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DOMESTIC DRY CARGO SHIPPING DEMAND OF TURKEY: A QUALITATIVE STUDY

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ABSTRACT

Domestic dry cargo shipping is a dynamic market influenced by many variables. When shipping demand and shipping demand forecast studies are reviewed, it is seen that macroeconomic factors are prominent. Therefore, this research aims to explain the determinant variables of domestic dry cargo shipping demand forecast in terms of industrial marketing. In order to determine these factors, face-to-face semi-structured interviews have been conducted with a total of 17 domestic maritime dry cargo shipping experts. The findings of the study have been examined under the following themes: "current issues", "future projections", "future challenges", "competitive power", "weaknesses", "port's effects", "shipowners' effects", "shippers' effects", "shipowners' choice". These findings have enabled a unique contribution toward finding out industry specific variables and dynamics.

Keywords: Domestic shipping, Dry cargo shipping, Shipping demand, Industrial marketing.

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TÜRKİYE’NİN YURT İÇİ DENİZYOLU KURU YÜK TAŞIMACILIĞI TALEBİ: NİTEL BİR ARAŞTIRMA

ÖZ

Yurt içi denizyolu kuru yük taşımacılığı birçok faktörden etkilenen dinamik bir pazardır. Denizyolu taşımacılığı pazarında talebe ve talep tahminine yönelik çalışmalar incelendiğinde ise makroekonomik faktörlerin ağırlıkta olduğu görülmektedir. Bu nedenle, bu araştırma ile endüstriyel pazarlama çerçevesinden yurt içi denizyolu kuru yük taşımacılığı pazar talebine yönelik belirleyici faktörlerinin ortaya çıkartılması amaçlanmıştır. Bu faktörlerin tespit edilmesi amacıyla 17 yurt içi denizyolu kuru yük taşımacılığı uzmanı ile yüz yüze yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Araştırmanın bulguları şu temalar altında incelenmiştir: “güncel konular”, “gelecek beklentileri”, “gelecekteki zorluklar”, “rekabetçi güç”, “zayıf yönler”, “limanların etkileri”, “gemi sahiplerinin etkileri”, “taşıtanların etkileri”, “gemi sahibi seçimi”. Bu bulgular sektöre özgü değişkenlerin ve dinamiklerin ortaya çıkartılmasında özgün bir katkı sağlamıştır.

***Anahtar Kelimeler:** Yurt içi denizyolu taşımacılığı, Kuru yük taşımacılığı, Denizyolu taşımacılığı talebi, Endüstriyel pazarlama.*

1. INTRODUCTION

Shipping demand depends on several factors due to being a service business and consisting of varied organization and decision making structures. Stopford links five variables with shipping market demand and the other five variables with the shipping market supply. Shipping market variables are world economy, seaborne commodity trades, average haul, random shocks and transport costs. Shipping market supply variables are world fleet, fleet productivity, shipbuilding deliveries, scrapping and freight revenues (Stopford, 2009: 89-90).

It is observed that macroeconomic variables are prominent in existing literature on dry cargo shipping demand and forecast. However, industrial, market-oriented and geographical variables are neglected in the previous studies. In this context, this study aims to explore the variables of domestic dry cargo shipping demand of Turkey providing some insights into this particular geographic market. It is expected to contribute the literature by revealing variables and presenting the dynamics of this specific market.

The remaining part of this paper is structured as follows: previous studies on domestic shipping in Turkey, dry cargo shipping studies in

Turkey and shipping demand variables are discussed in section 2. Afterward, the methodology used is explained in section 3. Then, findings are provided in section 4, and the final section consists of conclusions.

2. LITERATURE REVIEW

Regarding the previous studies, it is observed that few studies were examining domestic shipping and these studies are not mainly referred to the market demand. Dalkanat (2001) mentioned the overage and the technical deficiency of Turkey's Merchant Fleet, and the need for acquiring a younger fleet. Demand to the domestic transport of Turkey was issued and lack of demand was pointed out. Bikriç (2003) analyzed the future of cabotage law and regulations in Turkey and mentioned on cabotage monopoly. Akyıldız (2010) pointed out the marine casualties in relation with cabotage transportation upon the risk analysis and offered some precautions. Some other studies refer to the importance of multimodal transport for cabotage shipping. (Kodak, 2011).

Dry cargo shipping studies in Turkey mention various other topics referring to cabotage shipping such as voyage chartering (Çetin, 1997), investment analysis (Çolak, 2007), safety management applications (Akpınar, 2008), organizational buying behaviours (Anış, 2011), problems encountered dry cargo shipping (Aisarova, 2013), deficiencies of ship management (Şendur, 2015), cost analysis of ship management (Ünal, 2019), Baltic dry index (Karpat, 2019), the competitiveness of Turkish coaster merchant fleet (Çetin et al. 2018) and capacity measurement of dry bulk ports (Gülmez, 2019).

Previous studies are referred limitedly to the domestic dry cargo shipping demand of Turkey. A comprehensive investigation of this specific geographic market demand is needed with the increasing importance of the modal shift from road to sea with the effects of environmental considerations. Accordingly, a comprehensive exploration framework for the domestic dry cargo shipping is carried out in this paper.

3. METHODOLOGY

Content analysis is conducted as a research method in this study. The purpose of the content analysis is to define the data and revealing the implications. The basic process is connecting, relating and organizing the similar concepts and themes, and interpreting them in a reader-friendly way. While conducting a content analysis, following steps are considered;

(Yıldırım and Şimşek, 2018: 242), coding data, finding themes, defining and organizing data regarding codes and themes, and interpreting findings.

3.1. Data Collection Process and Tool

An interview is the data collection method which involves presenting ideas with a person to person interaction on a specific purpose. Interviews provide deeper information from deep strategic analysis (Kenny, 2019) on the issue with the flexibility (Gupta and Gupta, 2011: 62). Semi-structured interviews are the most widely used interviewing format and generally formed of predetermined open-ended questions with other questions that emerged during the interviewing. Semi-structured interviews take between 30 minutes to several hours (DiCicco-Bloom and Crabtree, 2006: 315).

During the development of the semi-structured interview form, enhancing the results of the quantitative study is aimed. Interview form composed of two stages; the first stage includes general questions on demand and aimed to clarify the current demand for domestic dry cargo shipping. The second stage aimed to explore the demand variables in detail. The semi-structured interview form is provided by the author upon request.

Interviews have strengths in terms of revealing the thoughts, idea, data, experiments, and feelings of the respondents while using the benefits of verbal communication. In this aspect, the interview surpasses the artifact of tests and surveys. The main issues while conducting interviews are the development of interview form, organization of interviews, preparations, and conducting interviews (Yıldırım and Şimşek, 2018: 130, 136). In this study, while developing the interview form, peer review is asked in terms of assessing the interview form. Three experts are asked to comment on the interview form. Experts have expertise in the dry cargo, chartering, ports, and qualitative study. After that review, the questionnaire form is shortened and some corrections on wording are applied. These principles which are mentioned by Yıldırım and Şimşek (2018: 136) are considered while developing questionnaire form; writing easily understandable and open-ended questions, alternative questions are prepared and follow up questions are asked, encouragement of the respondents is avoided, questions are organized as deductively. The semi-structured interview form has made ready for use in the interviews.

Subsequently, phone calls are made with the people in the sample and appointments are made. As a result, face to face interviews are made between July-October with respondents at their offices. Interviews take

min 30 - max 60 minutes. During the interviews, respondents are asked on voice recordings and assenting respondents are recorded and responses' from not assenting respondents are taken as written notes. Any personal information is not requested and the purpose of the research is clearly stated to the respondents. Moreover, it is stated that obtained data is used only for scientific purposes and the company and participant names would not be mentioned in the study. In this way, it is tried to establish an environment of mutual trust.

Analysis part of the study is continued using "MAXQDA Analytics Pro v.18.1.1.". The interviews were transcribed and coded with the software. Therefore, qualitative content analysis has done with revealing statistics of the codes, relation maps and code sub category maps. At last, interpretations of the researcher also presented at the study.

3.2. Population and Sampling

The population of the study is composed of domestic dry cargo contracting parties. However, it is not possible to reach numbers of the parties, and population cannot be specified accurately.

It is aimed to reach optimum sample size that have the ability of representing the population of the study. Generalizability principle is considered during determination of the sampling size. Saturation is the essential element considered in this step. Sample size is increased until reaching the saturation point. Respondents have been selected with purposeful sampling method to represent participants of the shipping business negotiations. Purposeful sampling provides researcher a sample of group that have best information about the research problem (Creswell and Poth, 2018 :118). A combined criterion-i and snowball purposeful sampling is used. Criterion-i sampling allows to identify and select all cases that meet predetermined criterion of importance while snowball sampling allows to sample that have similar characteristics (Palinkas et al. 2015: 536). In this regard, experienced people acts as shipowners, shippers, brokers and agencies and ports at dry bulk shipping were reached. Table 1 presents the profile of the respondents. These actors act especially at domestic dry cargo shipping market. Steel, iron, cement, fertilizer and coal are the focused expertise area of these actors.

Table 1: Profile of the Respondents and Companies

No.	Position	Working Period at Institution	Education	Company Establishment Year	Residence of the Company	Services	Date
1.	Broker	5	Master	1998	Singapore	Ship chartering and operation	02.08.2019
2.	General Manager and Chartering Manager	15	Bachelor	1998	Singapore	Ship chartering and operation	02.08.2019
3.	Shipping Agency and Maritime Services Executive	7	Bachelor	1975	Istanbul	Fertilizer supplier, Port and Ship agency services	01.08.2018
4.	General Manager	19	Bachelor	2000	Izmir	Ship brokering and agency	31.07.2019
5.	General Manager	15	Bachelor	2004	Izmir	Ship brokering and agency	31.07.2019
6.	Port manager	25	Bachelor	2006	Izmir	Port services	29.07.2019
7.	Broker	22	Bachelor	1989	Izmir	Ship chartering, ship agency, shipowner	26.07.2019
8.	Broker	12	Bachelor	1975	Izmir	Steel producer, shipowner, port services	26.07.2018
9.	Logistics Manager	9	Bachelor	1953	Izmir	Cement	21.08.2019
10.	General Manager	4	Bachelor	2015	Muğla	Marble	25.08.2019
11.	Port Manager	13	Bachelor	1956	Izmir	Port services, iron and steel	27.08.2019
12.	Ship Agency Executive	8	Bachelor	1997	Izmir	Ship Agency	27.08.2019
13.	General Manager	16	Master	2003	Izmir	Ship Brokering and Agency	28.08.2019
14.	General Manager	24	Master	1995	Izmir	Ship Brokering and Agency	28.08.2019
15.	Port Officer	12	Bachelor	1973	Izmir	Port	29.08.2019
16.	Port Officer	2	Bachelor	1977	Antalya	Port services	09.08.2019
17.	General Manager	10	Bachelor	1988	Izmir	Shipowner agency	02.09.2019

3.3. Validity and Reliability

Validity means the representing ideas during the research that fits with actual reality (Neuman, 2014: 2012). There are many perspectives and types of validation in qualitative research. Creswell and Poth (2018: 338) defined validation as an attempt to assess the “accuracy” of the findings. Creswell and Poth also suggests several validation strategies as described in Figure 1. and proposed at least two of the validation strategies to use in a qualitative study.

In this study, a triangulation strategy is used in terms of considering the various data sources (collecting information from the supply and demand side). Having a prolonged engagement and persistent observation is achieved with having a sense of saturation that means getting the same ideas from the interviews and considerable time is spent in the field. Discovering a negative case analysis or disconfirming evidence is used by scanning the conflicting ideas of the interviews. Clarifying researcher bias is also tried as being objective throughout the interpretations and avoid to be influenced by past experiences and prejudices. During the interview, collaborating with participants is tried to apply as respondents are asked whether the perception of the researcher reflected the data precisely.

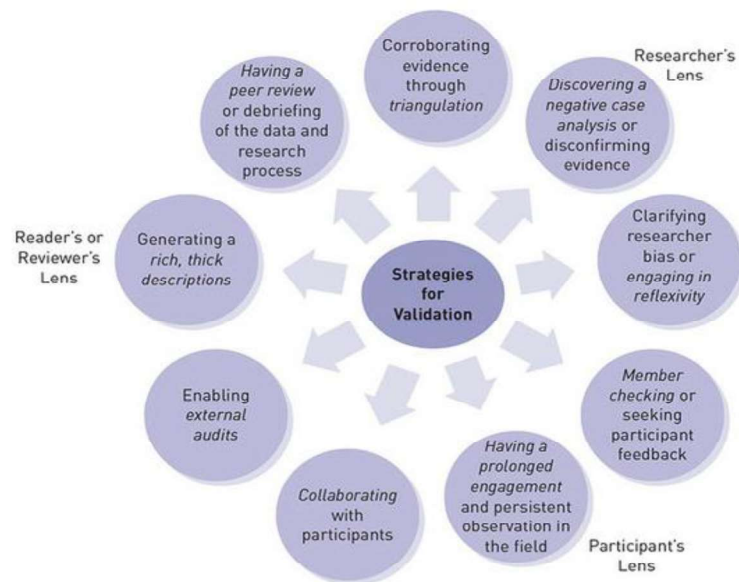


Figure 1: Strategies for Validation in Qualitative Research

Source: Creswell and Poth, 2018: 341.

In terms of external validity proving rich description and purposeful sampling strategies are applied. Data are tried to describe and report in detail and without commenting on them. A purposeful sampling strategy is also used to get relevant data on the issue. Transferability or external validity is tried to ensure using these strategies.

Reliability explained as dependability or consistency. It suggests that the research findings are repeated or recurs under identical or very similar conditions (Neuman, 2014: 2012). To support the dependability of this exploratory study, raw data are tried to transmit with exact citations from the respondents', the research process is explained as detailed as possible and coded data are grounded on during the interpretation of the findings. The dependability of the study is also tried to be ensured with the auditing of the research process. For the confirmability of the study, semi-structured interview forms, voice recordings, transcriptions, external notes, themes, codes, and the used content at the MAXQDA are saved by the researcher as open for any inspection. Considering these attempts to validate the study, it can be concluded that evidence on the internal validity or credibility is obtained.

4. FINDINGS

In this research, there is a lack of conceptual structure on the domestic dry cargo shipping market. Therefore, codes are deduced from the collected data. First, the documents have been read repeatedly and important points are identified. Preliminary codes and categories were formed based on various concepts and definitions based on the interview form. Code list created with assigned important points by the researcher. Then, obtained data has been read repeatedly and new categories and codes are formed. Finally, the structure of codes is created. A code list is formed a few times during the analysis process. A list of the main theme, themes and codes are illustrated as a map through "Edraw Mindmaster 7.2." software.

Figure 2 shows the main theme, themes and codes that are obtained from the interview data. In this regard, the main theme is domestic dry cargo shipping. Themes and the codes are identified as follows: "current issues", "future projections", "future challenges", "competitive power", "weakness", "port's effects", "shipowners' effects", "shippers' effects", "shipowners' choice" are the determining themes that are deduced from interview form.

Revealing current issues encountered at the domestic dry cargo shipping market is aimed at the “current issue” theme. “Future projections” and “future challenges” themes are tried to reveal future issues at the domestic dry cargo shipping market.

Competitiveness, behaviors of market actors and market environment issues are tried to point out with “Competitive power” and “weakness” themes. Variables and their effects on domestic dry cargo shipping demand are aimed to reveal with the “shipowners’ effects”, “shippers’ effects” and “ports’ effects” themes. “Shipowners’ effects” and “shipowners’ selection” themes point out the industrial and company level demand variables.

4.1. Current Issues at Domestic Dry Cargo Shipping

Current issues encountered at the domestic dry cargo shipping market is aimed to reveal under this theme. Current issues are classified and divided into three sub-themes as industrial issues, political issues and economic issues. The co-occurrence model of the themes are created to indicate the relations and connections across codes and illustrated in Figure 3. Straight lines represent the subcategories of the themes and hyphenated lines represent the co-occurred codes. Purple circles represent the political and legal issues and green circles represent the economic issues and the pink circle represents the industrial issues.

Political and legal issues theme is composed of following codes, “relations between countries”, “political elections”. “Relations between countries” and “trade wars” are co-occurred codes. It is inferred that there is a relationship between country relations and trade wars. Trade wars are the result of the country relations that have an impact on domestic dry cargo shipping.

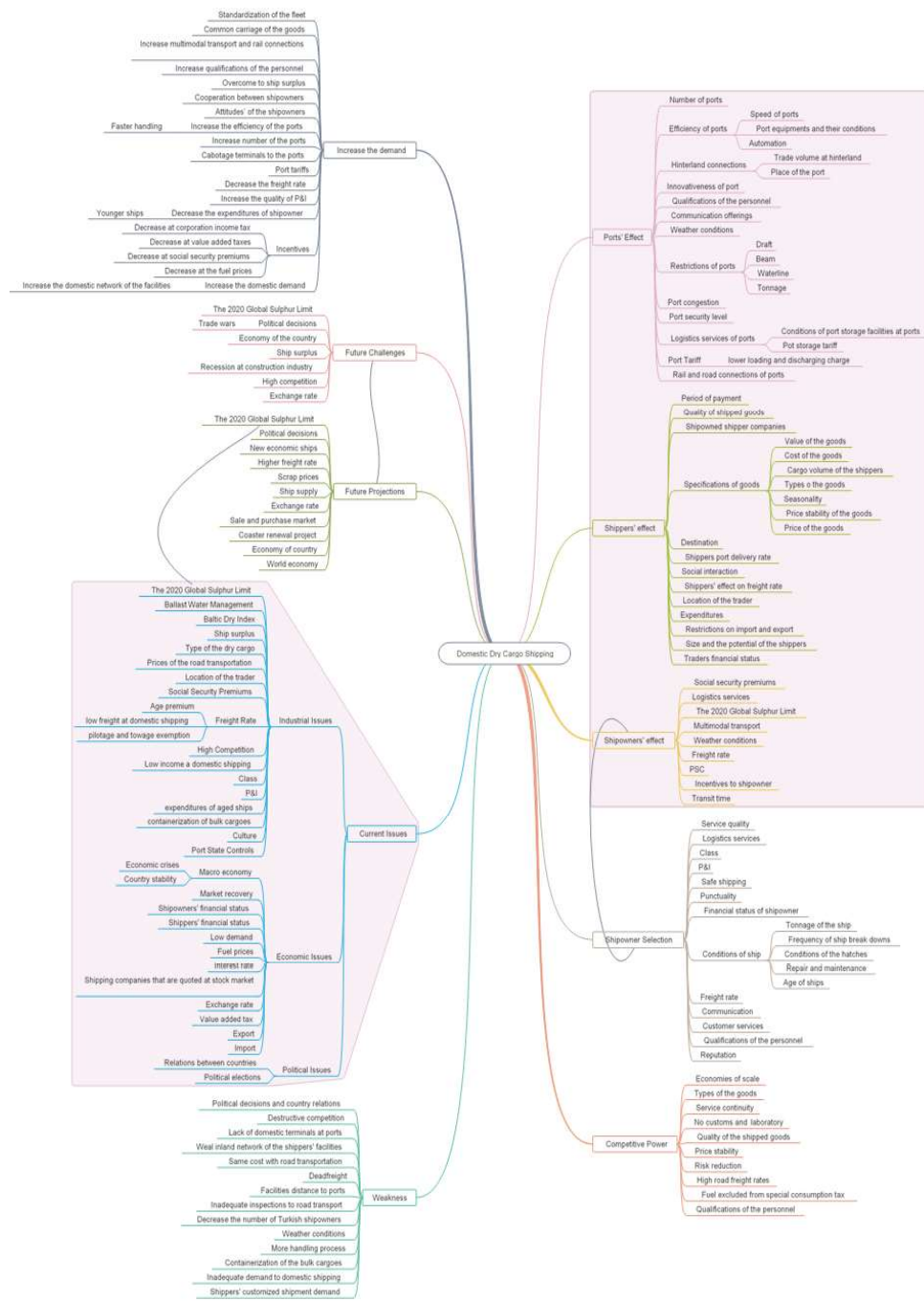


Figure 2: Map of Domestic Dry Cargo Shipping of Codes, Themes, and Main Theme

Economic issues theme is composed of following codes, “macroeconomy”, “shipowners financial status”, “shippers’ financial status”, “market recovery at last months”, “fuel prices”, “exchange rate”, “low demand to market”, “shipping companies that are quoted at the stock market”, “value-added tax”, “export”, “import”. Most frequent codes are “macroeconomy”, “fuel prices”, “exchange rate”, “export” respectively.

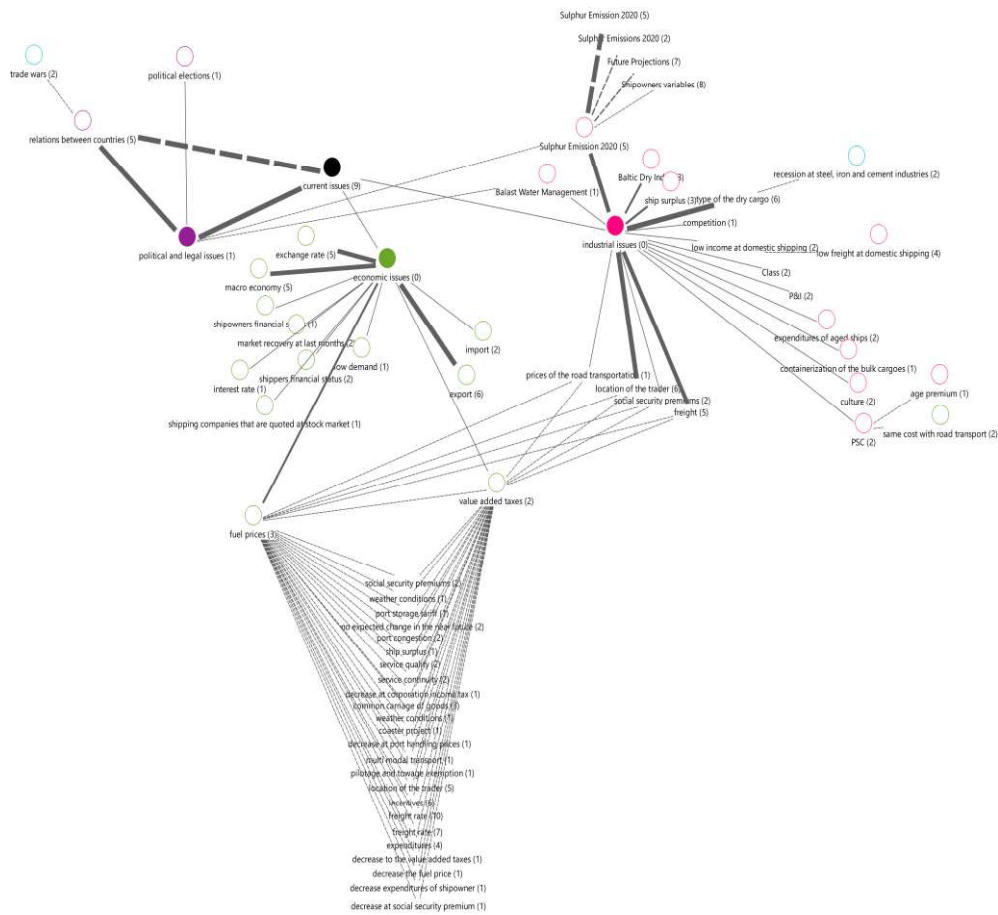


Figure 3: Co-occurrence Map of the Current Issues

The macro-economic performance of the countries has been found closely related to the domestic dry cargo shipping market. The recent increase in exchange rates, its impact and significance on exports and fuel prices have been revealed. The connections of these economic indicators and importance on the domestic dry cargo shipping have been pointed out.

Some of the responses related to the issue are:

R4 *“There is an economic difficulty happening and have negative effects on the markets. Therefore, the domestic market has narrowed.”*

R12 *“First of all, the economic situation of the countries is the current issue.”*

R16 *“Within the framework of the measures taken regarding the increase of the exchange rate, contracts are quoted in TL. Therefore, freight rates fell due to round downs.”*

R15 *“Since the raw materials have been imported, the effect of the exchange rate is felt.”*

R7 *“Goods that have more volume are clinker, cement, iron ore etc., and these goods are processed at export-oriented companies. The export capability of a country influences the market.”*

Economic issues have also co-occurred codes which are majorly concentrated on value-added taxes and fuel prices. It is inferred that there is a strong relationship between value-added taxes and fuel prices. Shipowner that acts domestic shipping market has an exemption on special consumption tax of fuel. However, there is no exemption on value-added taxes of fuel on the contrary to transit fuel. Fuel prices and value-added taxes also have co-occurred codes within the industrial variables as prices of the road transport, location of the trader, social security premiums, and freight rate. The connections and relations can be associated with these codes.

Industrial issues theme is composed of following codes, “The Global 2020 Sulphur Limit”, “Ballast Water Management”, “Baltic Dry Index”, “Ship surplus”, “Type of dry cargo”, “Prices of the road transportation”, “Location of the trader”, “Social security premiums”, “Freight”, “Competition on market”, “Class”, “Low income at the market”, “P&I”, “Containerization of the dry cargo”, “Culture”, “Port State Control”.

“Location of the trader”, “type of dry cargo”, “The Global Sulphur Limit” “Freight” are the most frequent codes respectively. Domestic dry cargo shipping in Turkey generally preferred by the companies that have their own terminal and have facilities near the terminal. In this case, it is emphasized that there is no need for inland transportation.

R10 *“The place of the factory and its proximity is very important”*

R2 *“The factory must be located in the port town.”*

The type of cargo is also an important factor in choosing dry cargo transportation.

R8 *“In Turkey, mostly cement derivatives, iron, steel and fertilizer are the goods that shipped at dry cargo domestic shipping market.”*

R12 *“There are certain loads in Turkey, such as fertilizer. Cement, iron and steel are transported a lot, such raw materials and semi-finished products are usually shipped.”*

R16 *“When I talk about the iron and steel industry, it is not going through a very good period for Turkey. The construction industry has stopped in Turkey especially in the last year. With the slowdown of the construction industry, distribution and sales of the iron and steel at the domestic market also slowing down. And iron and steel is an industry that has an important place at domestic shipping. So, of course, this could affect domestic shipping transport. The slowdown of the construction industry will be a weakening in cement need and cement shipments will also be affected by this slowdown.”*

Moreover, the 2020 Global Sulphur Limit is mentioned as an important issue for shipping companies and that will affect the whole industry. The effect of this regulation on freight rates also pointed out.

R8 *“Suphur Regulation will affect that way. Good ships will remain in the market and good ships will have high running costs. Good ships will have qualified personnel again freight rates will tend to rise.”*

R13 *“When you look at dry cargo, a lot of things change. The new IMO rules are coming, and it increased the costs and creates scrubber costs. There is a change in dry cargo in the World. We will try to change it even though our ships will affect it even if it is the Turkish flag.”*

4.2. Competitive Power and Weaknesses of Domestic Dry Cargo Shipping of Turkey

Competitive power theme is composed of following codes, “economies of scale”, “risk reduction”, “types of goods”, “fuel prices excluded from special consumption tax”, “high road freight rates”.

The competitive power of domestic dry cargo shipping is economies of scale as consistent with the shipping literature. Most of the respondents mentioned economies of scale and it is one of the most frequent codes. Risk reduction is another competitive power issue of domestic dry cargo shipping.

The location of the trader is found another important point that has connections with the competitive power theme. When the trader closes the port, domestic dry cargo shipping is a more economical way of transport goods.

R1 *“Normally this is also done by truck in the domestic market, but when the amount of cargo is high, maritime trade seems to be a cheaper alternative to reduce costs.”*

R5 *“Besides, the ability to transport in high tonnages proves its competitive power in terms of time and cost.”*

Weakness theme is composed of following codes, “more handling process” “containerization of bulk cargo”, “weather conditions”, political relations and country decisions”, “shippers’ customized shipment demand”, “inadequate demand to domestic shipping”.

The weakness of the domestic dry cargo shipping is the need for handling.

R4 *“You have to choose the highway at a short distance due to the loading and discharging prices of the ships. “When the shipping is preferred, at first cargo transported to the port, then loaded to ship and unloaded from the ship, at last transported to the last destination with road transportation again. How many transactions are going on? But when road transportation is preferred, the truck takes the cargo from the origin and delivers to the destination. Road transportation has that advantage. Especially when the exchange rates rise, road transportation becomes at competitive levels over the domestic dry cargo shipping. Even if road transport costs the same or little more expensive, shippers can prefer road transport.”*

There are also some other important weaknesses mentioned during the interviews. When the loads are small volumes, container shipping also becomes competitive in terms of freight. Dry cargo shipping also affected by weather conditions at ports and leads to an increase in loading and unloading time.

4.3. Future Projections and Challenges for Domestic Dry Cargo Shipping of Turkey

Evaluating future projections and challenges are considered to reveal within these themes. The co-occurrence model of the themes are created to indicate the relations and connections across codes and illustrated in Figure 4. Red lines represent the subcategories of the themes

and grey lines represent the co-occurred codes. Brown circles represent the future projections and blue circles represent the future challenges.

Future projections theme is composed of following codes, “The Global 2020 Sulphur Limit Regulation”, “no expected change in the near future”, “political decisions”, “expected negative change in the near future”, “new economic ships”, “higher freights”, “scrap prices”, “ship supply”, “exchange rate”, “sale and purchase”, “coaster renewal project”, “economy of Turkey”, “world economy”. These codes point out the issues that will be encountered in the near future.

It is found that there is no consensus on the positive or negative change in the market. Both negative and positive change expectations have been mentioned by the respondents. However, it is mostly reported that there is no change in the near future. Some of the response related to the issue are:

R 12 *“I don’t think that anyone can expect too much for 2 years or generate a projection about what the market.”*

R13 *“I do not think there will be much improved, especially in the domestic market there is a longstanding system. There is no objection to this system and there is no effort to change it. So I don't think anything will change.”*

Respondents also connects the future of the market with the macroeconomic variables. The world economy, the economy of Turkey, exchange rate, and political decisions are specified as important determinants for future projections. The Global Sulphur Limit is also expected to affect the market. This regulation expected to direct ships to the demolition.

Future challenges composed of “exchange rate”, “high competition”, “The Global 2020 Sulphur Limit Regulation”, “ship surplus”, “economy of Turkey”, “trade wars”, “political decisions”, “recession at construction industry”. These codes point out the challenges that will be encountered in the near future.

Recession at the construction and building industry is mentioned as a strong challenge for domestic dry cargo shipping. Some of the responses related to the issue are:

R15 *“Together with the recession at the construction industry, the marble industry that is closely connected to the construction industry and thus its transportation has been affected by this recession.”*

R16 “From the point of view of iron and steel industry, iron and steel are not going through a very good period in Turkey. Construction and Building industry have stopped in Turkey especially in the last year. With slowing down of the construction and building sales and the distribution of the steel and iron has been also slowing down. And iron and steel is an industry that places a lot on domestic dry cargo transport. So this of course could affect domestic shipping. Cement is also another industry that supplies raw materials to the construction and building, which means that the weakening of the construction will result in a weakening of the cement demand and distribution.”

Global trade wars and the economy of Turkey is also mentioned as a critical challenge for the dry cargo domestic shipping market. In addition to these, The Global 2020 Sulphur Limit will pressurize the domestic shipping as well.

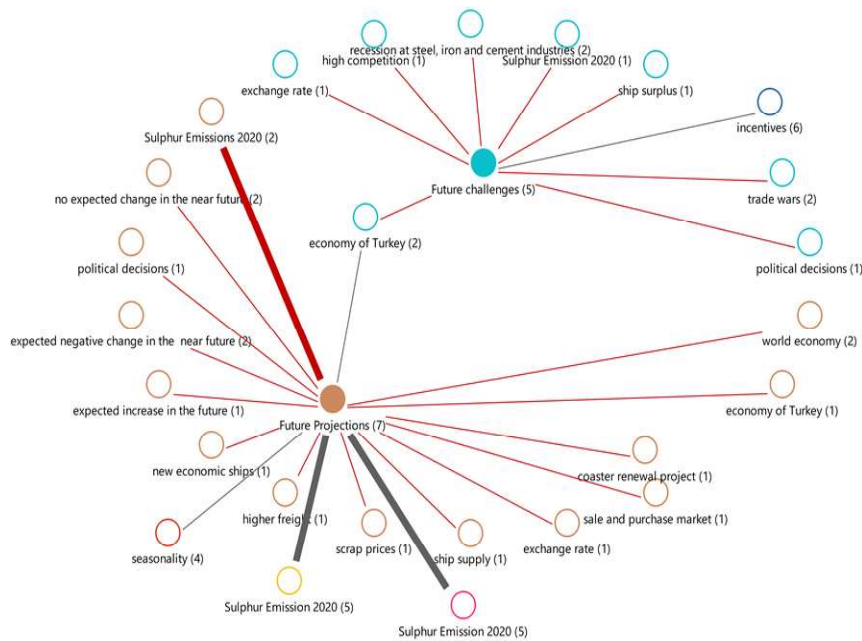


Figure 4: Co-occurrence Map of the Future Projections and Challenges Themes

4.4. Policies and Strategies to Increase Domestic Dry Cargo Shipping Demand

Offered strategies to deal with the above-mentioned challenges are considered to reveal within these themes. The co-occurrence model of the themes is created to indicate the relations and connections across codes and illustrated in Figure 5. Brown circles represent the codes of increase demand theme. “Fuel price”, “Attitudes of the shipowners”, “Cooperation between shipowners”, “overcome to ship surplus”, “increase rail connections and multimodal transportation”, “faster handling”, “increase the domestic demand”, “incentives”, “increase the quality of P&I of the ships”, “younger ships”, “decrease the freight rates”, “port tariffs”, “increase the efficiency of the ports”, “fuel prices” are the determined codes.

Incentives are important supports for the industries and have a critical role in domestic shipping market as well. Increasing domestic demand for goods and networks of the facilities is another factor that could affect an increase of domestic dry cargo shipping.

Increasing rail connections from the ports and giving attention to multimodal transportation could increase the domestic dry cargo shipping.

R14 *“In order to increase demand, a railway connection between ports and industrial areas is required.”*

R16 *“Railway and multimodal intermodal transport should be developed. Railway and maritime integrated systems need to be improved.”*

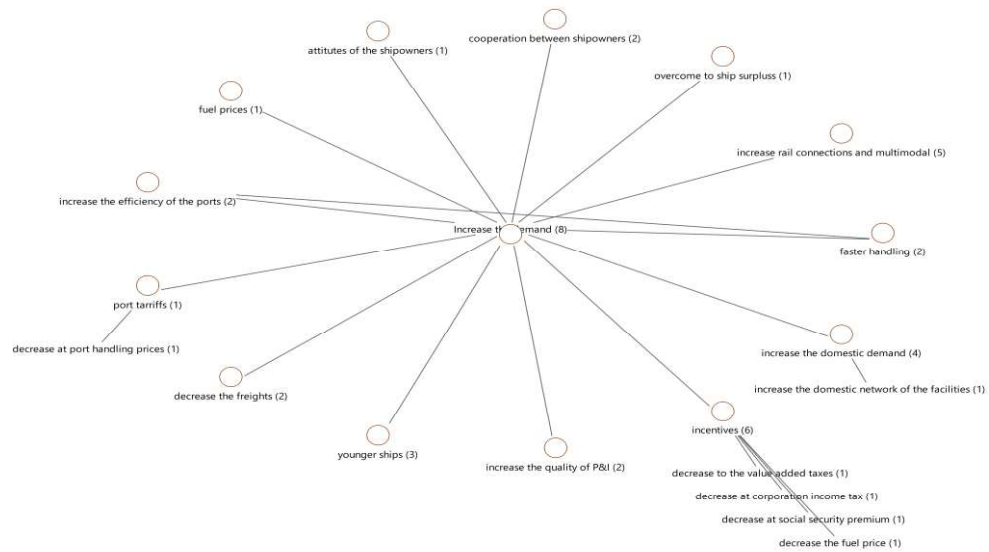


Figure 5: Co-occurrence Map of the Policies and Strategies to Increase Domestic Dry Cargo Shipping Demand

4.5. Shipowner Effects on Domestic Dry Cargo Shipping Demand

Shipowners’ factors that could have an influence on domestic dry cargo shipping demand are considered to reveal within this theme. The co-occurrence model of the themes is created to indicate the relations and connections across codes and illustrated in Figure 6. The co-occurrence model is generated from the themes of shippers’ effects, shipowners’ effects, and selection of shipowners’ effects. Red lines represent the subcategories of the themes and grey lines represent the co-occurred codes. Red circles represent the shippers’ effects and yellow circles represent the shipowners’ effects and dark brown circles represent the selection of shipowners’ variables.

“Selection of shipowners” and “shipowners effects on demand” have indicated close connections and relations as expected. Shipowners’ effects point out dry cargo domestic demand at the industrial level, while the selection of shipowners’ theme indicates company level effects’.

Shipowners’ effects on dry cargo domestic shipping demand have coded as “transit time”, “incentives to shipowner”, “Port State Control”, “freight rate”, “weather conditions”, “multimodal transport”, “P&I”, “The

2020 Global Sulphur Limit”, “common carriage of goods”, “logistics services”, “social security premiums”. “Selection of shipowners” theme presented following codes: “service quality”, “logistic services”, “class of the ship”, “safe shipping capability”, “punctuality”, “financial status of the shipowner”, “conditions of the ship”, “freight rate”, “P&I”, “communication capability”, “customer services”, “qualifications of the personnel”, “shipowners’ reputation”.

The 2020 Global Sulphur Emission Regulation affects the industry worldwide. The regulation will impact on shipping costs. Older ships will be phased out due to scrubber installation costs.

R8 *“Sulfur Emission Regulation will have effects as good ships will remain in the market and good ships will have high running costs. So it will raise the freight.”*

The freight rate is the most mentioned code under this theme. Therefore, freight rate is one of the most important expenditures of shippers’, it is also the most important purpose of the commercial transactions as income and the source of the income of the shipowner.

R14 *“The cheaper the freight is the more impact it will have on-demand and the more freight domestic shipping can take the freight from the road.”*

R2 *“Shipowners may influence demand if they reduce freight.”*

Conditions’ of the ships as tonnage of the ships, frequency of the ships’ breakdown, conditions of the hatches, ship repair and maintenance, and age of the ships, freight rate, safe shipping capabilities of the shipowner, providing logistics services and qualifications’ of the personnel are the most referred choice criteria’s for shipowners respectively. Service quality and freight rate, class of the ships and frequency of the ships’ break down, communication capabilities, and provided customer services found closely related.

R3 *“Before chartering the ship, we have got the photos and specifications of it and hatches. When the ships used as containership before and transformed to dry cargo ship, these ships require physical force. You need to get someone out and clean the ship up. We try not to prefer ships like that. Because both are slow to load and too risky by employing more workers in dangerous areas.”*

R10 *“The condition of the ship and the condition of the holds should be well maintained.”*

R11 *“Ships need to be properly maintained and its hatches should be clean and its machine needs to maintained properly as well.”*

R3 “Freight rate and the conditions of the ships’ hatches are important.”

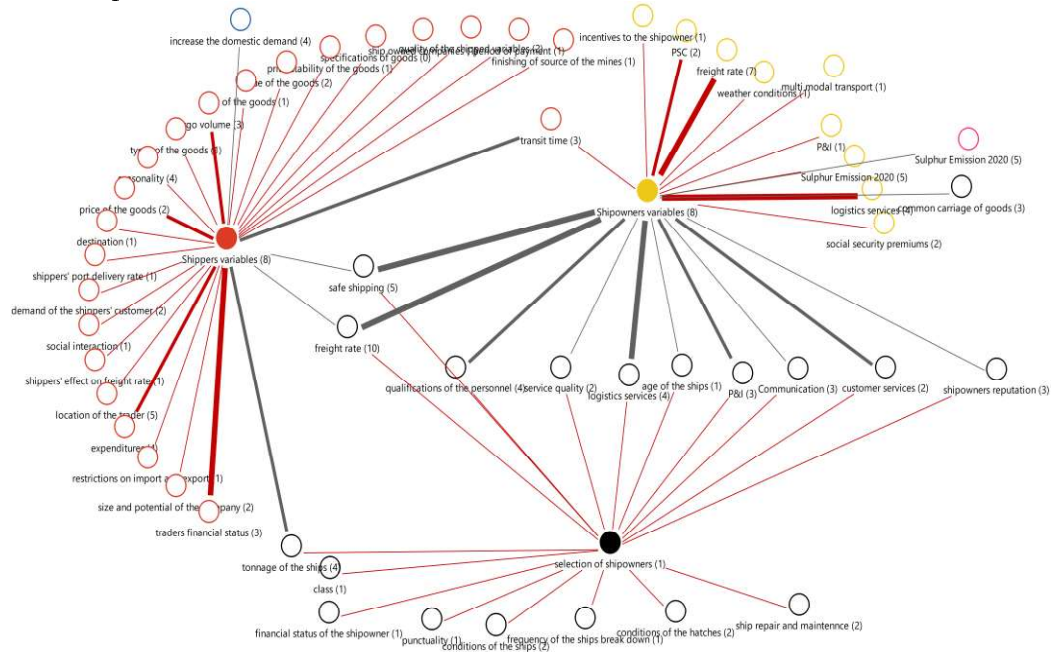


Figure 6: Co-occurrence Map of the Shipowners’ Effect on Domestic Dry Cargo Shipping Demand

R15 “Freight rate is important in selecting shipowners.”

R5 “Operational difficulties that prevent the safe shipping lead shippers to the other transport modes.”

R2 “The qualification of the personnel is also very important so everything else can be very difficult with a tough captain. The agent is the object of shipper there but sometimes the subject can recourse to the shipper and they do not prefer that shipowner for the next time.”

4.6. Shipper Effects on Domestic Dry Cargo Shipping Demand

Shippers’ factors that could have an influence on domestic dry cargo shipping demand are considered to reveal within this theme. The co-occurrence model of the themes is created to indicate the relations and connections across codes and illustrated in Figure 7. The co-occurrence model is generated from the themes of shippers’ effects. Red lines

represent the subcategories of the themes and grey lines represent the co-occurred codes. Red circles represent the shippers' effects.

Shippers' effects on dry cargo domestic shipping demand have coded as "finishing source of the mines", "period of payment", "quality of the shipped goods", "shipping companies", "specification of the goods", "destination of the goods", "shippers' port delivery rate", "demand of the shippers' customer", "social interaction", "shippers' effect on freight rate", "location of the trader", "expenditures", "restriction on foreign trade", "size and the potential of the shipper", "traders financial status".

Specification of the goods is the most influencing factor and cost and value of the goods, price of the goods, seasonality and the types of goods are also within the scope of this code.

R2 *"The type of cargo offered by the shippers', the amount of cargo and destination is important."*

R8 *"So, the amount produced by the shipper is important."*

The location of the trader has also significant importance due to the proximity to the sea, proximity leads shippers to yield on preferring domestic shipping.

R2 *"At that point location of the trader is very important. The cargo originated from the Samsun do not ship to the Diyarbakır via domestic shipping. As a result, cargo generally transported to a port town. So of course, in this case, domestic shipping becomes more effective."*

R4 *"Domestic shipping is cheap in terms of expenditures at large volumes. Besides, it pulls the trucks from the highway. But, not everyone is that lucky. Domestic shipping can be made if the facilities are close to the ports."*

Expenditures of the shipper also have considerable influence on domestic dry cargo shipping demand. Expenditures' of the shipper and location of the trader and traders' financial status is also found closely related.

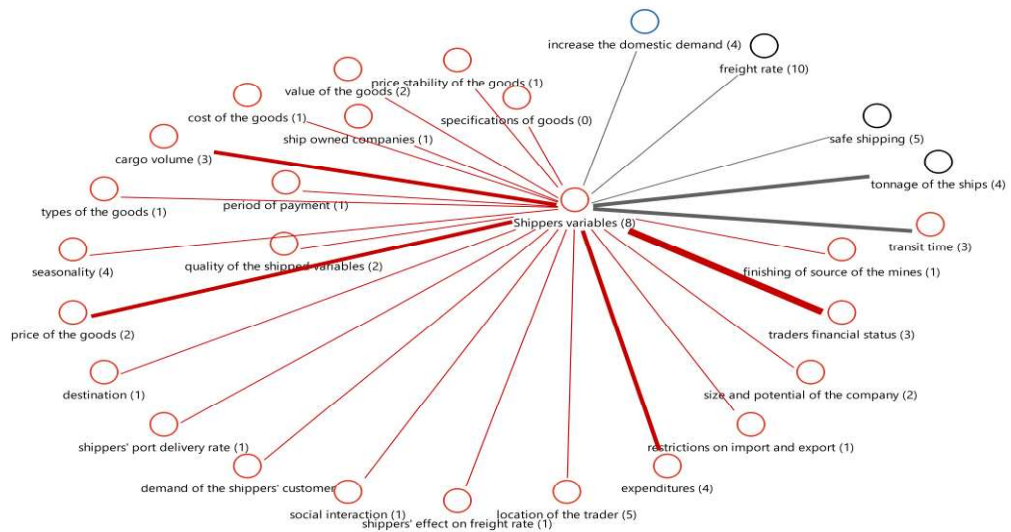


Figure 7: Co-occurrence Map of the Shippers' Effect on Domestic Dry Cargo Shipping Demand

4.7. Port Effects on Domestic Dry Cargo Shipping Demand

Ports' factors that could influence domestic dry cargo shipping demand are considered to reveal within this theme. Ports' effects on dry cargo domestic shipping demand have coded as "number of ports", "efficiency of ports", "hinterland connections", "innovativeness of ports", "qualifications of the port personnel", "communication offerings", "weather conditions", "restrictions of ports (draft, beam, ect.)", "port congestion", "port security level", "logistics services of ports", "port tariff", "rail and road connections of ports".

The efficiency of the ports is found as the most influencing factor and speed of the port, port equipment's and their conditions, automation are also within the scope of this code. Port tariff, logistics services of ports and hinterland connections are the other mostly mentioned effects of ports.

5. DISCUSSION AND CONCLUSION

This study has highlighted some key issues influencing domestic dry cargo shipping in Turkey. These findings served as the basis for defining the environment of domestic dry cargo shipping in Turkey. The current issues are fuel prices, freight rates, aged ships, high competition, concerns on the environment (The 2020 Global Sulphur Limit, Ballast water

management), and ship surplus. Domestic dry cargo shipping is a niche research area that needs to be emphasized with practical studies. All these found current issues can be considered for further researches and should be pointed out to enlighten the industry.

Domestic dry cargo shipping of Turkey is a challenging market that has geographical characteristics both domestic and global terms and industrial characteristics. Due to this complex nature and environment, many influencers of demand are identified. These findings of this qualitative study were used to design a survey questionnaire that was related to examining the demand for domestic dry cargo shipping in Turkey.

Following problems, the oldness and the technical deficiency of the coaster fleet, the need for acquiring a younger fleet, and lack of demand for the domestic transport of Turkey, which were mentioned by Dalkanat (2001) are still continuing. These problems are found in this study as well. Policies regarding these problems should be developed and implemented.

Another key finding indicates that to increase domestic dry cargo shipping following key policy options are offered: increase in usage of multimodal transportation, an increase of inspections of road transportation, faster handling, cooperation between shipowners, serving with younger ships, and overcoming ship surplus. Some scholars pointed out this issue in different country cases as well. Brooks and Frost (2004) offered the use of multimodal solutions to increase cooperation with other transport modes in the Canadian Case. Recently, Brooks and Wilmsmeier (2017: 39) offered full access to cabotage markets for promoting domestic shipping at Chilean ports, subsidy to establish a coastal feeder, and access by international container shipping lines to carry their empty equipment for repositioning. These perspectives can also be considered for further growth of domestic shipping services. For future researches, policies are needed to increase domestic dry cargo shipping can be investigated.

The most important limitation of this study is carrying out all the interviews in Izmir hinterland. However, reaching experienced managers and the interactive nature of the industry reduces the effects of this limitation. The findings of this research represent this particular geographic market and any other variables and issues can be constructed for other markets.

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