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THE EFFECT OF SHIPBUILDING SECTOR ON INCREASING THE EFFICIENCY AND EFFECTIVENESS OF TURKISH MERCHANT MARINE

Abstract

The aim of this study is to draw attention to the fact that the shipbuilding industry, which has an important place among the maritime industries, is one of the leading sectors that will develop Turkish maritime and Turkish merchant marine. It is to emphasize that the knowledge, experience and international success gained in this sector to date should be supported by the state and private sector and the obstacles in front of them should be removed. The study was supported by a field study. Survey method was used as data collection tool. The questionnaire forms were collected from 123 people who work actively in the Turkish shipbuilding industry; including managers, engineers and others. These employees work in companies affiliated to GISBİR (Turkish Shipbuilders' Association), which represents the sector. In this study, the effect of the shipbuilding sector on increasing the efficiency and effectiveness of the merchant marine was examined.

Keywords: Maritime, Shipbuilding, Turkish Merchant Marine.

GEMİ İNŞA SEKTÖRÜNÜN TÜRK DENİZ TİCARETİNİN ETKİNLİK VE VERİMLİLİĞİNİN ARTTIRILMASINA ETKİSİ

Öz

Bu çalışmanın amacı, deniz endüstrileri arasında önemli bir yere sahip olan gemi inşa sanayinin, Türk denizciliğini ve Türk deniz ticaretini geliştirecek sektörlerin başında geldiğine dikkat çekmektir. Bu sektörde günümüze kadar elde edilen bilgi, tecrübe ve uluslararası başarının devlet ve özel sektör tarafından desteklenerek önündeki engellerin kaldırılması gerektiğini vurgulamaktır. Çalışma, bir alan araştırması ile desteklenmiştir. Veri toplama aracı olarak anket yöntemi kullanılmıştır. Anket formları Türk gemi inşa sektöründe aktif olarak çalışan yönetici, mühendis ve diğer çalışan 123 kişiden toplanmıştır. Bu çalışanlar sektörü temsil eden GİSBİR'e (Türk Gemi İnşa Sanayicileri Birliği) bağlı şirketlerde çalışmaktadırlar. Çalışma ile gemi inşa sektörünün, deniz ticaretinin etkinlik ve verimliliğinin artırılmasına olan etkisi incelenmiştir.

Anahtar kelimeler: Denizcilik, Gemi İnşa, Türk Deniz Ticareti.

INTRODUCTION

The world trade network is built on sea routes. Therefore, merchant marine routes have a political, economic and strategic importance for world states.

The primary goal of the world states, which actively use the merchant marine routes, is to increase their trade volume by sea. Increasing shipping revenues is another commercial goal by doing this trade with the sea fleets they own.

Ships are at the center of all this trade movement and the maritime industry. Shipyards and ports are the most important actors of merchant marine, as the maritime industry is generally thought of as revenue generating sectors.

Production, repair and maintenance of ships is the subject of shipbuilding industry. Among the maritime industries, there is no other field that provides as much foreign currency input as this industry, increases regional employment, develops and expands trade. In this sense, the importance attached to the shipbuilding industry is an indicator of the value attached to maritime (Ünal, 2018: 1).

The high added value of the ships produced, the export, the quality of the materials used and the localization rate show the sectoral development. Since approximately 90% of the world trade is done by sea, developments in the sector provide a great advantage to the country in terms of logistics. In addition, ships have an economical scale value that enables the transfer of large loads at one time with more affordable prices. The fact that products can be transported in large quantities to very distant centers at more affordable prices is the preferred reason for trade by sea.

Technological developments in marine vehicles increase the dominance of countries with a coast in the seas. The navy is extremely important for the security of the country and merchant marine. At the same time, it is more advantageous than other means of transportation in transferring other force vehicles, protection from above and under the sea.

Due to these reasons, the production of sea vehicles, the development of their capabilities and capabilities, and the increase in the rate of indigenusness directly affect the merchant marine and naval forces. Establishing an independent naval force and gaining more revenue from merchant marine is in a sense related to the efficiency and productivity of the shipbuilding industry.

1. LITERATURE REVIEW

There are studies on sectoral analysis in the literature.

Kwak and friends (Kwak et al., 2005) used input-output (I-O) analysis to apply specifically to Korea the role of the maritime industry in the national economy for the period 1975-1998.

Again, an input-output (I-O) methodology was used to examine the links and production effects of the maritime sector on the national economy. Morrissey and O'Donoghue (Morrissey et al., 2013) estimated the national and regional economic value of the Irish maritime sector.

Since important technological and management changes have occurred in the shipping industry in the last decade until 2005, Managi conducted a study to measure this and published an article in 2007 (Managi, 2007). In his study, he analyzed the total factor productivity analysis of the Japanese maritime industry using the "Luenberger productivity indicator".

Zakaria and friends (Zakaria et al., 2010) also drew an overall view of both the public and private sector shipbuilding industry in Bangladesh using structural, unstructured, and open-ended surveys.

Hadžić et al. (Hadžić et al., 2015) conducted a research on the current state of the shipbuilding industry in Croatia.

Sartaş has revealed the growth dynamics of the shipbuilding industry in Turkish trade by analyzing the reasons for the growth of the industry between 1992 and 2008 (Sartaş, 2010).

Turan and Cengiz (Turan & Cengiz, 2015) by addressing the global economic crisis began in 2008, it was mentioned that affect the development of the shipbuilding industry in Turkey.

2. IMPORTANCE OF THE SEAS AND MARINE INDUSTRIES

The seas have political, legal, economic and military importance. The prerequisite of being a maritime nation is to understand the importance of these four titles and to make the most of the seas. Effectively implementing maritime policies, maritime education and maritime economy which form the basis of maritime, are the main steps to be taken. It is possible to raise maritime awareness only on these bases (Ünal, 2018: 5-23).

Turkey which has 8,333 kilometers of coastline and surrounded by the sea from three sides, as geographical location is located on the world's most important trade and energy routes. In this respect, the country is expected to be strong in terms of politics, military and legal aspects and to have a great economical importance in the world merchant marine.

The way to do this is to operate in every possible area of the maritime industries and be particularly successful in high-income areas.

The maritime industries that make up the maritime economy have been defined as sectoral by Douglas-Westwood Limited in the report published under the name World Marine Markets. These industries are ranked according to sector sizes between 2005 and 2010 in Figure 2.1 (Douglas-Westwood, 2005: 7).

Figure 2.1: World Marine Industries Sector Totals 2005-2010 (Billion Eur) (Douglas-Westwood, 2005: 9)

When this figure is examined, it is seen that the maritime sector is an industry branch with passenger and freight transportation, shipbuilding industry, port services, tourism, water sports and the production of living and non-living natural resources, as well as a trade and service area. The fact that a large part of oil, natural gas and minerals are under the sea and three-quarters of the world is composed of water increases the importance of transportation in the seas (Ulaştırma ve Ulaşım Araçları Merkezi, 2005: 264).

These industries in Figure 3.1 do not show much change in the ranking. When they considered one by one, it is seen that the marine vehicles used by most of them are ships.

3. TRADE BY SEA (Merchant Marine)

Trade; all kinds of services, values, goods, food, etc. exchange is used in the sense of trading activity (Türk Dil Kurumu, 2016).

It is divided into two as national and international trade. If the buyer and seller are located in the same country and the goods subject to trade change hands within the same country, this is called domestic trade. If the buyer and seller are in different countries, it is called international trade, foreign trade or cross-border trade. Foreign trade deals with the import and export of goods with each other. This situation constitutes an important part of international economic relations (Acar, 2004: 1).

The concept of foreign trade is a narrower concept than the economic relations of the country with other countries. It covers only the goods flows of the country, namely the purchase and sale of goods (Seyidoğlu, 2003: 3).

Human being, use the seas in commercial life until today, can transport everything by sea where it is needed in the world. Transportation is carried out on some routes on the seas. It gives direction to trade with various modes of transport and markets. Transport networks, like a person's blood vessels. The communication device can be thought of as the human nervous system. In this respect, trade by sea continues its course as a system that operates regularly (Atasoy, 1987: 7).

Figure 3.1: Sea Routes for Trade in the World (Gisbir, 2014).

Figure 3.1 shows the superiority of maritime transport over other modes of transport with the size of their trade volumes. Trans-Pacific line has a trade volume of over \$ 80 billion, while Trans-Atlantic, Inner-Asia and Inner-Europe is in the range of \$ 40-55 billion. It is seen that the Latin-America and Asia-Europe line is 25-40 billion dollars and the volume of other lines is 25 billion dollars (GİSBİR, 2014: 10).

The products transported, ship types and chartering forms constitute the general framework of this trade. New shipbuilding, second hand ships, scrap ships and freight markets are the markets that make up the maritime transport (Ünal, 2018: 64-80).

The world merchant fleet is generally under the control of countries that are advanced in the maritime field. Respectively, Greece with 18.7%, Japan with 14.6%, China with 11.6%, Germany with 7.4%, South Korea with 5%; it accounts for more than half of the world merchant fleet. However, more than half of the of each country's tonnage DWT (Deadweight Tonnage) is foreign flag. 42% of the fleet is registered in only three countries and these countries are; Panama with 325 million DWT, Liberia with 198 million DWT, Marshall Islands with 182 million DWT. As of 2015, the ten countries at the top of the ranking hold 73% of the 50,700 commercial ships and the world fleet reaching 1.67 billion DWT with 1.2 billion DWT. The fleet is in the ship registry of 150 countries in total (İMEAK DTO, 2016: 10-11).

The fleets of national and foreign flagged ships under the control of countries are given in Figure 3.2. On ships over 1.000 GT (Gross Tonnage); Greece ranks first with 324 million DWT. Japan ranks 2nd with 243 million DWT, China ranked 3rd with 203 million DWT and Germany 4th with 120 million DWT. Turkey is 14th in the rankings.

Figure 3.2: Fleet Controlled by 15 Countries (İmeak DTO, Sector Report, 2016).

4. MERCHANT MARINE AND SHIPBUILDING INDUSTRY

It is extremely important to build new ships and use in trade to get a larger share of the world trade pie. The ships should be equipped with new technologies and the fleet should be developed according to the needs.

With the development of ships, merchant marine gained speed and this situation contributed to the development of the world economy. The development of the world economy; has increased international trade. At the same time, due to the globalizing world relations, energy, raw material and product needs have become available through import from any region of the world. A fast and safe transportation system was needed to carry out the shipment procedures. For this reason, the demand projections of shipbuilding follow the estimation of the world commodity trade demand, the method of finding new shipbuilding demand by comparing the demand volume with the existing fleet size. The key variable in projections is the world commodity trade demand volume. This value directly depends on the Gross Domestic Product (GDP), which can be defined as purchasing power, or the growth rate, which is the annual change of GDP (Ünsan et al., 2007: 427).

Total number of shipyards in Turkey in 2002 were 37, in 2008 were 58. At the end of 2016 reached 80, as shown in Figure 4.1. There are shipyards waiting in the investment process. However, the global economic crisis, which started towards the end of 2008 and affected the whole world until the end of 2009 -effects still continued- had a negative impact on the shipbuilding sector as well as many other sectors. Cancellations in orders; it caused the suspension or postponement of all activities aimed at employment, new investment, renewal and growth. Due to declining efficiency in production despite the increase in the number of active shipyards in Turkey is extremely difficult to compete with the Far East shipyards (İMEAK DTO, 2017: 117).

Figure 4.1: Number of active shipyards 2002/2016

(Ulaştırma, Denizcilik ve Haberleşme Bakanlığı, 2017).

Figure 4.2 shows the capacity figures. In 2002, while capacity of 550,000 DWT Shipyard Turkey as of 2011 and 3.60 million dwt in 2012, increasing to 6-fold growth has been achieved.

Figure 4.2: 2002-2016 Shipyard Project Capacities

(Ulaştırma, Denizcilik ve Haberleşme Bakanlığı, 2017).

The data in Figure 4.3 shows the number of personnel directly employed in shipyards. While it was 33,480 people in 2007, it decreased to 26,910 people in 2008 and 19,179 in 2009. The number of employees in the sector, which was 23,000 in 2013, declined to 21,332 in 2014. The number of employees, which increased to 29,699 people as of 2015, was determined as 29,610 in 2016.

Figure 4.3: Employment Status (Person) in Shipyards

(Ulaştırma, Denizcilik ve Haberleşme Bakanlığı, 2017).

Industry is contributing \$ 1.5 billion to Turkey's economy by building new ships. Between 1995-2001, a total of 836,000 DWT, 166 ships were delivered. Turkey's shipyards during this period, particularly in the world has risen to 4th in the overall ship orders, including orders for chemical tankers. As seen in Figure 4.4, with the order cancellations and decline after the 2008 global economic crisis; In 2013, 21 ships with a total tonnage of 173.797 DWT, 16 ships with a total tonnage of 130.267 DWT in 2014, and in 2015, 21 ships with a tonnage of 120.019 DWT were delivered (Turkish Ministry of Economy, 2014: 1; İMEAK DTO, 2017: 121-122).

Figure 4.4: The Number of Vessels Delivered in Turkey Between the Years 2003-2015 (Piece)
(Clarkson Research Service, 2016)

The impact of the Turkish merchant marine fleet by the 2008 economic crisis was serious. Due to the shrinking world trade volume, the supply of ships has exceeded its demand. This situation reduced freight rates with ship prices, followed by contract cancellations. Many ship projects under construction have been left unfinished, and newly built ships have found buyers in second-hand markets for much less than their value. Companies that were weak in terms of capital and have high debt; faced with foreclosure procedures, changed owners or had to cease their activities.

While these problems are still being experienced in the shipbuilding industry, the rate of ships under Turkish and foreign flags also changes day by day. These rates in Figure 4.5 are considered as escape from the Turkish Flag.

Figure 4.5: Rates of Turkish Flagged and Foreign Flagged Ships by Years (Deniz Ticareti Dergisi, 2015)

This situation points out some problems of Turkish shipowners. These problems are evaluated under two main headings. The first is the laws and their causes, the other is the law enforcement stage. Foreign flag is preferred for reasons such as;

- The difficulty in obtaining financing from abroad for Turkish flagged ships,
- The extra fees paid,
- The tax debt arising as a result of the exchange difference assessment,
- The problems in the service contracts,
- The payment of social security premiums pose a risk for ship owners,
- The notarization of foreign buyers is an unnecessary burden,
- Difficulty in implementing the occupational health and safety law on ships and the penalties imposed on businesses for all these reasons (Çınar, 2015: 15-17).

4.1 Efficiency and Effectiveness Based on Existing Datas

Efficiency is defined as the output / input ratio. It is the output figure produced per unit, obtained by dividing outputs (goods or services) by one or more inputs (such as labor, machinery, management) (Nakip et al., 2001: 207).

Effectiveness is the degree to which an enterprise or employee achieves their goals (Nakip et al., 2001: 57).

According to current information, the number of operating shipyards are increasing. Production capacity is increasing with the addition of new shipyards. In addition, it is seen that the existing shipyards increase their capacities day by day.

Despite the shipyard and capacity increases, the number of ships delivered is also decreasing. The capacities and competencies need to be reviewed in terms of efficiency and effectiveness of the sector.

The concept of technological level includes developments that directly affect efficiency and effectiveness. For this reason, shipyards should work towards the more effective and correct use of resources.

Today, determining the technological level of shipyards is the most critical measure that determines the costs and benefits of entrepreneurs. The productivity, efficiency and effectiveness indicators of the shipyards to be newly planned or modernized will be directly proportional to their technological level. The technological level of the shipyard, which is required to be notified in business plans and loan request documents, is the most important decision that should be made for shipyards (Ünsan, 2008: 82).

The aim of modernization of shipyards is to shorten the delivery time while following and using new technologies and increase the quality by reducing the costs (Turhan, 1998: 150).

Shipyards that build new ships or carry out maintenance and repair should reach these products as soon as they are needed. Obtaining the desired product at the desired quality and at the desired time expresses the effectiveness and power of the sub-industry. Since the development of the shipbuilding industry and its sub-industry is interrelated, all industries in this field should be encouraged, instead of small businesses, factories operating efficiently and with modern technology should be revealed. On this occasion, it will be possible to sell sub-industry products that will reach a certain standard and quality in the international market (Ünal, 2018: 35).

It is estimated that the size of the world ship sub-industry market is 70 billion EUR and approximately 46% of this market is shared by Asian countries and 37% by Western European countries. Considering the activities of these countries in the world shipbuilding market, it is seen that they attach great importance to the ship sub-industry in order to increase the added value. Leading countries in the supplier industry are Japan, Germany, South Korea and England; USA emerges as the country with the largest share in the military ship sub-industry. At the same time, the fact that the parts produced by these countries are valuable means that they obtain a higher rate from the financial share of the world shipbuilding supplier industry (Türk Loydu Vakfı, 2007: 122).

The development of the countries that are the best in the sector should be examined well, and a new model should be studied with their successes and problems they encounter. The important thing to create a model is to reach the real datas. One of the most important problems in the sector is to reach regular and accurate datas. This situation prevents organizations in the sectors from developing realistic strategic plans and programs. At the same time, it prevents the production of efficiency and effectiveness increasing policies for industries that have an important share in the maritime industry, such as the shipbuilding industry. The first step to pave the way for maritime and to become a global power in each sector is the establishment of a reliable database and providing access to this information at any time (Yalova Yatırım Destek Ofisi, 2013: 53).

Along with these, despite the increase in the number of shipyards and their capacities, it is observed that the employment figures are generally on the decline. Especially after November 2008, shipowners and shipyards are unable to receive new shipbuilding orders, continuity of production cannot be ensured, and the delivery dates of ships under construction have to be postponed; it adversely affected the development of the supplier industry and employment.

In an active shipbuilding industry, a lot of workers are employed as it is a labor-intensive industry. This situation naturally reflects on costs and countries with low labor costs come to an advantageous position in the sector. Far Eastern countries, China, South Korea and Japan, have developed in this way, have increased their living standards, reduced unemployment as well as reduced labor costs (Ünal, 2018: 162).

Another important issue in line with the data; The Turkish flag merchant fleet is in a downward trend in the world rankings. This situation shows that fleet efficiency is decreasing day by day. Accordingly, the national flag selection should be encouraged.

The number of shipyards and their capacities are increasing. However, the decrease in the number of ships delivered, the decrease in employment figures, and the preference of foreign flags are signs of problems in this area.

In order to increase efficiency and effectiveness in Turkish merchant marine, the importance of shipbuilding industry for our country should be re-evaluated. A new model should be created using the experience, success and knowledge of the country in this field and the sector should be lifted.

5. STUDY

A. The Purpose Of The Study

The study has two main aims. The first one points out the importance of merchant marine in national and international platforms and shows that its efficiency and effectiveness should be increased. The second aim is to draw attention to the fact that the shipbuilding industry is one of the most important sectors that will improve our maritime and merchant marine.

B. Data Collection Tools

Questionnaire method was used as a data collection tool in the study. The survey consists of propositions that investigate the development of the Turkish shipbuilding industry and its impact on maritime trade.

The 5-Likert Model was used in the questionnaire and the responses of the answers; “1 - Strongly Disagree, 2 - Disagree, 3 - No Idea, 4 - Agree, 5 - Strongly Agree”.

In addition, an open-ended question was asked to the participants, "How will the development of the Turkish shipbuilding industry affect our maritime trade" and their answers were received.

C. Data Collection and Analysis

Turkey Shipbuilders' Association (GİSBİR, 2017) is actively carrying out its activities in the shipbuilding industry and its sub-industry, there are 70 members of legal persons (the universe). The sample is 123 employees of 51 member companies who responded positively to participate in this study. Considering the population and sample, the percentage of return is 73%.

The data matrix of the questions asked to be answered according to the 5-point Likert scale was evaluated by analysis using the Statistical Program for Social Sciences (SPSS).

D. Hypotheses of the Study

Seven basic hypotheses that bring various initiatives take place in the study:

H1: Renewal of our fleet with domestic resources affects the development in the sector.

H2: The removal of the obstacles to the use of the national flag and the use of the national flag turning into an advantage affects the development in the sector.

H3: Implementation of the findings and recommendations made by experts affects the development in the sector.

H4: Giving importance to vocational education and cooperating with universities affects the development in the sector.

H5: The presence of qualified employees affects the development in the sector.

H6: Sector-appropriate financial instruments, access to finance and the cost of financing affect the development in the sector.

H7: Increasing merchant marine affects the development in the sector.

Open Ended Question:

How does the development of the Turkish shipbuilding industry affect Turkish merchant marine?

6. FINDINGS

The scale reliability of the study was determined as 0.928 (Table 6.1).

Table 6.1: Scale reliability analysis table.

Cronbach's Alpha	N of Items
,928	40

The values in Table 6.2 indicate that the measurement was carried out with the participation of all participants.

Table 6.2: Case processing summary table.

		N	%
Cases	Valid	123	100,0
	Excluded ^a	0	,0
	Total	123	100,0
a. Listwise deletion based on all variables in the procedure.			

From the survey data, as a result of the analysis according to the Educational Status Frequency and Percentage Rates given in Table 6.3, it is seen that those who have completed their undergraduate education have the highest rate with 107 (87.0%). It was determined that the education level at the high school level was 4 people (3.3%) at the lowest level, and it was measured with 12 people (9.8%) at the master's degree. This indicates that a certain level of education has been achieved in terms of the shipbuilding industry and that the area of expertise will be effective and efficient.

Table 6.3: Educational status distribution analysis by frequency and percentage rates.

Educational status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	4	3,3	3,3	3,3
	University (Collage)	107	87,0	87,0	90,2
	Master Degree	12	9,8	9,8	100,0
	Total	123	100,0	100,0	

In the Distribution Analysis for the participants according to the Task Frequency and Percentage Ratios, the results of which are given in Table 6.4, it was determined that 29.3% of the participants were managers. 71 people were engineers with a rate of 57.7%, and 16 people were in the other employee group with a rate of 13%.

Table 6.4: Mission status distribution analysis according to frequency and percentage rates.

Mission		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	36	29,3	29,3	29,3
	Engineer	71	57,7	57,7	87,0
	Other	16	13,0	13,0	100,0

Mission		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manager	36	29,3	29,3	29,3
	Engineer	71	57,7	57,7	87,0
	Other	16	13,0	13,0	100,0
	Total	123	100,0	100,0	

6.1 Distribution Analysis of Factors Related to Sectoral Development According to Frequency and Percentage Rates

The findings in Table 6.5 affected the hypotheses as follows.

Table 6.5: Distribution analysis of factors related to sectoral development according to frequency and percentage rates.

	Factors Related to Sectoral Development	Strongly Agree		Agree		No Idea		Disagree		Strongly Disagree		X	Ss
		f	%	f	%	f	%	f	%	f	%		
1	Renewal of our fleet with domestic resources affects the development in the sector.	86	69,9	35	28,5	2	1,6	-	-	-	-	4,667	0,568
2	The transformation of the using national flag into an advantage affects the development in the sector.	46	37,4	45	36,6	17	13,8	15	12,2	-	-	3,992	1,004
3	The implementation of the determinations and recommendations made by the experts affects the development in the sector.	80	65,0	43	35,0	-	-	-	-	-	-	4,650	0,479
4	Vocational education affects the development in the sector.	100	81,3	15	12,2	-	-	8	6,5	-	-	4,683	0,782
5	The presence of qualified human resources affects the development in the sector.	94	76,4	21	17,1	-	-	8	6,5	-	-	4,634	0,792
6	Regulation of financial instruments in accordance with the sector affects the development in the sector.	79	64,2	37	30,1	-	-	7	5,7	-	-	4,529	0,772
7	Increasing merchant marine affects the development in the sector	98	79,7	21	17,1	1	0,8	3	2,4	-	-	4,740	0,598

The proposition that the renewal of our fleet with local means affects the development in the sector, it is seen that I Strongly Agree n = 86 and 69.9%, Agree n = 35 and 28.5%, Disagree n = 2 and 1.6%. The average of the answers given is X = 4.667, and the standard deviation is Ss = 0.568.

The proposition that the use of the national flag to turn into an advantage affects the development in the sector, I Strongly Agree n = 46 and 37.4%, Agree n = 45 and 36.6%, No

Idea n = 17 and 13.8, Disagree n = 15 and 12.2%. It was determined that the rate. The average of the answers given is $X = 3.992$ and the standard deviation is $Ss = 1.004$.

It is seen that the determinations and suggestions made by the experts affect the development in the sector. Strongly Agree n = 80 and 65.0%, Agree n = 43 and 35.0%. The average of the answers given is $X = 4.650$, and the standard deviation is $Ss = 0.479$.

In another proposition supporting the hypothesis, there are 54 people who think that the use of qualified consultancy will definitely affect the development in the sector. While 47 people agreed with this proposition, 10 people stated that they did not have opinion and 12 people disagreed. $X = 4.163$.

The responses given to the proposition that vocational education affects the development in the sector were found to be Strongly Agree n = 100 and 81.3%, agree n = 15 and 12.2%, disagree n = 8 and 6.5%. The average of the answers given is $X = 4.683$, and the standard deviation is $Ss = 0.782$. In addition, the proposition that cooperating with universities affects the development in the sector, it was determined that I Strongly Agree n = 80 and 65.0%, Agree n = 41 and 33.3%, No Idea n = 2 and 1.6. The average of the answers given is $X = 4.634$, and the standard deviation is $Ss = 0.516$.

It has been determined that there is a positive and linear relationship between giving importance to vocational education and cooperating with universities.

It was determined that the answers given to the proposition that the existence of qualified human resources affect the development in the sector, Strongly Agree n = 94 and 76.4%, Agree n = 21 and 17.1%, Disagree n = 8 and 6.5%. The average of the answers given is $X = 4.634$, and the standard deviation is $Ss = 0.792$.

When the results are examined according to the frequency and percentage rates; the participants decided that qualified managers with an average of 4.813 out of 5, qualified foremen with an average of 4.472, qualified human resources with an average of 4.634 will affect the development in the sector.

The responses to the proposition that the regulation of financial instruments in line with the sector affects the development in the sector, it was determined that the responses to the proposition that I Strongly Agree n = 79 and 64.2%, agree n = 37 and 30.1%, disagree n = 7 and 5.7%. The average of the answers given is $X = 4.683$, and the standard deviation is $Ss = 0.772$.

On the issue of organizing financial instruments in accordance with the sector, an average of 4,529 out of 5 participants participated with a large and strong percentage. Since the ease of access to finance and low cost of finance will affect the development in the sector, an average of 4,748 of the participants stated that they agreed with a large and strong percentage.

The proposition that increased merchant marine affects the development in the sector, I Strongly Agree n = 98 and 79.7%, Agree n = 21 and 17.1%, No Idea n = 1 and 0.8%, Disagree n = 3 and 2.4% has been determined. The average of the answers given is $X = 4.740$, and the standard deviation is $Ss = 0.598$.

Analysis of the Open-Ended Question;

In the answers given to the question; in order to give sufficient importance to maritime and merchant marine, the shipbuilding industry, which is the focal point of the sector, should be

given importance. The potential of the shipbuilding industry, which is a locomotive branch of industry in our country surrounded on three sides by the sea; it was emphasized that it is extremely important in terms of maritime capabilities and the development of merchant marine.

In today's world, where 85-90% of international trade is carried out by sea, which is more preferred than other modes of transportation, especially the strategic importance of producing own ships was mentioned. It has been stated that trading with the ships it produces will directly affect the reduction of current losses and debts in both domestic and foreign trade. It has been mentioned that this situation increases the income and investments of our country.

It is underlined that the renewal of our old commercial fleet with less cost is also dependent on this development. It has been stated that the renewal of the fleet has a risk-reducing effect and, based on past experiences, if these rejuvenation processes are carried out with local means, it will bring dynamism to domestic and foreign trade.

It has been stated that equipping ships with new technologies will reduce commercial risks and therefore have a positive effect on commercial life.

The prevailing opinion is that the realization of maintenance-repair activities domestically and the remaining money in the country will positively affect the sector.

It is thought that it is necessary to reduce costs in both shipbuilding and maintenance-repair. It has been stated that it is necessary to produce at least half of the materials (such as generators, main engines, radars) with high added value, which are generally imported, in order to gain more power in merchant marine. It was emphasized that this situation will also affect pricing.

It is widely thought that our merchant marine will develop with the development of the shipbuilding industry, which is one of the first rings of the maritime trade chain.

7. CONCLUSION AND SUGGESTIONS

All hypotheses are accepted.

From the point of view of the Turkish maritime sector, the country is close to the markets due to its strategic location and needs to better evaluate its geography, which opens to transit transportation with its wide hinterland. In addition to the strategic location of the straits and ports, the modernization of the ports and shipyards should be ensured. It is thought that this situation will bring dynamism to the maintenance and repair and new shipbuilding part of the sector.

Financing instruments should be structured in accordance with the industry. Easier access to finance has always been the expectation of those who steer the sector. For this purpose, it is thought that lowering financing costs will contribute to sectoral development.

Financing models should be made taking into account the crisis periods. It should be open to suggestions such as debt restructuring, should not disrupt its activities, be focused on the completion of projects and be flexible.

Sectoral knowledge, experience and technology should be used together. Having Know-How will prevent the country from being dependent on foreign countries and will pave the way for many innovations, especially domestic production. In particular, technologies such as ship main engines and propulsion systems that have a large share in the cost of ships should be

studied. Domestic suppliers and sub-industry should be strengthened financially and technologically and the quality of existing products should be increased. In this context, training and support for Know-How should be increased. Ships with high added value should be built, equipped with new technologies, with increased domestic contribution.

The obstacles to the use of the national flag should be removed by making the necessary arrangements. The use of the national flag should be made advantageous and the issue of turning to the national flag should be encouraged.

When the sector reports and expert reports are examined, it is seen that the same determinations and suggestions are repeated every period. Decisions about the future of the sector should be made by taking the opinions of experts, universities and unions representing the industry.

It is thought that starting with qualified managers is an advantage for the development of the shipbuilding industry and the future of the sector will be shaped by these managers. Decision-makers should pay attention to the selection of managers in the creation of human resources.

Education and specialization should be supported to achieve success in the sector. In vocational training, internship opportunities in companies should be increased, vocational employment should be encouraged by focusing on occupational activities.

Shipbuilding should be adopted as a national policy for maritime and merchant marine. The prevailing opinion is that the increase in merchant marine and the developments in the shipbuilding industry mutually affect each other. Investments to be made in the shipbuilding industry, together with all its subcomponents, will soon have an impact on merchant marine and the development of the country.

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