cluster are expected to be the natural result of the good activities of the early mentioned supreme body.

Furthermore, the worlds' leading maritime countries debate the competition among each other in order to sustain their preeminence in maritime services through organized maritime clusters. In this respect, despite the fact that the maritime industry of Turkey is one of its leading industries, it can not be said that there is an organized maritime cluster which is coordinating all aspects in a harmonized way.

On the other hand, the maritime cluster concept is composed of different industries where the most important variables of the national accounts when looking at the different industries of a country are the gross value of production and value added. The gross value of production of an industry is about the same as the total turnover of that industry. The value added is the difference between the value of sales and purchases of the industry (Viitanen et al., 2003). However, in the light of the given information above, it is important to mention that this study will not focus on the economic output of the cluster to the nation in terms of the values that are added by the individual industries. The main aim of this thesis is to depict the related maritime services in Turkey and to explain the importance of the harmony among them and the introduction of the authority that can achieve the harmonization. The absence of harmony among the maritime services of Turkey reflects itself in a negative way for every sector that shows a positive trend such as;

- the labour safety problem emerging in the booming shipbuilding industry
- rather than finding grounds for the current problems of maritime universities the whole industry focuses on the new one to be opened in the education field
- the privatization process in ports faces too many bureaucratic obstructions

- legislative actions can be taken in favor of one group[1] in the shipping sector
- the maritime courts can not be efficient and legal cases may be too long
- the marine environment can be ignored due to trade interests
- risk analyze and risk management can never be achieved in a healthy way due to the absence of the consultation ground where all the relevant parties are gathered under one umbrella
- the fish farming sector grows and the marine habitat is influenced negatively

In other words, every positive and negative increase in each sector has a direct chain effect on the other services. Therefore, harmonization among them is crucial.

The need for a new integrated maritime policy which will truly encompass all aspects of the Turkish shipping industry in a holistic, integrated approach is thought to be necessary for a growing economy of a Nation which is on the road to European Union membership. Therefore, instead of looking only at compartmentalized maritime activities, all economic and sustainable development aspects of the Turkish shipping industry, including the marine environment, should be handled in an overarching fashion. Moreover, the integrated approach will not only provide an innovative approach, but also link stakeholders in the industry which will provide worldwide standards of shipping for Turkey. On the other hand, the integrated maritime policy with its overarching strategy provides an analytical framework and a selection of objectives to allow academics and policy makers to define and propose the actions needed to attain both these objectives and the overall goals of the National Maritime Policy. Therefore, there is a need to introduce the maritime clustering concept in order to analyze its applicability to the Turkish shipping industry.

[1] Joint decisions are considered to be the result of the absence of broad consultation ground which is thought to be maintained through a cluster mentality.

CHAPTER 2

ANALYSIS OF THE TURKISH MARITIME INDUSTRY

2.1. General Situation and the Problems of the Turkish Maritime

Turkey, having a coastline of approximately 8000 km, is situated to the southeast of Europe, south of the Russian Federation, northwest of the Middle East and northeast of the Mediterranean Sea where the European and Asian continents meet across the Turkish straits. Turkey has an access to Black Sea shoreline countries through the Straits, to Middle East and the South Africa through East Mediterranean, to Atlantic Ocean through Gibraltarian and to the far east through the Suez and has a significant geo-political and the geo-strategic position (DYP, 2000)[2].

The Asian, European continents come very close to each other in the area where the Republic of Turkey is located. Turkey's coast lines encompass her on three sides with the Mediterranean Sea to the south, the Black Sea to the north and the Aegean Sea to the west. The Marmara Sea is an inner sea within the national borders and the Straits are very important water passages, which open the Black Sea to the outside world.

The Turkish Straits are the only water route between the Black Sea and the Mediterranean and a waterway of strategic and economic importance. Approximately 90% of Turkish foreign trade is carried by sea transport to and from Turkey. Therefore, Turkish shipping has been one of the significant industries in Turkey with direct impact upon the economy.

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[2] DYP: Research Development Report of a Political Party of Turkey

In the beginning of 1990s the Turkish fleet had about 700 vessels registered under their flag and was listed as one of the 35 most important maritime countries and territories by UNCTAD. Turkish maritime fleet, with the 10.9 million dwt that she owns in 1996, has been the 16th in the World Maritime in between 1980-2006 however, has dropped back to 26th as of 2006, (Maritime Trade Chambers Sector Report, 2006).

The downfall of the Turkish maritime was mainly due to 1985-1988 economic crises in Turkey and 1998-2002 crises in the freight markets in the World. In addition to these, the fact that the maritime sector hadn't been approached through a harmonized government and private sector policy with which all the components of the Maritime Sector handled in a clustered manner, has also had a vital impact in the downfall.

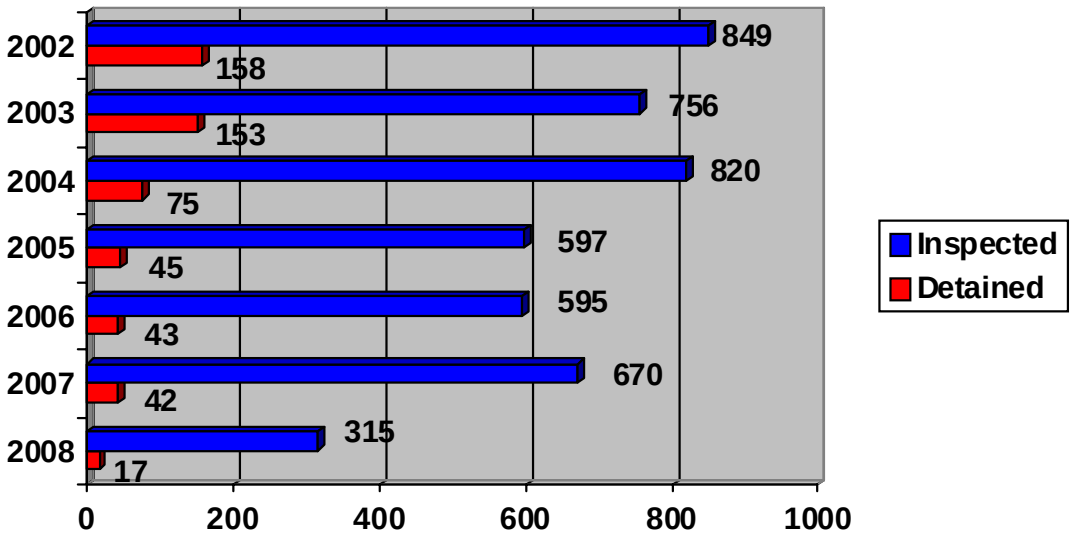
In 2002, as of the commencement of the Turkey's EU Membership negotiations, each sector, as well as the Maritime, has embarked upon the studies for the alignment of their sectors with the European Union Standards and within this framework the Twinning projects within Under Secretariat for Maritime Affairs (UMA), the Maritime Authority, has been launched and completed (Alm, 2007).

In this context, in order to satisfy the acceptable ship detention rate in European Ports which is one of the Paris Memorandum requirements and EU Membership Criteria, extensive studies on the alleviation of the number of the Ships detained in the European Ports have been made initially. The most important point in here is that, the Maritime Administration which has been supported by the private sector especially for the problems being encountered in the European Ports, has successfully accomplished implementations requiring severe commitment such as on pre-surveys[3] of Turkish flagged vessels prior to their departure to foreign ports. As a

3 In year 2004, due to the decision taken by the Maritime Authority of Turkey in order to decrease the number of detained Turkish vessels in foreign ports, all Turkish flagged vessels are subjected to a special survey which was named as a pre- survey that based on the criteria of Paris Memorandum of Understanding in terms of the Flag State implementations of Turkey. This implementation considered to be the major impact on Turkey's gray list performance.

matter of fact, the detention rates have had a significant decrease from 18% to 5.5% in between 2002-2008 (Table 1 and Figure 1).

Figure 1: The inspected and detained Turkish Flagged Vessels, 2002-2008



Source: DTO, 2008

Table 1: Detention Percentages According to Years

2002 : %18,61 2003 : %20,23 2004 : % 9,14 2005 : % 7,53 2006 : % 7,22 2007 : % 6,27 2008 : % 5,40

Source: DTO, 2008

Moreover, there are private sector oriented sector meetings within the incentives of the leading organizations of the sector. More often, these meetings' final acts considered as a Joint Statement[4] where the maritime issues of Turkish shipping is

4 Chairman of Minister of Union of Chamber and Commodity and the Minister of Maritime Affairs and Transport, Binali Yıldırım and Minister of Tourism and Culture, Ertuğrul Günay have signed a joint declaration consisting of 13 articles which determines the requirements, problems and the strategies of the Sector.

being discussed as hot topics. Recently made one of these kind of joint statement (problem obtaining) consists of 13 bullet points mentioned at following paragraphs.

However, generating solutions as the problems occur (reactive approach), no matter how good these incentives' management perception is, do not provide the necessary grounds for the Turkish maritime sector to take the adequate rank within the worldwide transportation. Furthermore, there is always a lack of and the need for the necessary grounds to provide a joint solution which requires a systematic approach. Namely, there is the need for a cluster in which the below mentioned statement of 13 articles and more can be approached with the rational causes. This cluster concept is already being implemented by the developed maritime countries (Germany, Norway, Denmark, Finland, and the Netherlands) through long ages and is needed by the Turkish Maritime in order to present all the components of the sector. In this respect, restructuring the Maritime Sector through a permanent, equitable and conclusive clustering which determines the legal, technological and human resources deficiencies in the maritime sector; provides the general picture that the maritime industry, the sub-industry and their components which are organically adhered can be displayed in detail, and in which each and every component of the sector is represented equally, will not only provide the Turkish Maritime Sector to conform with the quality standards of the developed countries but also will have direct and indirect positive impacts on national economy and will provide the opportunity to have the leading position in the region. This thesis aims to focus on the determination of the sector components of a possible future structure while summarizing the sector problems.

In the Council meeting the problems being encountered by the Maritime Sector has been elaborately discussed and after the discussions, a declaration consisting of 13 articles has been made public. The declaration involves the prior requirements and the problems of the Maritime Sector which ranges from the education to shipyards and from the increase of the shipment allocations to bureaucracy.

2.2. Joint Declaration for Maritime

Union of Chamber and Commodity Maritime Commerce Unions Council Meeting's Joint Declaration: (Mete, 2008a), (Lojistik & Haber, 2008), (Lojistik Haber 29.03.2008).

1- The Turkish Universities which provide the trainings of captains, engineers, officers and the qualified seaman should be supported through the implementation of STCW programme courses and the number and the quality of the Anatolian Vocational High Schools of Maritime should be increased. These implementations should be oriented to not only meeting the Turkish requirements and necessities but also the planning of the Turkish Seaman to take part in the international market.

   In this sense, the establishment of the Piri Reis University has been frequently expressed by the Council in all kinds of platforms for it will provide immense contribution to the Maritime studies, and it has been welcomed with pleasure.

2- A Master Plan for Turkish Shorelines should be prepared in order to prevent the misusage and arbitrary usage of Turkish Shorelines and in accordance with the general economic interests of our country.
3- In order to get more shares from the World Shipbuilding Industry; the legislative arrangements should be completed and Shipyard Servitude Legislation should be re-arranged for the assurance of the sustainable competitive capacity of the shipyard investments which has rapidly developed during the recent years.
4- Necessary adjustments for the reinforcement and the development of the Ship sub-industries should be made and sub-industries such as shipyard areas should be allocated.
5- In the external trade, Turkish Merchant Marine still carries out the 27% of the imported goods. For various reasons the merchant marine has not made any

progress for the last 10 years and on the contrary, the coaster transportation of the Merchant marine, which we have market dominance in Mediterranean and Black Sea, has been scaled down and the fleet is ageing and is about to deplete very soon. Therefore, long-term contract model should be perpetuated in the shipment of the public and private freights and the utilization of the Turkish flagged ships should be further fostered.

6- To provide the balance between the transportation modes, the legislative arrangements such as the nullification of the consumption tax of the fuel consumed in domestic transportation should urgently be made in order to ensure the increase of the share of the maritime transportation (3%) to the European Maritime transportation share levels (40%) as well as to assure the shift of the freight and passenger transportation to maritime industry.

   In order to develop domestic transportation, goods which are not on free circulation in the airside as well as the national goods on free circulation should be able to be shipped with Turkish Flagged Ships among the Turkish Shorelines with containers and furthermore the Turkish flagged ships should be enabled to load the customs free goods on free circulation.

7- In order to expand the fleet and the international maritime fleet share, it should be targeted to enable the expansion of the Turkish flagged and owned fleets and the necessary arrangements in the legislation should be made, accordingly.

8- Transit maritime transportation should be developed and refined from bureaucracy.

9- Motor vehicles tax should urgently be reduced to the world examples' level in order to expand yacht building and the amateur seaman.

10- Implementations such as "Round Table Method" should be enabled in order to shorten the time required for the permissions of shoreline construction facilities and marina investments.

11- Those marinas, the superstructure of which has been completed and that are allocated to Ministry of Tourism and Culture within the provisions of Code 2636 should be put into service for tourism sector as soon as possible.
12- Offshore vessel audits made by multi-authorized bodies should be eliminated and a single body should be authorized for these audits, as is the case in all EU countries.
13- Necessary measures should be taken for the transition to offshore fishery in order to increase fishery production. Each phase of the seafood, from fishing to public offering, should be harmonized with the EU standards.

Although each article of above mentioned joint declaration is extremely important for the development of the Maritime Industry, as it can clearly be understood from the context, the articles have not been ordered in a systematic way. This is thought to be mainly because of the problem oriented approach rather than having a broader perspective of Cluster mentality. Therefore the valid information of these thirteen points needs to be elaborated within the concept of a long term cluster understanding. In other words, a long term supreme authority where all the sector representatives including government, will be represented should be structured in order to produce long term solutions and policies for the unexpected problems of the industry where one affects the other directly.

2.3. Maritime Services of Turkey

The name given to the basic components of a Maritime Cluster may differ from one Cluster to another and it is important to use the most sensible word in order to define the Cluster correctly. In this regard, the Dutch Maritime Cluster uses the term "Maritime Sectors" as its sub-groupings and the London Maritime Cluster use the term "Maritime Services" (Dickey, 1999b). Both terms are found to be valid to define the Turkish maritime cluster for proper grouping. In other words, in the light of the Porter's cluster definition[5] of "interconnected companies, specialized suppliers,

[5] see Chapter 4

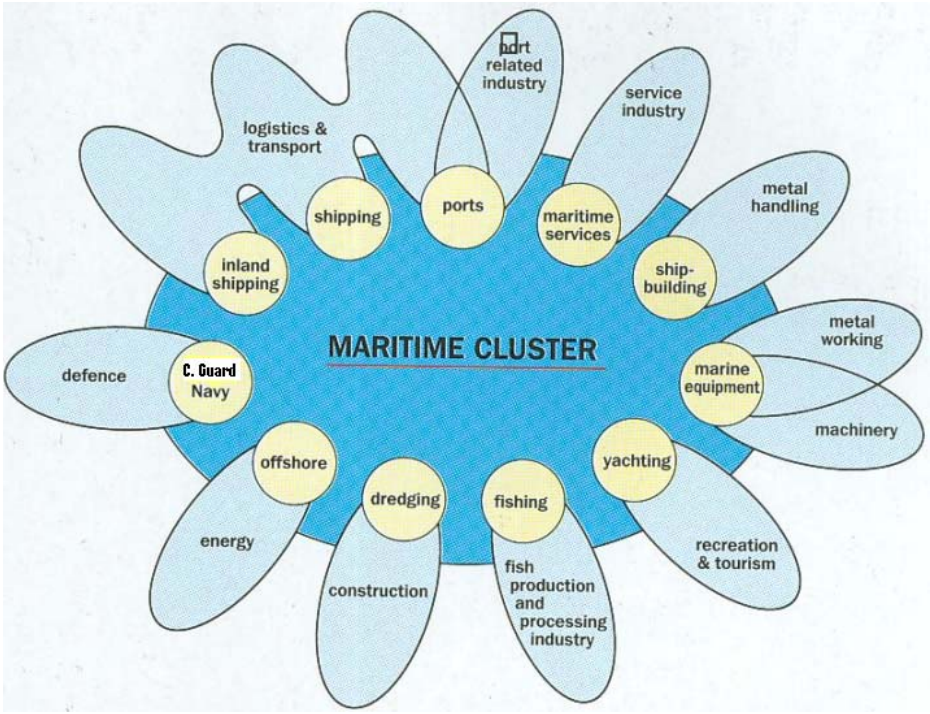
service providers, and firms in related industries" it is better to use the term "maritime services" for grouping in order to mean an interconnected supply chain as a whole cluster. Therefore, following grouping model from the London Cluster study which is originally from the Dutch Maritime Cluster[6] is combined and will be used to define the Turkish Maritime Cluster (Associates, 2004). Moreover, as according to the Professor Niko Wijnolst, maritime services are the cement which holds the entire cluster together, (Janssens & Oosterwaal, 2000). Therefore, the groping is important to see the relation among the interconnected services of Turkey which is as follows;

- **Shipping:** The main players of this service are the ship-owners, charterers, ship managers, shipbrokers, shipping agents
- **Intermediate Services:** Marine Insurers (capital providers, insurance companies, underwriters/managing agents, bankers, accountants, technical consultants and surveyors, legal advisors (lawyers, arbitrators, and average adjusters)
- **Maritime Governance and Regulation:** Turkish Government, International Maritime Organization and country representatives, classification societies
- **Support Services:** Commercial Consultants, Maritime Universities
- **Industry Associations:** National and international sector representatives, Turkish Maritime Trade Chambers
- **Ports:** Private Ports, Public Ports
- **Ship Building**
- **Marine Equipment**
- **Fishing**
- **Inland Shipping:** The lake of Van
- **Offshore:** oil rigs, the black sea region (Associates, 2004)

[6] Peters, C.et al.(1999).*De Nederlandse Maritieme Cluster;Economische Betekenisen Structuur,Nederland Maritiem Land serie #13.* Delft University Press, delft. Reproduced in Wijnolst, Niko, jan Inge Jenssen and Sibjorn Sodal, *European Maritime Clusters,* Dutch Maritime network in association with Agder Maritime Research Foundation, Norway, November 2003.

The below given figure illustrates the relation among the services and the sectors that they belong to.

Figure 2: Model Cluster for interconnected maritime services of Turkey & related sectors



Source: Dutch Maritime Cluster Magazine - June 1999

2.4. Shipping

2.4.1. Ship-owners

History of merchant ship owning in Turkey is relatively short when it is compared to the other maritime nations. Although the location of the country is suitable for maritime trade with the three different seas that encompasses her, early inhabitants of Anatolia, presently Turkey, had little to do with the sea and therefore the sea trade. Moreover, the absence of islands required no need for the people to get involved with shipping as it happened in the case of Greece. One another important factor was that the non Muslim business culture at the Ottoman Empire times. The trade was mostly done by the Jews and Orthodox Christians; the Muslims had entered the business world after the Republic Regime (Deval & Saman, 2005).

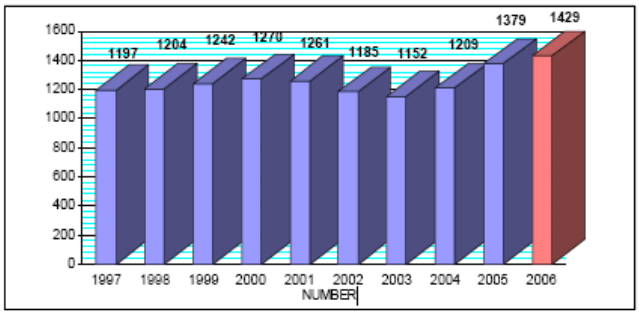
The oldest maritime foundation which was established in 1902 is the “Shipowners and Agents Association” which was historically named as "Chambre Maritime Des Compagnies De Navigation Etrangeres a Constantinople". In between 1902 and 1923 years of the foundation of the Turkish Republic, there was no any single Turkish flagged vessel for trade and there was no any Turkish Company to serve as ship agency to foreign shipowners. Due to these facts there were also no Maritime Trade Chambers. In 1982 the Turkish chamber of Maritime trade was established. Presently, there are 120 members of this chamber as Turkish owners (Deval & Saman, 2005). In accordance with the growth in the world economy through sea transportation, the numbers of the Turkish flagged vessels as well as their tonnage capacities increased. The shipping sector in Turkey has grown in importance especially in Black sea - Istanbul region. The reason that the first companies have grown in Black sea region is mostly the sea trade between former Soviet Union. Today Turkish tonnage capacity is about 10 million dwt. The general distribution in the fleet is given in Table 2 from the sector report of the Turkish Maritime Trade Chambers, 2006.

Table 2: Analysis of the Turkish Merchant Fleet Development by Number 1997-2006

SHIP TYPES	COUNT				DWT				GRT			
	IMPORT	BUILT	TOTAL	%	IMPORT	BUILT	TOTAL	%	IMPORT	BUILT	TOTAL	%
DRY CARGO	81	344	425	29,74	393.616	990.604	1.384.220	19,04	248.143	623.045	871.188	17,14
BULK CARRIER	90	10	100	7,0	3.165.467	325.863	3.491.330	48,02	1.853.545	199.105	2.052.650	40,38
OBO	1	0	1	0,07	77.673	0	77.673	1,07	43.487	0	43.487	0,86
CONTAINERS	16	16	32	2,24	221.746	137.969	359.715	4,95	182.455	101.857	284.312	5,59
DRY CARGO/CONTAINERS	0	9	9	0,63	0	60.101	60.101	0,83	0	41.209	41.209	0,81
CONTAINERS/RO-RO	2	0	2	0,14	13.820	0	13.820	0,19	8.786	0	8.786	0,17
OIL TANKERS	27	103	130	9,1	1.140.819	164.264	1.305.083	17,95	604.705	98.205	702.910	13,83
PRODUCT TANKERS	0	3	3	0,21	0	7.545	7.545	0,1	0	4.821	4.821	0,09
CHEMICAL TANKERS	26	22	48	3,36	121.346	105.009	226.355	3,11	77.894	73.511	151.405	2,98
VEGATABLE OIL TANKERS	1	3	4	0,28	3.130	3.456	6.586	0,09	2.123	1.804	3.927	0,08
LPG TANKERS	6	0	6	0,42	26.172	0	26.172	0,36	25.034	0	25.034	0,49
ASPHALT TANKERS	1	1	2	0,14	1.457	1.861	3.318	0,05	961	1.396	2.357	0,05
WATER SHIPS	2	14	16	1,12	1.036	6.620	7.656	0,11	625	3.821	4.446	0,09
RO-RO SHIPS	18	2	20	1,4	154.988	9.481	164.469	2,26	335.413	29.190	364.603	7,17
RO-RO/PASSERGER	6	5	11	0,77	11.765	3.881	15.646	0,22	33.494	6.274	39.768	0,78
FERRY BOATS	13	21	34	2,38	7.093	4.276	11.369	0,16	50.748	8.960	59.708	1,17
TRAIN FERRIES	0	7	7	0,49	0	7.291	7.291	0,1	0	11.266	11.266	0,22
TRAIN FERRIES/RO-RO	1	0	1	0,07	6.266	0	6.266	0,09	15.195	0	15.195	0,3
PASS. AND CARGO SHIPS	6	37	43	3,01	6.199	5.643	11.842	0,16	15.630	42.450	58.080	1,14
FISHING BOATS	1	169	170	11,9	800	3.915	4.715	0,06	347	51.944	52.291	1,03
RESEARCH SHIPS	3	1	4	0,28	353	0	353	0,0	1.121	433	1.554	0,03
HARBOUR FERRIES	9	38	47	3,29	1.490	6.571	8.061	0,11	6.667	18.089	24.756	0,49
PASSERGER FERRIES	21	3	24	1,68	619	117	736	0,01	8.689	1.185	9.874	0,19
HARBOUR CAR FERRIES	1	23	24	1,68	0	24.452	24.452	0,34	1.013	28.305	29.318	0,58
SHUTTLE BOATS	1	63	64	4,48	0	0	0	0,0	329	14.906	15.235	0,3
TUGS	27	82	109	7,63	3.865	1.190	5.055	0,07	16.946	19.239	36.185	0,71
SERVICE SHIPS	18	59	77	5,39	12.150	9.010	21.160	0,29	10.511	24.497	35.008	0,69
BARGE/FLOATING POSTOON	2	0	2	0,14	19.774	0	19.774	0,27	19.608	0	19.608	0,39
FLOATING CRANE	3	2	5	0,35	287	0	287	0,0	99.142	7.193	106.335	2,09
OTHERS	0	9	9	0,63	0	0	0	0,0	0	8.538	8.538	0,17
TOTAL	**383**	**1.046**	**1.429**	**100,0**	**5.391.931**	**1.879.119**	**7.271.050**	**100,0**	**3.662.611**	**1.421.244**	**5.083.855**	**100,0**

Source; Turkish Chamber of Shipping Annual Report 2007

Figure 3: Analysis of the Turkish Merchant Fleet Development by No (1997-2006)



Source; Turkish Chamber of Shipping Annual Report 2007

2.4.2. Charterers

The majority of the chartering landscape consists of family owned large traders and certain state owned companies. The import and export rates of Turkey are one of the biggest for its geographic region. Despite the high numbers of seaborne trade which is given at Table (3) Turkey does not provide a big room for charterers. The unwillingness to the shipping sector due to the proficiency based complex structure which requires professional skills is one of the facts that the large conglomerates do not get employed the vessels by themselves. Therefore these large conglomerates prefer to utilize foreign logistics companies. There were attempts by the Turkish Government to promote the shipping industry. This was the law arrangement for the carriage of all exports and imports goods by the Turkish flagged vessels where the offered freight rate should only be 10% dearer from the foreigners. However, the lack of necessary tonnage and the competitiveness of foreign owners made this law ineffective which ended in favor of the second registry (Deval & Saman, 2005).

Table 3: Development of the Seaborne Trade (1997-2006) Million Tons

YEARS	TOTAL	EXPORT	IMPORT	TURKISH FLAG	T/F %	F/F %
1997	112.373.431	37.009.695	75.363.736	32.935.901	29,3	70,7
1998	104.076.233	24.773.274	79.302.959	33.856.861	32,5	67,5
1999	110.901.420	32.923.267	77.978.153	31.792.427	28,7	71,3
2000	118.248.056	32.291.101	85.956.955	36.082.371	30,5	69,5
2001	113.414.358	40.633.756	72.780.602	35.196.754	31,0	69,0
2002	125.244.852	39.065.012	86.179.840	41.178.590	32,9	67,1
2003	140.150.438	41.476.801	98.673.637	39.745.043	24,8	75,2
2004	151.755.314	47.058.194	104.697.120	34.918.160	23,0	77,0
2005	181.584.894	54.509.720	127.075.174	43.068.271	23,7	76,3
2006	202.771.826	62.915.898	139.855.928	42.089.031	20,6	79,4

Source; Turkish Chamber of Shipping Annual Report 2007

As a result of the Turkish Governments huge road and highway expansion plans, the manufacturing companies of textile, various bulk commodities, electronics, and steel mostly use the inland transportation to and from Europe. Therefore, Turkish charterer fixes vessels only for the domestic demand. Another fact is that there are no international trading houses such as U.S. Cargill and the non-considerable amount of the minerals resources such as gas and oil, do not require carriage of these raw materials and as a result charterers. The importance of sea transport in the movement of raw materials has been observed in the historic trading organizations of Western Europe.

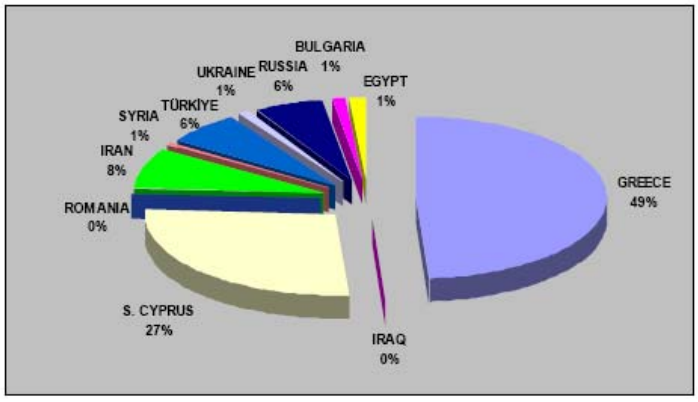
There was a boom in chartering during the 80's expanded the chartering volumes. However this trend was ended by a fall due to a general economic decline through whole Country. The political and the bureaucratic obstructions in front of the privatization process which have started at late 90's, stunted the growth of the government owned companies such as the company Eregli Celik (Steel Factory).

The main goods that are being carried by the large manufacturing companies are the raw materials of steel from former Soviet Union, the bulk commodities, and finished

goods that are carried by containers. The development in the production of the finished goods like electronics that are mainly exported to other countries, have had a significant importance on the facilitation of the new container terminals which meets the demand for container transportation.

On the other hand, increase in the chartering activity is not parallel with the increase in the quantity of Turkish chartering and logistic companies. In other words, the expected level of increase in chartering and logistic companies is not enough to meet the increase in chartering activity in Turkey. The reasons for this are the; the domestic demand limited chartering and chartering raw material that is limited to production needs. Therefore it can be concluded that the chartering in Turkey is under the domain of large firms which are involved in the production of goods. They do not get involved in third party traders (Deval & Saman, 2005).

Figure 4: Turkish Merchant Fleet and the Neighboring Countries (01.01 2007)



Source: Turkish Chamber of Shipping Annual Report 2007

2.4.3. Brokers

Broker services structure in Turkey is similar to the ship owning sector. As a result of being a sub service to the shipping, brokering has improved after the 80s. The number of individual shipbrokers in Turkey has increased within the change in the shipping sector which became highly sophisticated in comparison to previous years especially at the mostly concentrated places of London and New York.

During the early days of Turkey, cargoes were being fixed within two state co-operatives where the biggest companies were state owned. Therefore, ship owners were looking for cargo orders from these state owned organizations which were almost the only way for ship owners to employ their vessels. Accordingly, there were very few fixings through foreign brokers to foreign trades. In other words, the commissioners who have the similar role to brokers were in place during the trade.

The need for brokers began to be felt after the growth in economy and the decrease in the importance of the state owned companies. The very first broking houses were established around 1970s. The sea experienced community and the previous commissioners supplied the workforce. This trend is still prevailing among the whole sector.

The increase in the global trade and the foreign business party's impact on owners provided ship owners to work through brokers. Therefore, this impact resulted with the increase in the number of broker companies. General trend of brokering in Turkey is in house brokering. Independent brokers are also active among the sector. However, the independent broking houses are very rare. On the other hand, in house brokering who operates within the company is more common. The relation between chartering and brokering in terms of the demand and supply factors is the main reason that the independent brokering is not developed in Turkey. In other words, as

it is mentioned earlier, the less capacity of chartering has a direct affect on the independent broker activities in Turkey (Deval & Saman, 2005).
The main operation field of brokers is the dry bulk shipment due to the great share of dry trade in Turkish fleet therefore Turkish owners. One of the weak areas of brokering in Turkey is the sale and purchase area. This situation is being explained through the illiquidity in the market which might be the reason of the growth of in house brokering where there is no dynamic flow of sale and purchase activities in Turkey.

On the other hand, according to an interview with an owner; the request from the world wide charterers forced the ship owner companies to establish their own broker companies as in house brokers which there have been no any domestic ones before.

The primarily skilled labour to the availability of the management is one of the advantages of brokers in Turkey as being one part of the interconnected maritime services. On the other hand close relationships among the brokerage services are the very difficult barriers in front of the new participants who seek for a market share.

Naturally the main important participant of the Turkish cluster for the brokers is the charterers. Secondly the banks play an important role. Other participants; ship management companies, P&I clubs, marine insurance/brokers, international organizations and class societies. Among these organizations, the threats of; state intervention, lack of advantageous tax regime are considered mostly.

In terms of competition, London and Piraeus Clusters are considered to be the most competitive sectors for Turkish maritime services. London is perceived as incredibly dominant as being the centre for charterers and Greece is for the fleet that they owned. Skilled management, access to capital, legal services, cost of ancillary services, customer base and infrastructure are main advantages for these Clusters.

The belief in the growth of the Turkish Cluster and therefore the brokerage services in Turkey mainly depend on the factors of certain reforms that are applied for EU membership, the general size of the economy and the growing importance in Istanbul as a World wide city. The development in communications technology in a global perspective is one of the main factors that the brokerage services are improving globally and therefore in Turkey as well.

2.5. Banks

The financial issues have always been problematic for Turkish business world. The capital problems seem to be the main reason behind this situation as according to the business community. The side affect of this general economic issue is also observed for maritime business. There is no any bank which primarily established for maritime investments. Presently, the banks that work with shipping companies are Finansbank, Denizbank and Garanti Bankasi. The table given below reflects the total actives and the total capitals of top 20 banks of Turkey. However, only two of these banks have the exposure to shipping with the largest being less then a billion dollar. None of these banks provide any loan service for new building projects above coaster size and for projects in foreign yards. Providing letters of credits, bridging loans are the primary services that they provide. The reasons for this limited service are the absence of expertise and the non-payment of loans in the recent economic crisis. Therefore, the bank community views the shipping industry with suspicion. Nevertheless, due to the increase in freight rates and the unprecedented profitability attracted some banks such as Garanti which is mentioned above. The Turkish Code of Commerce which is adopted from the German Code and the Turkish Law of Execution and Bankruptcy have recently caused to concern to financers of Turkish flagged vessels. The deletion of vessels sold by auction outside of Turkey and the enforceability of Turkish mortgages has been the main issues affecting Turkish financing (Yerlikaya, 2004).

Moreover, Turkey itself is not an investment grade nation which can compete against the developed nations financial institutions. Therefore, the banks are in a disadvantageous position to grow in this sector. Foreign banks do show interest due to the size of the fleet also. For future prospects, only a balanced and expanding Turkish fleet will provide Turkish maritime banking to grow (Deval & Saman, 2005).

Table 4: Leading Turkish Banks

BANKS	TOTAL ACTIVE	TOTAL CAPITAL	NET PROFIT	BRANCH	EMPLOYED
1-Ziraat Bankası	57.305.836	4.754.907	897.625	1.146	21.037
2-İş Bankası	46.715.534	8.065.170	464.533	864	16.332
3-Akbank	44.672.641	5.610.615	777.507	646	10.938
4-Garanti Bankası	28.997.203	3.395.618	315.572	360	9.902
5-Vakıflar Bankası	27.376.283	2.268.405	208.376	298	7.202
6-Halk Bankası	24.806.838	2.865.404	261.810	595	10.841
7-Yapı ve Kredi B.	24.798.545	4.439.006	-123.756	405	10.361
8-Koçbank	11.469.233	817.311	92.928	170	3.705
9-Finans Bank	10.455.013	1.202.447	176.421	184	5.951
10-Denizbank	7.629.919	925.649	110.144	205	4.629
11-Türk Dış Ticaret B.	7.280.542	1.005.197	25.657	173	3.907
12-Oyak Bank	6.948.327	933.638	199.304	300	4.356
13-HSBC Bank	6.237.264	1.043.357	126.852	159	3.787
14-Türk Eximbank	4.169.451	1.748.969	159.515	2	360
15-Türk Ekonomi B.	4.144.587	425.052	42.073	98	2.346
16-İller Bankası	3.372.652	2.451.729	51.476	1	2.662
17-Şekerbank	3.206.302	316.019	19.022	201	3.455
18-TSKB	2.714.436	434.639	48.297	2	271
19-Citibank	2.102.153	419.916	64.376	24	1.469
20-Anadolubank	2.033.400	176.425	16.426	58	1.164

Source: quoted from (Deval & Saman, 2005)

2.6. Law Firms

There are a few number of law firms located in Istanbul which are relatively small outfits in comparison to foreign firms especially the English ones. The law services are provided through the domestic firms due to the current law application in Turkey which allows litigation of only the Turkish nationals in Turkish law courts. The pressure from the shipping community and the Turkish Maritime Trade Chambers has lead the government to establish a separate law court for maritime cases, namely Deniz Is Mahkemesi (Maritime Business Court). In relation to the aim of this thesis, it is crucial to analyze this pressure. As stated earlier, this decision has been made by the government as a reactive approach to the request of the related maritime business environment members. However, it is more important for Turkish maritime future to take such decisions in a more organized and coordinated manner and obviously there should be a mid-term, long-term strategic planning system that would be provided through a coordination body. On the other hand, this statement does not necessarily mean that the action taken to establish such expertise based courts was wrong. In other words, the decision which is given after a certain pressure from the players of the maritime business was precisely right, however the way that is handled, such as decision-making in joint declaration events, was arguable.

The expertise at the Maritime courts is also a matter of concern. According to some statistical information, there are only few judges that have maritime background which may negatively affect the rulings of the courts. Nevertheless, the lawyers have the similar situation. Therefore, the Cluster management which is going to be recommended at the conclusion stage would consider the present situation of Law Firms in Turkish maritime cluster. European Union membership also another aspect that will affect the structure of the Turkish Maritime law system such as was the case in Greece.

In one of the very famous clusters of Dutch Maritime Cluster, the legal profession has enjoyed along and fruitful relationship with the shipping sector and it is playing a vital role in shaping the future (Brauw, 2000).

2.7. Maritime Governance and Regulation

2.7.1. The history and the legal ground of the maritime governance of Turkey

The establishment studies of maritime services in Turkey have started according to the 16th article of 4770 numbered law of the function of Ministry of Transport. As a result of this article, in year 1945, the department of Port and Maritime Affairs has been established and then in year 1973, this organization has been transformed into General Directorate of Maritime Transport and General Directorate of Maritime Trade.

In year 1979, the General Directorate for Maritime Trade has transformed into the General Directorate for Ship Building and Yards. However, after the announcement of the law of "rearrangement of the Ministries and their functions" on 28 February 1982 which is a 8/4334 numbered decision of council of ministers on that date, this General Directorate for Ship Building and Yards has been lifted and the name of the General Directorate for Maritime Transportation has changed and both Directorates have been gathered under the name of "General Directorate of Harbor and Maritime Affairs. Within five years, in 1987, the General Directorate for Maritime Transportation name again given to the organization with full authorization from the Ministry of Transport regarding the maritime related issues. This last form of the General Directorate still functions within the framework of the 3348 numbered decision taken at year 1987 by the Ministry of Transport.

Accordingly, National Transport Regional Directorates in Canakkale, Istanbul, and Izmir, Mersin and Samsun and 60 harbor master organizations have been established

in accordance with the law 4770 and these organizations carried out the maritime related missions.

The complex and complicated structure of the maritime governance in Turkey due to the various numbers of laws and decrees were diminishing the effectiveness of the maritime services. Therefore, in year 1993, in accordance with the 491 numbered final decree "The Undersecretaries for Maritime Affairs" (UMA) which is attached to the Prime Ministry directly, has been established and fully authorized in order to increase the effectiveness and to improve the services in line with the World trends.

Therefore, UMA is an umbrella organization for maritime affairs of which the regulatory, certification, permission, representative of both national and international, auditor, system runner and director related tasks are being carried out as a government authority.

The related functional laws to carry out the above mentioned tasks are; decree of 491, the 4490 numbered and 21.12.1999 dated law of Turkish International Ship Registry, revised versions of decrees 4475, 602 (UMA, 2007b).

All of the above mentioned laws and decrees constitute the legal grounds for the governance of the maritime services in Turkey. As it can be understood from the number of laws and decrees, the authorization conflict among the related government organizations is inevitable. This matter is brought into attention at the 2007 final report of UMA in the SWOT analysis section which gives strong reasons for the establishment of a maritime cluster mentality oriented coordination body.

On the other hand, the laws introduced for the economical activities of the stakeholders of the industry are very welcomed by the maritime sector such as the Law 2581 which allows owners to show their vessels as securable assets for credits.

Consequently, the laws advantageous objective ended up with an increase of seven millions of deadweight in tonnage within 15 years.

Furthermore, the application of the offer of 10% dearer of foreign freight which is explained in section 2.4.2 has been lifted and the second registry system is introduced. Therefore, the costs of flying Turkish flag are minimized and the competition with other flags became reasonable. The decrease in the tonnage tax, registration costs and other taxes are the main results of this law. Nevertheless, the exemption of corporation tax also introduced which led the Turkish owners to compete internationally. Moreover, the exemption of specialized consumption tax which includes the tax exemptions for domestic carriage of Turkish vessels and the reduced costs of ports for Turkish vessels were the great attempts done by the maritime Governance of Turkey. The results of these efforts of the Government organizations are the evidence of the great effect of the Maritime Governance in maritime clustering mentality and the competition. Therefore, maritime governance includes both setting the official ground for administrations and the establishment of legal ground for economic activities. Currently, the establishment of the right link among the sector is trying to be carried out by the Chambers of Shipping.

2.7.2. Maritime Trade Chambers

The establishment of Maritime Trade Chambers organizations is based on the 2567 numbered law on 24 December 1981. The reason for the establishment of these organizations were to assist to the requests and the problems of the ship owners on a governmental basis and consequently to help the development of maritime trade. Therefore, these organizations founded in Marmara, Aegean and Mediterranean regions. The function of the Maritime Trade Chambers is similar to the Maritime Cluster regime in developed countries. However, it can not be said that the Cluster mentality is fully being represented within these organizations. These organizations have an utmost importance for the services that they are carrying out and therefore their presence in the Coordination body is indispensable.

2.7.2.1. Turkish Chamber of Shipping

Istanbul and the Marmara, the Aegean, the Mediterranean and the Black Sea regions' Chamber of Shipping, briefly called the Turkish Chamber of Shipping (TCS), is an important professional organization of the Turkish maritime sector, with its headquarters in Istanbul and main branch offices in Izmir, Bodrum, Marmaris, Antalya, Iskenderun, Fethiye and Karadeniz Ereglisi, and the West Black Sea region. The Chamber also has a Liaison Bureau in Ankara in addition to its representations at all the coastal towns and cities in Turkey. Turkish Chamber of Shipping was first established as Istanbul Chamber of Shipping in 1982 and afterwards its area of activities has been extended gradually so as to cover the region of the Sea of Marmara, the Aegean Sea coast and the Mediterranean coast of Turkey, then finally the Black Sea coast of the country.

The aims

The most important aim of the Turkish Chamber of Shipping is to try to develop shipping in accordance with the national transportation and shipping policy and the public interest. Moreover, to promote the interests and provide the common requirements of its members, to arrange the development of the profession, to guide and facilitate the professional activities, to establish common rules and to inform the authorities on shipping matters and to keep the discipline, morals and solidarity of the shipping profession are the other major concerns of the Turkish Chamber of Shipping (DTO, 2008b).

The Activities

The major activities of TCS are to establish rules and practices as regards shipping, to make researches and collect information on shipping, to ensure that sea trade is developing in accordance with the national policy of transportation, to supply information to foreign organizations on the possibilities and tariffs of the Turkish

ports, to become member of and to follow activities of the international organizations concerned with shipping and to perform other functions stated in the law.

Among the members of the Turkish Chamber of Shipping are; shipowners, ship operators, shipping agents, ship sale and purchase brokers, forwarders, stevedores, tally firms, classification societies, marine insurance companies, underwriters, marine surveyors and experts, auxiliary services such as salvage, rescue, pilotage, dredging and yachting and also ship chandlers and suppliers, port, marina operators, ship-yacht builders and shipyards, ship-yacht equipment and repair services, maritime training companies, sand extractors and fishermen (DTO, 2008b).

2.8. Classification Societies in Turkey

2.8.1. Legal Background and General Information

The public act which regulates the authorization and the selection of the classification organizations that are going to act on behalf of Flag State on Turkish flagged vessels is entered into force and announced through the publication of 1st October 2003 dated and 26220 numbered official gazette. The design, construction and the maintenance procedures of ships must be approved and the certification procedures must be monitored in order to maintain the international safety requirements for ships both in building process and the maintenance follow up processes. Therefore, Flag States carry out these tasks or they are allowed to delegate their functions that they are responsible for to other organizations which are referred as recognized organizations. The above mentioned public act has been prepared in order to meet the national legislative requirements of this process in Turkey. Furthermore, this public act has been prepared in accordance with the IMO rules and the European Union Directive of 94/57/EC which is named as Authorization and the Monitoring of Ship Survey and Certification Organizations. Consequently, the agreements (the protocol of authorization) between those companies who have complied with the terms of this act have been signed. These organizations which are given at below table are still

authorized for carrying out surveys on Turkish Flagged ships and certifying them. Nevertheless, the old dated agreements between some world wide registries such as Korean Register of shipping and Russian Maritime Register have been cancelled due to the inconsistency of those registries with the conditions that are asked by European Union and therefore the Turkish standards.

The eight class organizations that are recognized by the Administration are always subject to the audit of the ship survey department of the Administration. In year 2007, these organizations have been audited. These audits take place at the offices of these organizations and the Turkish ships that they hold under their class. As a result, required warnings where necessary, are being given to the Class organizations and these audits are being planned to be held regularly every year (UMA, 2007a).

Table 5: Distribution of the Turkish Flagged vessels that are classed by the RO

Authorized Organization	Ship Number	%	GT	%
Türk Loydu- Turkish Lloyd -TL	**426**	**54,24**	**751,923**	**16,57**
Bureau Veritas-BV (France)	**171**	**14,08**	**733,601**	**15,75**
American Bureau of Shipping-ABS	**98**	**9,79**	**691,551**	**15,46**
Det Norske Veritas-DNV (Norvay)	**52**	**5,2**	**633,231**	**13,59**
Germanischer Lloyd-GL (Germany)	**43**	**4,29**	**321,464**	**6,90**
Nippon Kaiji Kyokai-NKK (Japan)	**41**	**4.09**	**971,998**	**19,63**
Lloyd's Register-LR (England)	**37**	**3,69**	**500,650**	**10,75**
Registro Italiano Navale-RINA - Italy	**16**	**1,59**	**61,559**	**1,32**
TOTAL	**884**		**4,665,977**	

Source: UMA (Within the end of 2007, number and GRT)

On the other hand the rapid developments in the ship building industry of Turkey increased the importance of the classification society's reliable work. The very beginning construction phase of a ship is important in terms of classing a vessel. Therefore, an organized approach for the ships that are built on the same region is necessary. However, the types of the ships are various which makes this

standardization difficult. However, this matter can be a concern of the maritime cluster coordination body which is going to be recommended as the conclusion of this thesis. The shipyards and their working environment and the safety level that is applied in this working environment are also a matter of concern. This matter will also be broadly given at the section of ship yards and their effect on the Maritime Services of Turkey.

2.9. Ports

The present situation of ports and their privatization process reflect the relation among the responsible state organizations and the relation among almost all the components of the maritime cluster itself which requires as detailed information to the extent that is possible in order to analyze these relations in a proper way. Therefore, the present situation of ports and their privatization processes will elaborately be discussed in this section.

Turkey is geographically located at a position where the trade between Asia and Europe is taking place. The Black Sea, the Marmara Sea, the Aegean Sea and the Mediterranean Sea are the sea ways of this trade where they are encircled with the land borders of Greece and Bulgaria to the west, Georgia, Armenia, Azerbaijan (Nakhichvan) and Iran to the east, and Syria and Iraq to the south and Russia, Ukraine and Romania to the north with an area of 814,578 km^2. Accordingly, about 160 ports along its 8,300 km of coastline are handling the seaborne trade. Additionally, Turkey is located nearby the Mediterranean Sea which is one of the main transportation corridors between Far-East Asia and Europe.

Turkey has an influence in the region that includes the Middle East, Eastern Mediterranean, Black Sea, the Balkans and Central Asian countries, namely Turcic countries. Furthermore, Turkey has strong economical and cultural relations within the region, so it has a vision of ports as part of its role in global trade. Within this context, North Aegean port in Candarli, in the north of Izmir is being planned to be a

regional container hub port. Moreover, high-capacity container terminals close to Istanbul are being constructed by some foreign and national private companies.

Port governance in Turkey, can be classified into three main periods historically. These are namely; a nationalization period, a period of both public and private port operations and, most recently, a privatization period within which the withdrawal from port operations is being done by the government. However, as according to the current administrative terms, there are four groups which the existing ports in Turkey are classified into. These are namely, public, municipal, affiliated and privately owned ports.

Firstly, the Turkey's public ports present port policy is supported by legislation such as Law 4046 (privatization), Law 618 (ports, dated 1925), Law 815 (cabotage, dated 1926), and Law 3621 (coasts, dated 1990).

Public ports in Turkey carry out an overwhelming amount of cargo handling and cargo transfer in seaborne trade (Table 6). However, major public ports appear not to be operated efficiently even though they have the highest port throughput in Turkey. The interference of politicians and bureaucrats to the port industry in order to meet both self-serving political objectives and industrial objectives is the possible reasons for this inefficiency. The traditional management oriented organizations where the bureaucracy is so strong always put a barrier in front of the effectiveness of public port operations. Today’s port business requires a flexible and a workable system, which should not face the difficulties in decision-making process due to centralization. In other words, the central planning of the ports means that some specific and special needs are being missed. Employment has always been exposed to political interference, but authority and responsibility are not well defined. (Oral, Hakki Kisi, Cerit, Tuna, & Esmer, 2006)

The contemporary implementations of private ports practices such as customer relationship management techniques in their relations with port users do not seem to be a practice of public ports. As a result of the main concerns of public ports which

are social and national economic issues, the principal aims are to increase the economic benefits of the port for the nation or region. Therefore, to achieve these principal aims; cooperation with labour unions plays an important role. On the other hand private, multipurpose and container ports are much more focused on value-added services and a non-union labour force to maximize their profits. On the other hand, the public port enterprises have operated ports by involving strong labour unions in the issues. After privatization, the labour unions are rather weakened or have been eliminated (Oral et al., 2006).

However, Turkish public ports still serve the national economy, through insufficient capacity in terms of infrastructure, superstructure, equipment, for transit cargoes. Therefore, the competition with the regional ports becomes hard. Furthermore, a monopolistic regime in which the major ports in Turkey used to be operated is an obstruction in front of competition. This matter is trying to be solved through the privatization process which has started around 2000s. Currently, privatization administration of Turkey is very keen on fair competition.

Secondly, the number of municipal ports in Turkey and their handling capacity is so less, therefore they can be considered as negligible. Municipal ports do not play an important role in the overall marine transportation of Turkey because of their low share of cargo throughput.

On the other hand, municipal ports, such as Ayvalik, serve the tourism and passenger market. Moreover, some bulk and general cargo are also being handled within this port. Nevertheless, municipal ports are comparatively small-scale and are operated by the municipalities where the ports are located.

Thirdly, the large state-owned or private industrial companies are the owners and operators of affiliated ports which these ports usually serve the tramp and bulk market. The last group is made up of privately owned ports; most of these primarily handle their own cargoes but do serve other customers.

The importance of industrial enterprise ports are because of their own plants and industrial activities. Therefore, they have no significant presence in the sense that they just fulfill their needs rather then giving service for other type of ships. Therefore, their way of administration and operation has unique terms. However, their capacity utilization rates have always been questionable in terms of the output to the National Economy.

Fourthly, the private ports have specialized terminal operations that usually serve the bulk and tramp market. Liner market by serving containerized cargo is a rare application. As it was mentioned earlier, the private ports/terminals are in a rather competitive position when compared with publicly operated ports. Generally, the specialization and operating more efficiently are the key targets for the private ports which make them more profitable. The investment ability is more efficient and quicker due to the decision-making process in private ports, especially in cargo handling equipment. The internal bureaucracy has been diminished by the management style of the private port sector. As a result of profit basis implementations the labour unions are rather weakened or have been eliminated (Oral et al., 2006). On the other hand, even the private ports in Turkey have physical deficiencies in cargo handling equipment and storage yards due to inadequate financial resources and difficulties in investing in port development. The coordination provided by national port policy does not cover most private ports which are located in the Marmara region. Accordingly, this situation gives a way to a destructive competition among each other. This situation can easily be observed in the very low port tariffs which are applied by every port without the knowledge of what other ports are doing or investing in.

Table 6: Major Ports in Turkey

Ports	Length (m)	Depth (m)	Handling Capacity (Ton/Year)	Ships (Ship/Year)	Storage Capacity (Ton/Year)		Container Capacity (TEU/Year)
					Open	Closed	
Haydarpasa	2,765	(–6,–12)	6,488,300	2,651	471,360	362,384	264,000
Derince	1,132	(–4,5–15)	1,910,900	567	2,951,760	200,000	–
Samsun	1,756	(–6,–12)	2,284,100	1,130	8,556,720	192,304	–
Mersin[a]	3,180	(–6,–14,5)	5,510,800	3,052	8,109,024	562,992	203,376
Iskenderun[a]	1,427	(–10,–12)	3,223,600	640	8,991,120	294,320	–
Bandirma	2,788	(–10,12)	2,636,100	4,277	1,868,280	144,000	–
Izmir[b]	2,959	(–4,–12)	4,931,600	3,635	565,920	377,648	265,728
Marport[c]	2,000	(–14,5)			409,000		900,000

Source: Maritime Trade Chambers 2004, www.arkas.com.tr

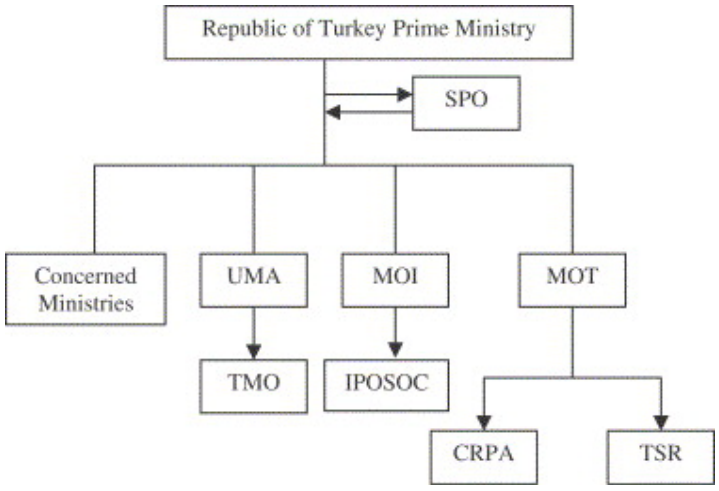
[a] Privatized.
[b] Under process of privatization.
[c] Private.

2.9.1. Port-related State Organizations

The summary of the main port-related governmental organizations is as follows:

- Prime Ministry, State Planning Organization (SPO), Undersecretariat for Maritime Affairs (UMA),
- Ministry of Transport (MOT),
- Ministry of Health, Ministry of Public Finance, Ministry of Interior,
- Ministry of Public Works and Settlement (MPWS),
- Ministry of Industry (MOI), Ministry of Agriculture,
- Ministry of Environment, General Directorate for Construction of Railways, Seaports and Airports (CRPA),
- State Economic Enterprises, Turkish State Railways (TSR) and Turkish Maritime Organization (TMO),
- Municipalities, customs, immigration police.

Figure 5: Port-related State organizations



Source:(Oral et al., 2006)

Relationships between Governmental Organizations- Abbreviations*:*

- SPO, Prime Ministry and the State Planning Organization
- UMA, Prime Ministry and the Undersecretariat for Maritime Affairs;
- MOI, Ministry of Industry;
- MOT, Ministry of Transport;
- TMO, Turkish Maritime Organization;
- IPOSOC, Industrial Ports of State-Owned Companies;
- CRPA, General Directorate for the Construction of Railways, Ports and Airports;
- TSR, Turkish State Railways.

The consideration of the total balance of investment in Turkey and the judgment of the feasibility of specific projects is done through the Prime Ministry and the SPO. The MOT takes the coordination role of all the development of ports in Turkey and the responsibility for setting the port tariff of TSR ports is also under the responsibility of the MOT. The MOI controls and coordinates the industrial ports of state-owned companies (IPOSOC). The tax collection and the funding are being done through the Ministry of Public Finance. The control of and measures related to, public health (quarantine, patent) is done through the Ministry of Health. The

responsibility of fisheries and approves new port investments and development belongs to the Ministry of Agriculture. The approval of environmental impact assessment studies of ports is the responsibility of the Ministry of Environment. The police, immigration related issues belong to the Ministry of the Interior. All planning, research, construction and maintenance work on ports belonging to the public and affiliated sectors are undertaken by the CRPA. The coordination of political, economic and legal aspects concerned with international maritime issues according to national policy is the responsibility of the Prime Ministry and the UMA which used to set the port tariff of TMO ports. Such public ports are not operated by TMO any longer since they have been privatized. The maritime authority in Turkey is the UMA and administration of the maritime vessel traffic system is also done by UMA which is in relation to the aspects that the entry and exit of ships into and out of port and the regulation of shipping and navigation. The territorial application plans are prepared by MPWS. Moreover, the land use principles for all industrial sectors, including the transportation sector are defined by this organization. State Economic Enterprises, such as the TSR and TMO, operate, develop and maintain owned ports. Additionally, the TSR undertakes miscellaneous transportation by providing connections between railways and ships and establishing and operating the required superstructure, such as warehouses, silos, fuel facilities. The loading and discharging operations by constructing and establishing the required facilities, in order to provide some services for ships, such as fresh-water, fuel oil and to construct and operate the required superstructure facilities at its owned ports is provided and undertaken by TMO. Some amount of these services is also provided through municipalities which are mostly concerned with city–port relations and environmental impacts.

As a result of many organizations involved, the weak coordination and conflicts of authority usually occur among these related bodies. In other words, as an example, the activity of deepening the draft in the Port of Izmir has always been a matter of conflict and some infrastructure investment has also experienced similar problems due to the complexity of the system of involvement in the investment, operation and administration process. A single, simple issue to be solved which requires prompt

action in terms of time importance might be a concern of at least two or three bodies that are affiliated with different ministries. Therefore, a chaos in the decision-making process and coordination is being caused which leads the inefficiency to arise in the port governance process of Turkey. As the ports are playing the key roles because of their activities in shipping business, the bad performance of them directly ends with a negative result within all Maritime Cluster (Oral et al., 2006).

Table 7: Administrative Classification of the Turkish Ports

Operators		**Classification**	**Total Length of Ports and Pier (m)**
TSR ports	7	Public	16,007
TMO ports	7	Public	2,623
Industrial ports of state-owned companies	37	Affiliated	30,662
Municipal ports	45	Regional municipalities	8,875
Private sector ports	51	Private sector	22,094
Privatized TMO ports	13	Private sector	9,481
Total	160		89,742

Source:(Oral et al., 2006)

The importance of the privatization process is directly related to the effectiveness of the Ports of Turkey. As it was mentioned earlier there are too many organizations that are in charge of this process. The Turkish Competition Authority, Ministry of Transport, Ministry of Finance and the Privatization Administration of Turkey are among the related bodies for privatization. However, the absence of a single supreme organization in Turkey to coordinate port investments, port development and port competition, especially for the port privatization period which are in line with a National Maritime Policy is being felt. An integrated supreme body to coordinate all the ports according to a national port policy that is compatible with EU transport policy sounds to be the firm opinion for maritime sector. Moreover, the establishment of a coordination entity will open the ground for representatives of

port operators, port users, municipalities, related government agencies like CRPA, Customs, Prime Ministry Undersecretariat for Maritime Affairs, NGOs like the Turkish Chamber of Shipping and universities.

Nevertheless, another area of coordination is required for participation of local authorities and NGOs in the port administration for good governance. Unless the privatization practices consider this vital concern, the main drawback of the privatization process will emerge, resulting in serious local conflicts. It is too soon to assess the outcome of Turkey's privatization programme but, for these reasons, it is too early to consider the future as promising (Oral et al., 2006).

2.10. Ship Building

Booming worldwide demand for cargo ships of every kind has greatly benefited Turkey as an "emerging shipbuilding country" in recent years, infusing the country with significant amounts of foreign cash and providing an abundance of employment opportunities to local markets (Bozkurt, 2008).

The necessities of the international rules channelized the ship owners to build new ships in order not to lose the market share of the worldwide transportations. According to global data, worldwide order books are very full until the year 2010.

The late improvements in shipbuilding technology have led the Turkish private sector shipbuilders to reach up to their maximum capacity. Presently, there are 62 active shipyards and 61 shipyards which are in the process of being built at around all the coasts of Turkey, predominantly at the Black Sea, the Mediterranean and the Sea of Marmara coasts, excluding Tuzla Region. The number of shipyards is soon expected to be 123, at all of the Turkey’s coasts. Since 1995, the maintenance and repairing of various types of ships (approximately 484 units, of 2.310.763 Dwt in total) have been made at Turkish shipyards (DTO, 2007).

According to the classifications of the Authorities, Turkish shipyards rank at the first place in the field of building small tonnage chemical tankers in Europe and they rank at the third place in the field of building mega yachts in the World. (DTO, 2007)

Table 8: Shipbuilding by Years (1995-2006)

	DOMESTIC	DOMESTIC	EXPORT	EXPORT	TOTAL	TOTAL
YEAR	NUMBER	TONNAGE	NUMBER	TONNAGE	NUMBER	TONNAGE
1995	11	25.850	6	11.234	17	37.084
1996	9	62.293	9	39.396	18	101.689
1997	14	88.450	11	76.887	25	165.337
1998	16	73.950	10	59.600	26	133.550
1999	16	109.970	7	54.700	23	164.670
2000	11	53.400	6	35.100	17	88.500
2001	25	101.750	14	45.380	39	147.130
2002	18	87.920	20	49.655	38	136.945
2003	25	145.400	19	110.102	44	255.502
2004	27	112.066	32	77.688	59	189.754
2005	35	156.429	43	174.173	78	330.602
2006	47	283.688	53	272.597	100	556.285

Source; Turkish Chamber of Shipping Annual Report 2007

2.10.1. Capacity

The numbers changed to 1.252.774 Dwt by the year 2005 in which 900.000 Dwt belonged to the Tuzla private shipyard region. This region represents more than 70% of the total capacity alone itself. The capacity summarizing of private sector shipyards is as follows;

- 10 million Dwt repair and maintenance capacity
- 1 million Dwt new shipbuilding capacity
- 400.000 ton steel processing capacity
- 80.000 Dwt new shipbuilding capacity as one piece

Turkish shipyards which have the one of the greatest floating docks of the world with 80mt width, 355m length and 300.000 dwt floating capacity also provide services

with other various floating docks. The floating capacity of these docks climbs up to 300.000 Dwt.

There about 100.000 employees of shipbuilding industry of Turkey with the contribution of the sub industrial structures (Table 9). Please note that the employment of sub industrial structures of the shipbuilding industry is not taken into consideration at this table.

Table 9: Employment by Years (2002-2006)

YEARS	PERSONNEL
2002	13.545
2003	14.150
2004	14.750
2005	24.200
2006	24.823

Source; Turkish Chamber of Shipping Annual Report 2007

2.10.2. Works of Turkish Shipyards

Below mentioned vessels can be built under the supervision of the various classification institutions with international rules in Turkish shipyards;

- Petroleum and product tankers equipped with chromenichelium and epocsy tanks
- Heavy Freighters
- Multi Purpose Container ships
- Fishing boats
- Research Vessels
- Tugs
- Mega Yachts 60-90mt.
- Supply Boats
- Offshore Boats

2.10.3. Sub Industry of Shipbuilding

The rate of the domestic supplies contribution of the new buildings in Turkish shipyards is 51 % which continue to increase yearly. Sub industry supplies produced by Turkey are namely as follows;

- Electric Supplies Equipment
- Collectors and Filters
- Galvanize
- Ship Cables
- Anchor, Chain, Bollard , Locking Equipments
- Diesel Generator Manufacturing
- Electric Panels and Tables
- Fire Fighting Systems
- Fireproof Panel
- Valves, Central Heating Systems.
- Pressured Folders
- Pumps
- Isolation Equipments
- Port Holes, Rustproof Equipments.
- Pipes Production
- Refrigerated Units
- Storage Covers
- Anchor Capstan
- Hydraulic Units
- Carpenter and Furnishing

2.10.4. Import Sub Industry Supplies

- Sheet Iron and Profiles

- Holland Profiles
- Painting
- Electronic and Navigation Equipments
- Telecommunication Systems
- Bulb, Trust and propellers
- Main Engine and Generators
- Rudder Systems

2.10.5. Future Prospective

Turkish shipyards have reached 4th row amongst the world ship builder countries in 2007 where it was 15th row in 2004. This significant increase occurred only by usage of 85 % of the total capacity in 2006-2007. Building tonnages have reached up to 65.000 dwt and 180.000 dwt ships are being planned to be built at 2008. Shipbuilding industry has already reached the target of the year 2013 at the year 2007 with the progress which is recorded for last four years.

In general; the summary of the strong points of the shipbuilding industry can be done by below mentioned items (DTO, 2007)

- The positive trend of European entrepreneurs on preferring Tuzla Region for building some specific type of vessels such as small size chemicals and container ships
- Turkey has a good position as to be third country in terms of new orders.
- Cheap and qualified labor coast
- Advantageous geographic position and proximity to the market.
- Shipbuilding quality (Urkmez, 2007)

Weaknesses can be summarized as;

- The insufficiency of finance
- Low productivity, low value of used capacity. (Urkmez, 2007), (DTO, 2007)
- Incapability of building big tonnages

- The lack of production of domestic sheet iron
- Expensive energy prices (DTO, 2007).

There is no expectation of decrease in the demand particularly towards Turkish shipbuilding sector at least in 5-10 years. This growth trend will be a natural result together with the new constructed and planned shipyards. Thus, it is urgent to start for some reliable projects to be accepted by the international ship owners.

However, labor unions become increasingly uneasy over occupational hazards and safety issues which have led to accidents and deaths as a negative result of the booming in shipbuilding industry of Turkey. These casualties are the biggest problems that threaten the lucrative shipbuilding industry, the World's fourth largest after Japan, South Korea and China (as.2008 figures). Moreover, the absence of a general coordination authority only allows to exercise a reactive approach to response to these accidents. In other words, as a result of the public response to deaths through media news, the unions react and in a chain reaction the chambers try to defend the industry and finally the government gets involved and parties gather in a meeting and consequently a joint declaration is published. The investigation of the National Assembly commission under the supervision of the related ministry is also an additional step. However, although this chain reaction looks logical, it has no ability to foresee the future threats and to project their road maps before they occur; this kind of reactive approach always works as the situation deteriorates. Therefore, a planning organization which will cover the whole maritime related sectors is urgently needed.

As an illustration to above mentioned process; the tragic deaths of two workers at the Tuzla shipyard recently (May, 2008) prompted unions and civil society organizations to call on the government to take swift action in regulating the industry. Since 1983, just when shipyards began operating in Tuzla, 74 workers have died from work-related accidents. The number of total accidents also shot up to 227 incidents last year from 73 in 2002 (Bozkurt, 2008).

As it is described previously, the pressure from the public led the Turkish government to project its regulatory power on the industry in order to make sure that the ship owners and builders comply with the law. Therefore, the government has introduced new safety regulations in line with European Union standards and started to implement safety inspections. The latest onsite inspections found 588 infractions and safety violations and resulted in six companies being shut down and 41 being fined a total of $158,000. The ministry also included a new requirement through recently passed legislation which only allowed the skilled workers be employed in high-risk, heavy-duty jobs. In order to meet the growing need for skilled labor, the government is considering establishing two maritime high schools in Tuzla and Yalova (Bozkurt, 2008).

Table 10: Private sector ship yards accidents and death rates between 2000-2007

Year	Number of Employee (sub contractors incl.)	Number of Accidents	Accidents with Death
2000	5.000	76	4
2001	5.750	61	1
2002	13.545	73	5
2003	14.150	68	3
2004	14.750	120	5
2005	24.200	146	9
2006	28.500	170	10
2007	33.480	227	12
Total	139.375	941	49

Source: Turkish Shipbuilders Association (GİSBİR)

Despite the fact that the criticism against the reactive approach and the negative aspects of its implementation is vital for the purpose of this thesis, the positive outputs of the already made studies should not be ignored as well. In this regard, as a result of the steps taken after the response of unions and chambers and consequently the government, analysts have come to a conclusion that the structural problems, the shortage of skilled workers, the lack of education and the lack of compliance with regulations are at the root of all the problems which the industry is facing today.

"Coupled with over-ambitious shipbuilders trying to keep up with orders from customers, crammed shipyards working around the clock invite the risk of accidents and safety mishaps". The casualties at ship building industry do not occur only because of the negligence of the main ship building enterprises. A subcontracting system that was set up to help the industry develop further and become competitive has now turned into a major headache for the government as it tries to implement stringent occupational safety regulations within the industry. In other words, over 90 percent of orders are being completed today through the subcontracting system, which works very much in favor of ship owners and continues to be the major source of negligence and violations. Unions argue that ship owners and builders try to evade accountability by delegating responsibility to small and medium-sized contractors (Bozkurt, 2008).

Figure 6: The number of active ship yards and their distribution in Turkey

Source; Maritime Trade Chambers

Moreover, as it is mentioned in earlier paragraphs, the positive effect of SARF[7] (risk attenuating-amplifying methodology) can be observed in the present situation of the

[7] "Integrative theoretical framework capable of accounting for findings from a wide range of studies, including: from media research; from the psychometric and cultural schools of risk perception research; and from studies of organizational responses to risk." (Kasperson, Kasperson, Pidgeon, & Slovic, 2003)

Ship Building Industry. The deaths led the public to react through the media news and consequently the Government felt the need for its regulatory role to be put forward and therefore some investigations held and meetings were arranged. However, this action is again a result of the reactive approach which is politically arranged and disturbed[8]. Therefore, the establishment of a supreme coordination body which can be named as the Board of the Turkish maritime cluster which should be politically neutral will carry a great importance to maintain the harmonization of all the maritime services of Turkey in a proper way.

2.11. Maritime Education

Maritime education and training enables the reduction of the sea transportation costs and improvement of competition with regards to other means of transportation through enhanced safety and improved maritime functioning and economics which in the end means the maritime education and training has turned out to be of vital importance for the Government. Maritime education and training issues such as the alignment with the STCW standards and IMO and ILO recommendations, basic Law of National Education and the regulations of the Ministry of National Education and the requirements of the Turkish Higher Education Authority are currently being contextualized within the scope of maritime education and training in Turkey (Yercan, 1999).

Maritime education is at the core of the whole maritime industry. The impact of a well designed education policy which is fully aware of the necessities of today's

[8] The Union Limter-Is which has 1360 members has not been invited to the Government meeting. Following interview is important to show the present situation. "Compared with a multibillion-dollar industry, fines imposed by the Ministry of Labor and Social Security do not discourage violators, said the president of Limter-İş, a trade union with 1,360 members. He also criticized pre-announced inspections as not effective and called for spot checks and unannounced visits of work sites. Dinç also blamed contractors for sloppy work and hiring practices. He said business owners continue to blatantly disregard regulations and find new ways to bypass and circumvent laws just to finish projects on time. The result, he said, is the loss of human life, leaving broken families in need of financial help. His union has shied away from collective bargaining as it does not have enough members in the sector. He also noted that a systematic campaign against union workers was at work at all times and that it sometimes results in the termination of workers" (Bozkurt, 2008).

maritime world and accordingly which has a future prospect, will contribute to the national maritime industry as a chain reaction. Therefore, the importance of the role of the maritime education system in Turkey is crystal clear. On the other hand, the negative effect of the absence of the supreme maritime authority such as the case mentioned in almost every earlier section is again valid for maritime education system in Turkey. In other words, the maritime education policy depends on very shallow decisions which are being taken as a result of prevailing educational needs in this field and this avoids a broader perspective that can foresee the strengths, problems, opportunities in advance. Therefore, the political interference is being inevitable. In order to illustrate the consequences of the absence of a supreme body with the prevailing conditions of maritime education system, the brief analysis of a recently opened Maritime University will set a good example. As the first item of the joint declaration which is given in Chapter 2 states that; *The Turkish Universities which provide the trainings of captains, engineers, officers and the qualified seaman should be supported through the implementation of STCW programme courses and the number and the quality of the Anatolian Vocational High Schools of Maritime should be increased. These implementations should be oriented to not only meeting the Turkish requirements and the necessities but also planning the Turkish Seaman to take part in the international market. In this sense, the establishment of the Piri Reis University has been frequently expressed by the Council in all kinds of platforms for it will provide immense contribution to the Maritime studies, and it has been welcomed with pleasure.*

From a critical point of view, it can be said that, the statement conflicts in itself by not giving importance directly to the present education centers and appreciates the opening of a new one.

Despite the fact that there is nothing wrong with the establishment of a new maritime university, the scientific research for the need for that kind of university is always a matter of concern and this can only be done through coordination and under the supervision of a coordinating body. In this respect, the establishment decision of the

University has to be questioned in terms of whether it has been done by ignoring the new alternatives for the improvements of the existing ones or not. Nevertheless, such kind of reactive approach oriented implementations may never provide a broader perspective for the problems of the existing universities to be taken into account. Moreover, rather than analyzing the current problems, these problems were considered to be the reasons for the establishment of the new University. In other words, a desired supreme authority which has the ultimate authority to coordinate and harmonize all ends of the industry would establish an open ground for the present universities to discuss about the necessities in the education field. However, rather than considering this kind of gatherings, the industry chose to add a new chain to the existing ones which might be assumed to bring along with its problems also. Therefore, it is being thought that, the positive role of the supreme authority which has a connective role is indispensable for the solutions of the expected problems of the whole industry especially for the maritime education in Turkey. Such an organization will also contribute to the easy adaptation to the international changes of maritime education as a whole around the world.

Maritime education and training, fundamentally based on practical courses, generally focuses on vessel operation license which can only be issued upon the demonstration of competencies in various operational elements of seafaring activities. However, recently, the practical aspect of the seafaring has turned out to be out-of-fashion since further knowledge and competence and more skills are thought to be more essential aspects for the current market. This inevitably resulted in various disciplines such as management, economics, logistics, marine environment protection, maritime safety sciences and maritime administration to come into prominence (Schröeder et al 2001, quoted from Otway), (Otway, 2003).

In this respect, the present situation of the maritime education system in Turkey needs to be explained. UMA, the top level maritime Authority in Turkey is not only responsible for application of Maritime International rules and Regulations but also has great significance in the orientation of the Merchant Maritime Education and

Training which is being executed both by private and public institutions in Turkey. In Turkey, ocean going, watch keeping, and engineer officers should be graduated from maritime faculties of 4-year universities. These are namely; The Piri Reis (the most recently established) (Mete, 2008b), Istanbul Technical University (ITU)[9]-Maritime Faculty in Istanbul, 9 September University (DEU)[10]-Maritime Business and Management School in Izmir and Black Sea Technical University (KTU)[11]-Surmene Marine Science Faculty, Trabzon (UNESCAP, 2005).

Table 11: Average number of graduates annually from each Faculty

Faculty	Deck	Engine
ITU Marine Science Faculty	100	40
DEU Maritime Business and Management School	40	---
KTU Sürmene Marine Science Faculty	40	---
TOTAL	180	40

Source: (UNESCAP, 2005)

[9] ITU Maritime Faculty was founded in 1884 which has historical traditions. In ITU, after English Prep.School, maritime under-graduate education was given in 4 years. For Deck Dept. students, STCW Convention's Code A-II/1 and A-II/2 standard trainings are provided and as for Engine Dept. students A-III/1 and A-III/2. Faculty also provides MSc and PhD degrees. ITU has established fully equipped simulator centre of Turkey under "Improvement and the Promotion of Merchant Maritime Education in Turkey" project supported by JICA and in coordination with UMA in between 2002-2004. Besides that UMA provided a training ship M/S AKDENIZ, LOA 148 m. 7864 GRT to ITU Maritime Faculty.

[10] DEU Maritime Business and Management School is the first faculty providing education in English language in the field of maritime business and management in Turkey founded in 1988 in İzmir. DEU has received first students to Deck Dept. in 1995-1996 semesters, whom graduated in 1999 having STCW Convention Code A-II/1 and A-II/2 standard trainings and started their profession in maritime fleet. The studies for the establishment of Engine Dept. are underway and it is expected that first students will be received in the next terms.
DEU Maritime Business and Management School has training equipment and laboratories as defined in the STCW convention. The students are educated according to "problem based learning method".

[11] Black Sea Technical University (KTU)-Sürmene Marine Science Faculty's Deck Dept. was founded in 1996, which also provides A-II/1 and A-II/2 standard trainings for their students who first graduated in year 2000, total of 81 students have been graduated up to now. Deck Dept. has been accepting an average of 50 students each year. The faculty has sufficient training equipment after its establishment with a quick development period.

Despite the fact that the number of graduates varies annually, on average 180 deck officers and 40 engineers with unlimited GRT and unlimited navigational area graduate from maritime faculties every year to perform their professions on ships.
In addition to maritime faculties, there are also 3 two-year colleges affiliated to universities and 13 maritime high schools providing education on the field and the graduates from these schools can work on board ships ranging between 500 GRT and 3000 GRT as a restricted watch keeping and engineer officers as laid down with STCW convention. For High School Graduates there are alternative options such as 2 two-year colleges which are specialized in the field of deck and engine. Apart from that, there is also a single two-year college which is only specialized in the field of deck. On a yearly basis, there are 225 graduates from deck departments and 250 graduates from engine department on average.

In Turkey, there are 13 educational institutions providing maritime education at the high school level and among these 6 are for restricted engineers and 7 are for restricted deck officers. On a yearly basis, there are 150 graduates from deck departments and 175 graduates from engine department on average.

Table 12: Average number of graduates annually from each college and high school

Training Institutions	Deck	Engine
Two-years college	225	250
Maritime High Schools	150	175
TOTAL	**375**	**425**

Source: (UNESCAP, 2005)

2.12. Summary

In order to overcome the problems that are given at the description of the each sector there is a need for a research study which will encompass the whole country and determine the crucial segments of the Cluster. Following paragraphs which includes

the summary of the previously given sections are prepared with the intention to provide initial grounds for this future extensive study.

The shipping sector comprises all the companies registered in the Turkey and involved in the operation of ships on their own behalf or on behalf of third parties in or outside the Turkey. The flag registration of the ships is thereby not directly relevant. However, there is a need for a study regarding the impacts of flagging outs therefore its impacts on National economy in terms of the tax regime and especially in terms of the trade law which allows the Turkish owners show their vessels as mortgage able assets. The brokering and chartering activities should be brought to the standards of maritime leading countries. On the other hand, the segments within the shipbuilding sector needs to be distinguished such as the exemplary model of Dutch Maritime Cluster segments of newbuilding of ships, repair and conversion of ships, newbuilding and repair of inland ships, newbuilding of mega-yachts, newbuilding and repair of naval vessels. The yachting sector can be divided into segments which are yachts smaller than 24 metres (the mega-yachts have also been included in the shipbuilding sector by the consultant), whole-sale traders, retail traders, marina related services, ship related services like architects, brokers, and financing, tourist related services like the yacht rental business (Dickey, 1999a).

The Ports sector should be introduced with a new process which should avoid the long bureaucratic privatization process of the state owned ports. The physical handling of maritime cargoes is the main economic activities and companies that are involved in the ports sector which comprises stevedoring companies, shipping and port agents, forwarders, pilots, and port management. However, industrial activities which are port related and which make up a large share of the value added of ports, should be considered, as well as the road transport companies that carry the freight to and from the ports within the cluster terms. In Dutch maritime Cluster model other port services like surveyors are classified under the maritime services sector. Tug operations within the port are part of the shipping sector, or inland shipping sector.

Therefore, with an extensive research study, Turkey can develop its own categorizations based on the characteristics of its services where the integrated maritime industry can operate efficiently.

The maritime services sector which is a fragmented sector can be made up of several segments as according to the results of the said research study which are: salvage and diving, bunkering and ship supplies, control and inspection, insurance and surveyors; maritime research and consultancy, other professional and non-professional services like education and training can be the benchmark segments.

Nevertheless, the marine equipment suppliers sector can be split into various segments related to the equipment categories and should be defined, like propulsion systems, deck equipment, and safety equipment. There are many companies that are manufacturers of equipment, but a major part is trader and importer of equipment. Therefore in the quantitative analysis, two groups of companies have been distinguished: manufacturers and traders (Wijnolst, Jenssen, & Sodal, 2003).

Moreover, new agreements with global oil companies are being made in order to explore petroleum under the seabed of the Black Sea region (TPAO, 2008). Therefore, the importance of the recently initiated offshore services in Turkey is increasing. Thus the early mentioned extensive research study should also include the offshore sector. Within this regard, the Dutch research study's introduction of the offshore sector can be used as a benchmark; the offshore sector is extremely divers and a simple definition of this sector is therefore difficult to give. The sector defines itself as all activities, on land and on sea which are necessary for the exploration and exploitation of the resources in the sea, on the seabed or under the bottom of the sea. The sector is divided into four segments: exploration and drilling, construction and installation, engineering consultants, other offshore companies.

The fishing sector can be made up of four segments: deep sea, short sea, inland fishing, and the production of shellfish. Aquaculture and fish processing and their affects on the maritime activities can also be included.

Finally, the Coast Guard and Navy are sectors all by themselves. Within these sectors, various segments should be defined: maritime operations, naval shipyard and engineering, education, training and research, and management staff and administration segments of Dutch maritime cluster approach can be considered as guidelines for further categorizations.

CHAPTER 3
EUROPEAN UNION NEW MARITIME POLICY

After the evaluation of the general profile of the Turkish Maritime Industry, the EU process of Turkey and consequently the affects of the European Union Maritime Policies on the Turkish Maritime Industry should be discussed in detail. Thus the following chapter will focus on the integrated Maritime Policy of European Union.

3.1. Relations with EU

Since, the late 1950s the relationship between Turkey and the European Union is under process. Currently, there is a general policy for the improvement of the relations with the EU in the broad field of economics and politics. A Customs Union between Turkey and the EU which came into effect on 1 January 1996 is one of the significant agreements between the Union and the Turkey. As a result, Turkey has become one of the few non-member countries which have a customs union with the EU and this has increased the economic relations between Turkey and the EU have increased. Therefore, the shipping industry has been affected inevitably since the approximate figure of 90% of the Turkish foreign trade depends on seaborne trade. Thus, a National policy which will have direct impacts upon the shipping industry needs to be applied in order to support the increase in the economic relations between Turkey and the EU. On the other hand, the rights of Turkey to be protected and undisturbed against the EU in the maritime sector, while maintaining relations with third countries and sharing world markets, including that of the EU should not be an issue which can arise as a result of this policy (Yercan, 1998).

3.2. EU Maritime Policy's Effect on Turkish National Policy

Since 2002 Turkey gained the official candidacy status for European Union membership, the EU acquis has a significant role on almost every National and thereby the maritime policies of Turkey. Accordingly, it is important to give information about the current EU maritime policies in order to reflect the steps that are being taken by the Turkish authorities. Moreover, EU has decided an integrated approach to be implemented for maritime services among Union member states which has direct relation to the aims of this dissertation.

The document called "Integrated Maritime policy for EU which determines the new maritime policy of EU, is accepted by the European Union commission on October 10, 2007 and presented to the approval of both the Council and Parliament (EU, 2007). The action plan prepared together with this document is expected to be approved both by the Council and the Parliament as the new maritime policy of EU. The document includes the items of; planning of the sea areas, maximizing the sustainable utilization of seas, shipping, ports, shipbuilding, repair and sub industry sectors, increasing the number of the maritime occupations and the quality of sea environment, environment friendly fishing, the European sea monitoring and forming a data network, creating an information and innovation structure for the maritime policy, developing the leadership of Europe in international maritime and increasing the effect of the European maritime are the activity fields that will constitute the agenda of the EU maritime during the further periods within the scope of the Integrated Maritime policies. General frame of EU maritime policy is outlined at the initial stage which can be considered as a giant cluster mentality in the sense that the governance in the European Union through its internal applications of white paper[12], green[13], blue book[14] processes (Battal, 2008). The Green Paper lays the groundwork

[12] White paper; European Transport Policy for 2010: Time to decide, European Commission Publication
[13] Green Book; towards a future maritime policy for the Union, A European vision for the Oceans and Seas
[14] Blue Book is an integrated maritime policy for the European Union. (SSS & Turkey, 2008)

for an EU Maritime Policy which will put ocean and seas management on a sound basis, allowing for the development of well-balanced and coherent sea-based policies and activities (Borg, 2006), (Vopel, 2005).

Building on valuable input of the Blue book, the Commission proposes an Integrated Maritime Policy for the European Union, based on the clear recognition that all matters relating to Europe's oceans and seas are interlinked, and that sea-related policies must develop in a joined-up way. This integrated, inter-sectoral approach was strongly endorsed by all stakeholders. Applying it will require reinforced cooperation and effective coordination of all sea related policies at the different decision making levels (Commission, 2008).

The Transport White Paper adopted by the European Commission on 12 September 2001 paints a realistic picture of the present situation with regard to transport and sets out an ambitious action programme comprising 60 or so measures between now and 2010 (Palacio, 2001). The long term approach of this paper and following green and blue ones which are an output of a long term commission work sets a good example for the proposal of a desired supreme National authority which will lead and prospect the National Maritime Policy of the Turkey through an utmost coordination and harmonization among the all stakeholders of the industry. In other words, besides following European Union acquis due to membership process, Turkey can take further steps by establishing its internal maritime clustering concept that can be in line with the policies of Europe which are mentioned above.

The main elements of a new European integrated maritime policy, including its founding principles and main objectives, the required governance framework and appropriate tools for integrated policy-making have been put forward by the European Commission. This policy represents the delivery of a new vision for Europe's oceans and seas as a result of the decision taken in the European Commission's Strategic Objectives for 2005-2009.

3.3. New Integrated Maritime Policy of EU

Encompassing all aspects of the oceans and seas in a holistic, integrated approach is one of the main aims of the new integrated maritime policy. Accordingly, not only compartmentalized maritime activities will be considered, but also all economic and sustainable development aspects of the oceans and seas, including the marine environment, in an overarching fashion will be tackled (EU, 2008).

The new innovative "integrated approach" is strongly endorsed by all stakeholders who participated in the wide debate throughout Europe, during the consultation process following the launching of the Green Paper on a Future Maritime Policy for the Union. In other words the said approach has found a consensual ground. Furthermore, the integrated maritime policy with its overarching strategy provides an analytical framework and a selection of objectives which allows member States to define the actions needed to attain both these objectives and the overall goals of the new policy. This Action Plan enumerates a set of actions that the European Commission proposes to take as a first step towards the implementation of a new, integrated maritime policy for the European Union (EU, 2008). These actions which are in line with the proposed integrated, collaborative approach are the result of the collective efforts of a number of Commissioners and services of the European Commission, who are working together for over two years. Therefore, a reflection of the new integrated approach to maritime affairs appears by covering a wide spectrum of issues related to sustainable development ranging from maritime transport, to the competitiveness of maritime businesses, employment, scientific research and the protection of the marine environment. Moreover, the actions proposed by the Commission are expected to assist the European Union move towards the attainment of the key objectives of the EU's integrated maritime policy, In other words, maximizing the sustainable use of the oceans and seas, building a knowledge and innovation base for maritime policy, delivering the highest quality of life in coastal regions, promoting Europe's leadership in international maritime affairs, and raising the visibility of Maritime Europe are the key targets of new European maritime policy.

The necessary links between current sectoral policies also call for integrated and crosscutting actions which are going to be covered by the coordinated development of the Action Plan. Therefore, in order to maintain these links, spatial planning, an integrated approach to data collection processing and delivery, the coordination of surveillance and monitoring activities and processes are the tools and the first measures proposed under the Action Plan (EU, 2008).

A maritime policy function has been set up by the Commission, with the task of analysing maritime affairs and the policies affecting them, coordinating between sectoral policies, ensuring that interactions between them are taken into account, and piloting the development of common policy tools. It has also started bringing together the EU agencies involved in maritime activities, with a view to ensure that they collectively contribute to the development of maritime policy. On the other hand, some Member States have started developing co-ordination mechanisms in their maritime policy-making.

As an action to be taken Commission have decided following steps;

- Take further steps to embrace a more integrated governance approach,
- Inviting Member States to draw up their own integrated national maritime policies, based on a series of common principles and working closely with their stakeholders, in particular the coastal regions,
- The Commission will issue in 2008 a set of guide lines on common principles and stakeholder involvement for maritime policies and will report on the Member States actions by 2009.

3.3.1. Benefits of an integrated approach/relevance for an integrated maritime policy

A Maritime Policy for Europe requires a number of common arrangements to be agreed at European level which will realize its potential only if analogous arrangements are also adopted by Member States, in line with the subsidiary principle, to provide for the improved coordination of all maritime-related affairs. However, the regulatory obstacles which have the following background of the Green Paper on Maritime Policy that identifies are the key concerns in front of the implementation of the new policy.

- unintended impacts of sectoral regulations,
- regulatory simplification and streamlining as potential areas for action in a cross-cutting maritime policy.

In order to overcome these issues following actions are recommended by the Commission;

- A list containing examples of such regulatory obstacles will be compiled. Such a list will provide the basis for further reflection on possible regulatory amendments in the future,
- Examples of regulatory barriers include those that inhibit maritime heritage activities. A first report to be produced by The Commission on this subject in 2008, with proposals for consultation on appropriate regulatory changes,
- An integrated approach to maritime policy should develop policies and legislative proposals that are coherent and mutually compatible. One of its tools should be a list of existing obstacles or inconsistencies, in order to allow the streamlining and improvement of a coherent regulatory framework.

The development of the new modes of thought and innovative mechanisms required by an integrated Maritime Policy for the European Union will depend to a large extent on its capacity to integrate experiences and best practices. The effective organization of such a policy therefore should include the development of tools for

collective learning and linkages between networks. In order to achieve this, following action items are given by the Commission;

- The Commission will move forward with proposals in 2008 to promote the establishment of networks of best practices between maritime stakeholders,
- Between maritime clusters, between coastal regions and islands, between Member States in spatial planning, on linking maritime heritage with other activities, or between ports and port cities,
- The Commission will also promote cross-fertilization between these networks and the broad participation of interested stakeholders in each of them,

A new integrated governance framework for maritime affairs requires cross-cutting tools to help policy makers and economic and environmental actors to join up their policies, interlink their activities and optimize the use of the marine and coastal space in an environmentally sustainable manner are going to be the tools for Integrated Policy-Making which is composed of the actions given above (EU, 2007).

On the other hand, there are counter comments for the new integrated approach. One of them is the areas where EU is planning to get expanded. According to the North Sea Commission report EU can only add value to the places where the EU legislation is effectively implemented due to the important role of EU to play in setting an overall policy framework and common goals for maritime sectors. The Maritime Policy which takes a long-term, strategic outlook at maritime affairs is also important. Moreover, the success of the Policy should be measured on its long-term contribution to developing Europe's maritime areas and sectors, rather than on its ability to rapidly meet targets. The EU financial instruments could continue to prove a useful tool in supporting Europe's maritime goals. Finally, it is of paramount importance that the Maritime Policy is truly integrated, both within the sectors which it addresses and with other EU policies (e.g. fisheries and transport). The Maritime Policy should act as a coordinating umbrella for E.U. Policies that impact on the marine environment (NSC, 2007).

In line with this counter argument Countries which are on road to the European Union membership should settle their National maritime policies in a form that it would be easily adapted to the Integrated Maritime Policy of Europe.

3.4. The European Network of Maritime Clusters

The size of the cluster can be perceived as a small existence due to the sense that is given by the definition of Porter " …geographically concentrated regional group of firms" However, The European Network of Maritime Clusters (Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Poland, Spain, Sweden, United Kingdom) which was founded on 4 November 2005 in Paris by maritime organizations of ten countries, is a good example to prove that the application of the cluster concept can be independent from the size of the regions that the maritime industry is operating. The objective of the European network of maritime clusters is defined as to learn from each other and to promote and strengthen the maritime clusters of member states and Europe as a whole. The basis for this founding session was created during a first meeting which took place in The Hague on 26-27 April 2004, and a joint-presentation of the various maritime clusters at the Maritime Industries Forum Plenary Session on 26 January 2005 in Bremen. The European Network of Maritime Clusters organized itself as a flexible network in which members cooperate on a voluntary basis for issues related to their national agenda's, and in a more structured way for actions at the European level. Meanwhile the Spanish Cluster was officially founded in January 2007 and joined the ENMC as participant (ENMC, 2008). Therefore, Turkey should initiate and complete the process of identifying its maritime cluster as fast as it can be done if there is an aim of being partners with EU regime.

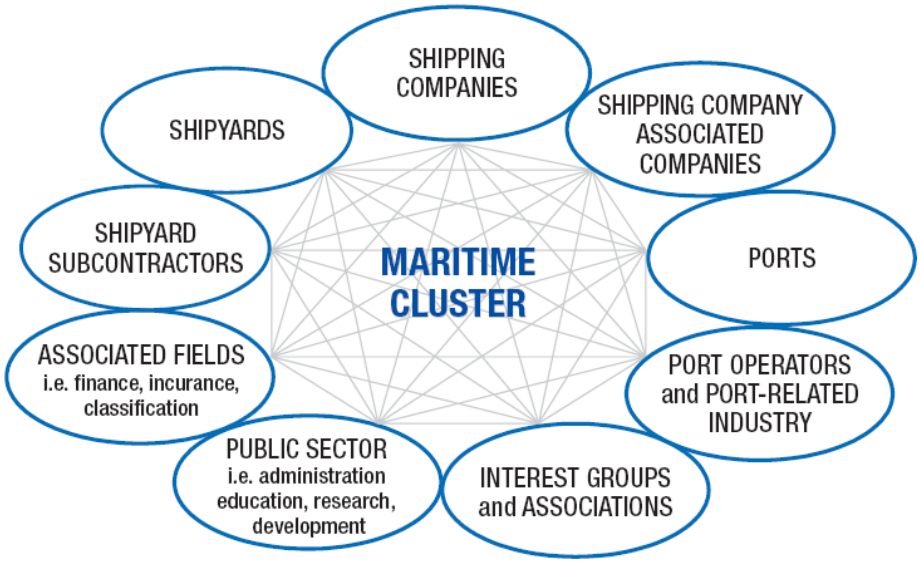
3.5. Model Clusters

3.5.1. Finland

Maritime industries are extremely important for Finland due to its geographical location. Therefore, maritime transport is essential for the country and without a doubt the most important form of transport in Finnish foreign trade. Port-related industries operate on a highly international level and attract important cash flows from the international market into the national economy. The functioning of ports and maritime transport is essential to the Finnish export industry (Viitanen et al., 2003).

The relation between demand and supply in terms of the Cluster concept is important for a better understanding of the economic importance of the Finnish Cluster. The accounts of the national economy depict the supply and demand of the nation. Supply is made up of the production and the exports of different industries. Demand, on the other hand, is made up of private and public consumption, investments and imports. The strength of the national accounts lies in the fact that they are extensive and also consistent in the sense that supply and demand have to be in balance. Different statistics are used in drafting the accounts of the national economy, including some estimates (Viitanen et al., 2003). The maritime cluster in Finland is formed by several industries related to seafaring, marine industries and port operations in the private and public sectors. (Figure 7)

Figure 7- The Finnish Maritime Cluster



Source: The Finnish Maritime Cluster Study, Technology Review 145/2003

- Companies producing key products, such as ships and services related to maritime transport forms the core of this cluster. This group of companies composed of shipping companies, ports and shipyards. An extensive network together with contractors, subcontractors and associated businesses is being formed by shipping companies, ports and shipyards. The fields that the companies are activating all over Finland and everywhere in the society;
- Manufacturing production technology for the networking companies,
- Providing services needed in production,
- Through subcontractor networks, the influence of the maritime cluster core companies and their networks extends.

Core companies which are namely shipping companies, shipyards, ports, networks are not separate from one another but their networks include the same companies. Ports, shipyards and shipping companies are connected to one another directly and especially through their subcontractor networks. Thus the success of different

maritime cluster companies in different cluster sectors is reflected in the success of other maritime cluster companies (Viitanen et al., 2003).

Companies of different supporting and related fields as well as producers of special services such as educational, research, financial and classification services are also included by the cluster, in addition to the maritime cluster core companies and their associated companies. On the other hand, as according to the terms of the core size and the dimensions, it is typical for companies of related fields, such as insurance companies, finance companies and classification societies to develop in the cluster. The maritime cluster core companies have to remain strong if the related businesses are to be sustained.

Moreover, the public sector, naturally, has a very important role in the maritime cluster as well. First of all, public administration together with municipal administration together creates the operational preconditions for the companies. Through the education system, maritime cluster companies receive skilled employees. Different government institutions, such as the Finnish Maritime Administration (FMA) and The Frontier Guard protect Finnish seafaring by taking care of fairways and pilotage, among other activities. Municipal rescue departments, in turn, order ships from Finnish shipyards. In addition, the public sector has a vital role in research and development. The VTT Technical Research Centre of Finland and the National Technology Agency Tekes are the examples to the important role that the government plays in research and product development. Other interest groups also belong to the maritime cluster, such as trade unions, employers' associations and other associations (Viitanen et al., 2003).

3.5.2. Norway

There are 7 different regions where the Norwegian maritime cluster is located and the distances between the sub-clusters are considerable. One of the key strengths of the cluster is regarded to be its completeness, despite the fact that not all maritime

sectors are represented in the Norwegian cluster. The maritime industry in Norway is composed of a large number of equipment producers, maritime services, ship yards and shipping companies of which the 50 percent of the cluster is being represented. The Maritime Forum that was founded in 1990 has been created as one of the varied and well-developed set of network organizations. Strengthening co-operation between the different maritime sectors and lobbying Norwegian and international authorities on behalf of the maritime industry are significant aims (Jenssen, Sodal, & Wijnolst, 2004).

Figure 8: Regional concentration of maritime industries in Norway

Source: (Wijnolst et al., 2003)

Maritimt Forum, the cluster organization of Norway is open to all Norwegian companies and organizations involved in the maritime industry. Its members comprise both employers and employees of maritime companies and organizations. The organization is established in 1990.

Maritimt Forum – members are;

- Organisations,
- Norwegian Shipowners' Association,
- Federation of Norwegian Engineering Industries,
- Metal workers association,
- Norwegian Maritime Officers' Association.

Companies involved are;

- Shipowners,
- Ship Yards, Ship Equipment Industries,
- Brokers, finance, insurance, class, consultants

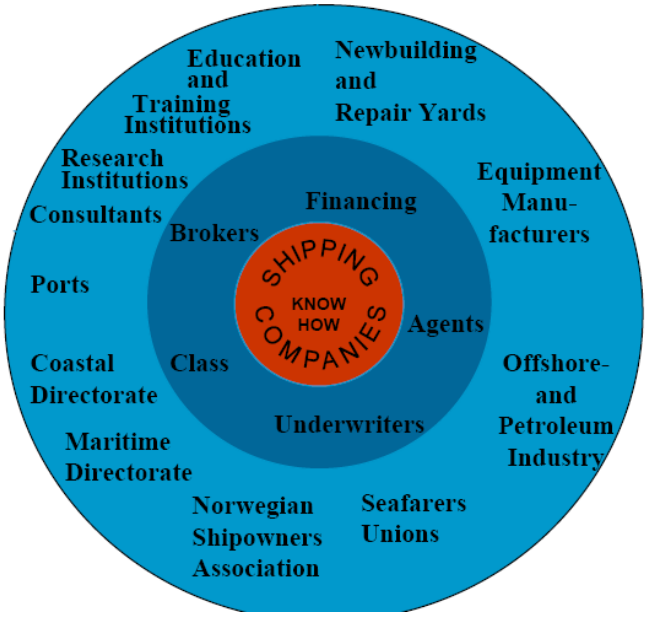
More than 600 members, included members in 8 regional organizations are represented. At the local level, local government is typically represented.
The main objectives of the Maritimt Forum are;

- To positively influence the conditions of Norways industrial policies on behalf of its members
- To strengthen cooperation and activity between the different sectors and players within the maritime industry
- To forward, on an international basis, the best interests of Norway's maritime industry (Lahnstein, 2004)

According to Lahnstein the important challenges in front of the Cluster are:

- Keep and develop the almost complete existing cluster diamond
- Strengthen the connections between the different parts of the cluster
- Strengthen recruitment
- Increase the research and innovation effort
- Attract foreign capital and competence

Figure 9: Norwegian Cluster Demonstration



Source: Norwegian Cluster demonstration by Wergelend 1992 quoted from (Lahnstein, 2004)

3.5.3. Dutch Maritime Cluster

The concept of the Dutch maritime cluster has grown from an idea to reality. As Prof Wijnolst explains; the steps that are taken from an entirely academic standpoint, was to postulate a theory that there is such a thing as a maritime cluster. This was merely a theory which was not substantiated for maritime industry. As a result of an extensive research work, what has been believed for Dutch maritime industry has proven itself by generating a complete paradigm shift in attitudes throughout the Dutch maritime scene (Janssens, 1999). Among all other clusters that are analyzed, the Dutch Maritime Cluster seemed to be the most organized due to its very strong base. The main reason for this is probably because of the maritime history of the Nation which is dating back nearly 400 years. A Board of Directors which is established as a foundation where all sectors are being represented is the key factor for the organized maritime network for Netherlands. In other words, the foundation operates a network organization with a board made up of prominent figures from all

the maritime sectors. The board enables the foundation to work as a neutral and independent body. In respect of image and communication the foundation works hand in hand with trade organizations and companies in order to create a better profile of the Dutch Maritime World. As a result maritime TV series, books, publications, and work shops are being done (Dickey, 1999a). Maritime education has special importance of developing projects in Dutch cluster mentality. On the other hand, to define the sectors and to identify all the companies that are part of it was the initial challenge for the establishment of the Dutch maritime cluster. Eleven sectors have been established these are namely; shipping, shipbuilding, maritime equipment suppliers, ports, offshore, inland shipping, maritime services, dredging, navy, yachting and fisheries. These sectors accommodate nearly 12000 companies.
Despite the fact that Dutch approach to the maritime cluster is very time consuming and costly, in the end it is expected that cluster pays its dividend in the form of a better understanding about the structure of the Dutch maritime Cluster. As a result, cluster helps to strengthen the cohesion and co-operation among the sectors.
The Dutch Maritime Network is structured around a board of directors who are some of the best known entrepreneurs or officials around the country and they serve for 4 year time which enables the board to function properly (Janssens, 1999).

Moreover, the Board of the Foundation is composed of professionals who participate in decision making in all of the individual cluster sections. Therefore, the Foundation is actively involved in devising policies and taking initiatives to strengthen the maritime cluster (Wijnolst, 1999). Furthermore, such an organized cluster which is being administered by an efficient board enables quick responses to potential economical crises and brings the sector back. The quick action from the Dutch government with a necessary change to the national law brought the country's shipping sector back on track. This action was urged by the Dutch maritime network's inventory cluster study approach which avoided owners to flag out their vessels (Bos, 1999).

CHAPTER 4
GENERAL CLUSTER THEORY

In this chapter, general information of the cluster theory of which the maritime industries of European Countries that are given at the previous chapter will be discussed.

Economists interests in factors that govern economic development are addressed at different levels, the firm level (Rumelt et al, 1994 quoted from De Langen), the regional level (Van den Berg, 1987) and the national level (for instance Adam Smith's (1776) classic on the 'wealth of nations'). The economic development of regions receives more and more attention. A cluster is one of the most particular regional environments, to which is a relatively prosperous economic development that is defined as regional concentration of related economic activities (Krugman, 1991 quoted from De Langen)

The cluster concept has been embraced by scientists and (regional) policy makers. The regional clusters have been identified, and the policies and strategies have been developed to enhance the development of clusters (Markusen, 1996 quoted from De Langen). A large variety of clusters, each with different characteristics have been identified. Famous examples include, high tech clusters such as Slicon valley (Saxenian, 1992 quoted from De Langen), and service clusters, such as the financial service cluster in London (Amin and Thrift, 1992 quoted from De Langen). (Langen, 2003) Cluster theory has developed over the last ten years as a tool for better describing economic activity in service or knowledge based regional economies. A leading proponent of the theory belongs to Professor Michael Porter, who defines a cluster as geographic concentrations of interconnected companies, specialised suppliers, service providers, firms in related industries and associated institutions that compete but also co-operate.

According to Porter; the cluster has dynamics to grow as musts: Innovation, improve productivity, improve access to employees and suppliers and information, exploit complementarities, give birth to new businesses and engage locally. Clustering of firms in a region can be observed in many countries (see Krugman, 1991 and Porter, 1990). In order to improve the competitiveness of the cluster, there is a need of a cluster level, a collective response and new modalities for public private partnership. (Langen, 2003)

4.1. Defining a Cluster

According to Porter, 'a Cluster is a spatially concentrated group of firms competing in the same or related industries that are linked through vertical and horizontal relationships' (Porter, 1990).

In addition to Porters' definition of Cluster as a geographically concentrated group of firms, De Langen describes Cluster as population of geographically concentrated and mutually related business units, associations and public/private) organizations centred around a distinctive economic specialization (De Langen, 2003).

The term 'population' is used in 'Population Ecology' to denote groups of similar firms, in most cases firms in the same industry. In this definition, the population consists of complementary and interrelated firms, located in the same region. Thus the population is more diverse and the majority of the analytical tools from Population Ecology can not be used to analyze clusters (De Langen, 2003).

4.2. Need for a Cluster

Maritime Industry with its dynamic components such as ports, ship building, inland waterways, and offshore facilities fits to the meaning of clustering. Maritime activities are geographically concentrated in a limited number of regions within the coastline and or inland waters, mainly because geographical conditions are

favourable in some regions. Port related economic activities are of substantial importance for the regional economy in many port regions. All these facts led the maritime industry to be considered under a cluster regime.

Moreover, the European Union membership period of Turkey requires the compatibility with the structure of the member state regime of the Union where the National Maritime policies of individual member countries are being gathered under an integrated approach of maritime policy of European Union (EU, 2007). Accordingly, the leading countries of the Union apply the cluster regime in their countries which Turkey should introduce the concept for its possible membership in future as one of the requirements in order to get adapted to the Union.

On the other hand, even the membership process ends with a negative result, the concept of clustering will enable the Country to depict its interlinked maritime services which will lead the maritime industries' contribution to the national economy.

4.3. Competitive Advantage

The Cluster Theory mainly depends on the growing awareness of national and regional resources which stimulate competitiveness and thus lead to competitive advantage. Michael Porter identifies two basic types of competitive advantage as cost advantage and differentiation advantage. The delivery of the same benefits at a lower cost than competitors named as a cost advantage. A differentiation advantage exists when the firm is able to deliver benefits which exceed those of competing products. A group of competitive firms is necessary to have a competitive cluster. According to Porter, the competitiveness of a cluster mainly depends on its ability to generate synergetic advantages through innovation, the efficient use of resources across company and industry borders (Porter, 1998).

4.4. Advantages of a Cluster

From an academic point of view, interaction between firms is more effective in stimulating competitive advantage when clustering occurs. Despite the fact of globalization which has diminished the advantages of being located in a specific geographic location, there are still unique factor advantages of such locations which are namely; knowledge, relationships, motivation, reputation and infrastructure. Accordingly, these factors create a business environment which is endured on a competitive advantage as a conducive. These factors are mostly separated from each other and highly expensive to reproduce where this situation safeguards the cluster from competition via imitation.

The four main advantages afforded by the cluster all lead to the increased competitive advantage of the cluster. Firstly, firms become more productive while they participate in a cluster. Better access to means needed for carrying out their activities is easier in a cluster regime, such as technology, information, inputs, customers and channels, than they would have when operating in isolation (Porter, 1990). Drive, ability and speed with which to innovate are also enhanced by the participation to the cluster regime. Cluster relationships and institutions are subject to confront entrepreneurs with lower barriers of entry where an existing cluster provides a sound base for new business formation.

Competition is the core base for the cluster which provides an environment enabling firms to become competitive. However, the ability of local firms to take the benefits of being in a cluster and being able to exploit the benefits from the competition, will lead to greater national prosperity. As Porter stated (1998), the mere co-location of companies, suppliers and institutions creates the potential for economic value; it does not necessarily ensure its realization.

4.5. Disadvantages of a Cluster

One of the main disadvantages of a Cluster is related to the academic studies' profiles which mostly restricts their investigations of clusters to qualitative explanations rather than having the academic studies ground based on the scientific performance indicators.

Secondly, merely observing the successful clusters does not provide a reliable ground to analyze the effectiveness of competition in clusters as to conclude general findings which will be applied to the various countries.

In certain cases such as locking in old technologies, cluster might pose disadvantages to the continued development of its members, and in extreme situations such as not developing the flexibility to adapt to new changes, hastened the decline of the whole region. Moreover, relying on few buyers or on continuing to operate on one large or a limited number of players are also factors that lead the Cluster to become vulnerable.

Furthermore, market saturation, lower profit margins, and higher cost of production are perceived as disadvantages. Restraining competition due to mutual understandings of firms, consolidation, and creation of cartels or domination of lead players also lead to the cluster being less productive.

The risk of an inertia which brings a negative sense on the members of the Cluster due to the high success level of the Cluster is also an important disadvantage. In other words, creation of an atmosphere where the status-quo sustained deters firms from thinking of new practices or radical innovations for improvement. Furthermore, such inertia on the Cluster may even make members hostile to individuals who challenge established practices.

CHAPTER 5
IMPLEMENTATION OF THE CLUSTER CONCEPT TO THE TURKISH MARITIME DUSTRY

In the light of the information that is given at previous chapter, in this chapter the applicability of the general cluster theory to the Turkish maritime industry will be discussed.

Understanding the forces that cause the rise and fall of maritime nations, and maritime clusters, may provide the clues on which new policies may be formulated to maintain clusters viable (Jenssen et al., 2004).

Having more than 8000 km (including the islands) of a coastline makes the country so wide to fit into the definition of Cluster as given in Section 4.1. (Turkcebilgi, 2008) However, the most shipping activities are concentrated in Marmara region which is given in Figure 9. Most of these activities with its all interrelations such as chartering, brokering activities, maritime law applications are being carried out within this region due to the developed capacity of the region. One of the main reasons for this development at the region is because of the international Turkish straits where more than 106000 ship passages have been recorded in 2007 (UMA, 2008).

Figure 10: Shipping Activities in Turkey

Source: (Cerrahogullari, 2001)

However, the wideness of the coastline and the geographical concentration on one or two regions do not create an obstruction for the implementation of the cluster concept to whole country. The said concept's maritime version introduces the necessity of the definitions of the maritime services and the establishment of the clear picture of the link among these services. The definitions of the maritime services allows the cluster management to cover all maritime activities among the Nation and the picture of the interlinked services which can also be considered as an organization chart, and it describes the relation among the maritime services. Therefore, these two initial requirements for a cluster can be applied to the whole Country. In deed, Turkey provides its maritime governance in 7 regions through 64 harbor masters as given in Chapter 2. This type of organization enables the official control over the Country including the inland waters (Lake Van). Therefore, a similar organization to the UMA in terms of its deployment in Turkey can be formed for the cluster management. As given in Dutch Maritime Cluster, a Board which will be composed of the representatives of each sector that are defined in Figure 2 of

Chapter 2 can maintain the coordination among the maritime services and fill the gap of harmonized long term planning policies at the industry.

Furthermore, the European Network of Maritime Clusters (Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Poland, Spain, Sweden, United Kingdom) which was founded on 4 November 2005 in Paris by maritime organizations of ten countries, is a good example to prove that the application of the cluster concept can be independent from the size of the regions that the maritime industry is operating. The objective of the European network of maritime clusters is defined as to learn from each other and to promote and strengthen the maritime clusters of member states and Europe as a whole (ENMC, 2008). Therefore, Turkey should initiate and complete the process of identifying the components of its maritime cluster as fast as it can be done if there is an aim of being partners with EU regime.

5.1. How the Turkish maritime cluster should look like?

It is important to create an international playing field level for the Turkish maritime industry. A foundation or a similar entity where a Board will function should be established. The foundation operates as a network organization with a Board composed of prominent figures from all the maritime sectors. The factors of neutrality and the independence are crucial for the effective decision mechanism. A periodical publication such as a magazine or a web forum should be established in order to announce the consensus based decisions that are taken and all other related matters. The main areas of interest of the foundation should be framed by the law. Devising new policies that will further increase the entrepreneurial spirit in other maritime sectors and the development of common social and environmental goals to be achieved within the maritime industry, planning and exercising major research studies for every sector are the basic items which the foundation is expected to deal with. Special attention needs to be given to Maritime education for which the cluster projects may be developed. The foundation should has the capability of; a continuous process of adding new services to the cluster, keeping the present links fresh and

maintaining them in a coordinated way, stimulating, co-operation, exchanging know-how and information.

The research studies and detailed inventory of the Turkish maritime cluster should create a powerful tool which the network can objectively and independently use to help each of the services in a fair manner. The current issues which can be addressed with the model also enable to analyze the input - output structure where every sector is related to each other. In other words, the analysis of one sector can be done through the affects of it to another sector such as fishing sector and offshore shipping and/or inland shipping and ports. Moreover, the challenge of defining the sectors of Turkish maritime cluster and identifying the services that are part of it should be handled based on the results of a scientific research. The Dutch Maritime cluster example which is given at Chapter 2 is used for the purpose of this thesis. The direct and indirect economic, social and environmental values per sector of the Turkish maritime cluster should be analyzed on a yearly basis. The analysis at minimum level should cover the production, value added and employment figures. Based on the extensive data gathering, a huge economic input –output model which can be used to calculate unbiased scenarios is considered to be one of the tools for the measurement of the effectiveness of the cluster. The results of these scenarios can be used for the discussion with all relevant parties in the sectors. Within this way, a consensus which will increase the acceptance level of future policy changes can be created. In other words, the whole industry becomes proactive against possible problems without affecting each other negatively. Furthermore, such an organized National regime will enable the country to get adapted to global maritime cluster and will maintain an easy information flow in order to access to the new EU integrated policy. Another broader ambition behind the Turkish maritime network can be; creating a unique location for global companies as it happened in Holland a decade ago.

5.2. The benefits of having a cluster:

- The coordination among the whole industry
- Preparedness for unbiased scenarios
- Model studies
- Quick actions from the related sectors
- An extensive data bank
- Sharing know-how
- Common improvements for each sector
- Increase in production, value added, employment
- Better social image through better communication
- Future prospective based on reliable data
- Independent and neutral approach at decision taking level
- A holistic approach for the sectors problems
- Consensus for almost every decision

5.3. Challenges

- Time consuming
- Requires expensive researches
- Requires a core body which is composed of sectors preeminent representatives

5.4. Cluster Policies

There is a need for a broad and in-depth research study among the whole country in order to reach to the objective of arriving at policy recommendations that would lead to a lasting and dynamic growth of the maritime cluster. However, this objective should not be achieved through direct interference with the market forces, but by creating the conditions, or the framework, within which the private sector could function best. This policy's framework should compose of the capacity to create

sustainable value added and employment for the whole economy and reinforcing its innovative capacities that is based on a conceptual model, or paradigm, in which entrepreneurial spirit and responsibility are the central pillars. Furthermore, the use of the human capital that is reinforced by having highly qualified people, an innovation driven R&D and innovation diffusion network, and sufficient (risk) capital are the terms for the said entrepreneurial spirit. Through intensive co-operation within the cluster, its effectiveness and growth can be increased. At the same time the government should support vigorously exports from the cluster and look after the safeguarding of a competitive level playing field within the various world markets (Wijnolst et al., 2003).

Regional and national competitiveness are influenced by Industrial clusters which are very important and in the development of clusters, public policy can have a significant effect on it. The six externalities of the cluster process are classified by (Wijnolst et al., 2003) as follows:

- Reduced transaction costs of co-operation/specialisation (which for instance may create vertical disintegration of production, specialisation and create interorganisational co-operation)
- Utilisation of complementarities in the use of input resources (which may be creating scale of production and critical mass of demand necessary for producing a particular resource)
- Utilisation of substitution/local rivalry
- Better access to skilled, specialised and experienced labour
- Knowledge diffusion and learning caused by networking
- Location specific social and cultural factors such as industrial atmosphere, conventions, informal rules and habits also stimulate the development of clusters (these factors may or may not be externalities of clusters).

Public policy must be based on a proper knowledge and expertise for effectiveness.

If not, the public initiative can be ineffective. The structure and size of European maritime clusters are dissimilar, and the national clusters have large distances. Consideration of Europe in terms of maritime cluster was also a difficult task, and probably same challenges are coped within the maritime industry in the European continent. Furthermore, the problem of a stronger integration of business strategy and public policy should also be taken into account and the development and effects of clusters on value creation is complex. In addition to these, in Netherlands, Norway, and other European countries, the structure is very different. Therefore, assessment or benchmarking of clusters is a significant task and necessitates tremendously high number of data available. Once measurements are provided for all the variables, the impression of complexity would be increased. Nevertheless, the theoretical base is required for the selection of proper performance indicators and figuring out the limitation of the variables used as indicators.

Many investigations related to the maritime cluster in the two countries have been performed during the previous years and it has been found that most of the data is not consistent to each other. Part of the reason for that is the different structure of the industry. A large overview of the countries' clusters is provided rather than thorough selection of a particular number of criteria, based on the discussion of factors and the relations between them. Such a strategy enables the data available in each country.

However, making some quantitative comparison between the countries is successful, only if it is based on the same measurement. Such a comparison is necessary for designing the public policies in each country. Hence, a comparison of the countries as much as the existing data and secondary sources allow, will be provided.

Application of policy instruments intended for stimulating cluster processes is difficult. However, making some guidelines available is possible for learning how to reduce the problem. Therefore, it is very important to increase and systemize the available information on maritime clusters.

Uncertainties and information gaps will be available every time, which may lead the authorities fall into the hands of special interests. Choosing strong instruments towards lack of information for the authorities will help to avoid this problem. Designing instruments can achieve this by aiming at the sources of the market failure. Despite the cluster, such a policy is crucial implementation. Another possibility is to design instruments that show the private actor's interest on the cluster effects. Also, it is proper for public sector to do something for stimulating the cluster processes. Nevertheless, according to the asymmetric information theory, it should be less than one would have done with the necessary information available.

CHAPTER 6
CONCLUSION

The integrated maritime policy with its overarching strategy provides an analytical framework and a selection among the objectives to allow academics and policy makers to define and propose the actions needed to attain both these objectives and the overall goals of the National Maritime Policy. Therefore, there is a need to introduce the maritime clustering concept in order to analyze its applicability to the Turkish shipping industry.

Indeed, it was very common for the traders in history to build up communication links among the sectors that are related to their businesses. The clustering mentality is nothing but a modernized and giant version of those traditional approaches towards trade that have been done for many years. Moreover, in order to access and compete with global standards there is an obvious need for a strong control and decisive policy which requires a combined reaction to the expected and unexpected changes in maritime business in the future. Therefore, the picture of the maritime services of Turkey should be photographed in a more detailed way under the supervision of a regulating authority. This authority is thought to be composed of the sector representatives from every related maritime service on a nation-wise basis. The Dutch maritime case is an exemplary model for this purpose. The number of employees, the companies and the economic output of the Netherlands provide significant evidence for the success of the cluster mentality in the country.

The maritime cluster in Turkey is expected to consist of several sectors, such as those associated with shipping, marine industries and port operations in the private and public sectors. The main objective of the Turkish Maritime Cluster study was to

assess the significance and to map the networks of this cluster in Turkey, as well as to describe its economic and social importance. Therefore in Chapter 2 the maritime services definition of Turkey and model cluster which is based on the Dutch Maritime Cluster is given. The idea behind this is the photography of the integrated approach on a nation-vise basis to be given within cluster terms. Such an approach is expected to establish the grounds for a national maritime policy to be implemented through the supervision of a Board or Cluster Administration. This body is intended to maintain harmonization among the sectors and strengthen the natural links. Nevertheless, the European Union membership process will require the establishment of such a body in terms of the new EU integrated maritime policy as it is given in Chapter 3.

Furthermore, the maritime cluster is a functional entity in which the various industries, such as shipping, marine industries, port operations, education facilities, and banks are in close interaction with one another, not only directly but also through their company networks. Through these networks the large companies in the maritime cluster will extend their influence to the whole country.

The public sector plays an important role in the maritime cluster and its place is given at the early chapters. As the economy develops, the scope of co-operation between the private maritime sector and public administration has become increasingly wide. Therefore, the strong link among the public and private sectors is more important than ever.

Nevertheless, the country's geographical location makes maritime transport essential for the Turkish economy. Further developments and the efficiency of maritime transport and ports are vital for the competitiveness of the Turkish export industry. Ports and the companies operating in them are crucial links in the foreign trade logistics chain. The role and importance of the ports and companies operating in is given in Chapter 2 as one of the strongest chains of the whole cluster. However, a

field study and practical research is needed in order to depict the current situation, especially after the privatization processes.

Furthermore, the disorganized way of the reactive approach which appears as problems occur, requires a focused and concentrated management mentality. One of the basic advantages of the integrated approach by the true application of clustering mentality is to provide a high preparedness level, with a decisive, quick and effective response through the up-to-date and true data which is dependent upon on continuous and fresh statistics. The absence of an organized policy is being felt in almost every segment of the cluster which is given in Chapter 2 such as education and port implementations. The methodology of a decision of opening a new university, slow and defective privatization process through intensive bureaucracy are a few examples which can be given as the results of the current policy.

Therefore, since the beginning chapters of the thesis the importance of this integrated approach is given, The disorganized way of problem obtaining which also causes an untidy way of proposing the solutions for maritime industry can be seen in the recent joint declaration which is given in Chapter 2.

On the other hand the importance of European Union membership, despite the internal conflicts that the Union has within itself, has a crucial positive aspect for the development of the Turkish maritime industry. Therefore, the new integrated approach by the EU commission, which carries a giant cluster mentality is given in Chapter 4.

The establishment of a National Maritime Network under the supervision of the maritime cluster organization, as in the case of the European network of maritime clusters, would likely to be an effective ground for the quick responses that are necessary for a developing maritime industry.

Finally, in order to achieve a successful maritime future that can be expected in advance through today's increased technical knowledge capacities; there is a certain need for an application of the concept of organized maritime cluster.

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