Some Considerations on Management of the Maritime Transportation

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Motto: *" Tempora mutandur, et nos mutamur in illis".*

("Times change with us too")

Empereur Lothaire Ier d'Occident (840-855)

Abstract: The aim of this research is to inform about some up to date news about the management of the maritime transportation. Thus, taking into account the previous works in the area, the extant of concepts, research, or experiences up to now, this paper intend to add some new research to the field. The main method employed to put into evidence the idea was observation. The results of this study might have implications for different researchers, academics, students dealing with this domain, and also the people working in the area and not in the last turn, for the firms working in the practical activity of the shipping management.

Keywords: management assessment; shipowners; operations; shipping

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Introduction

Transport is the "circulatory system" of the entire planet and at the same time, of each country. It can be said that transport represents civilization, it is an important branch of material production without which the existence of a modern society would be unthinkable.

In making huge volumes of commodities, shipping has a first-rate role, both quantitatively and as efficiently as the seas and oceans make an effective physical bridge between different parts of the world.

Analyzing the management of maritime transport we can not fail to recall the prophetic words that have echoed since ancient times (the end of the XVIth century, the beginning of the XVIIth century); these belong to Francis Bacon, an English philosopher, who said: "Three things can make a great and prosperous nation: fertile soil, active industry and facilitating the movement of people and commodities."

Literature Review

Dragu (2004) brings attention to various definitions of the quality of transport, derived from those of a service, which being overly general, do not allow the quality of the transport service to be measured without major adaptations and transformations.

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Merrick and Dorp (2006) combine the methods to perform a full scale assessment of risk and uncertainty for two case studies of management.

Kiremidjian & more (2007) analyze the risk from earthquakes to a transportation system that is evaluated in terms of direct loss from damage to bridges and travel delays in the transportation network.

Stanca (2008) refers to several definitions of quality, given in time by authors who have approached this field. For example, J.M. Juran by quality understood appropriately for use, and P. Crosby complied with the requirements.

Popa (2011) appreciates that the managerial process of shipping is an ample process involves the scientifically grounded processing of a complex set of data in order to make the optimal decision in maritime transport.

Balamaci (2013) suggests that in order to take advantage of the comparative advantage of the location as the country of transit - as in the case of Romania, the state should be more involved in facilitating the transport of goods and persons across the country.

Ilies and Crisan (2008) succeed to perform a review of the main best practices expressed by different authors regarding transportation management.

Stasytytė and Pilionienė (2016) develop a risk management model for transportation company, based on the prevalent theoretical provisions of risk management activity.

Van der Lugt & more (2013) define and position the Port Authority as an organization combining both public and private values and analyze the validity of the lenses of different theoretical perspectives from strategy and public management research for its strategic analysis.

The framing of the port management in the general concepts of management, starting from the specificity of the practical activity in the field, is illustrated in Pușcaciu's work (1999).

Historical Incursion

A first proof of maritime trade was found in Egypt and was dated to 5,000 years, i.e. at that time seafarers were already using the propulsion force of the wind. In India there were established trade links with the ports of the Red Sea and also with the ones in the China Sea. In the Mediterranean, the first maritime nation was Phoenicia. Phoenician sailors have extended their trade ties to Gibraltar.

The art of navigation and maritime trade was taken over by the Greeks. Demostene wrote that no trader goes to sea without paying in advance the voyage, which is a guarantee for safety.

The shipping routes of ancient Greece covered the entire Mediterranean and the Black Sea. Seafarers and merchants from the island of Rhodes have laid the foundations for maritime commercial practice recognized until today, one of these principles being freedom of the sea for all and another the concept of joint contribution by participants in the maritime expedition to loss or damage done voluntarily for the purpose of common salvation.

Subsequently, the Roman Empire experienced a great expansion of maritime trade, reaching North Europe. The Romans first legalized maritime trade and although there are no known details, it is known that they cover 5 large areas:

- *the right of the sea*: the sea is free for all;

- *ships*: the ship's legal possession;

- *trade*: principles relating to the transport, delivery and payment of the cargo;

- *obligations*: the responsibilities of the ship owner, trader and captain;

- *arbitration*: resolving different disputes.

The development of maritime trade was resumed in the Mediterranean by the cities in northern Italy, mainly Venice and Geneva. Thus, the vessels used for trade had to be made known by name and port of registration, to be in good airworthiness condition and to be inspected by maritime authorities upon arrival and departure from the port.

Besides the Mediterranean Sea, the Hanseatic League dominated trade differently. Hence the Oleron maritime laws and the Visby Code, some of which are still applicable today.

Modern maritime trade is a vast and complete economic activity, both in terms of the volume of goods in traffic and in terms of their material value, plus the huge, high-tech investments represented by ships as means of transport and modern ports as means transshipment.

Maritime trade as a national or international economic activity must be conceived and organized necessarily both in relation to necessity and for ensuring profitability, its main function being to link production to consumption. The current conditions for the development of the world economy, characterized by cooperation and interdependence, impose two essential features of economic nature on shipping and maritime trade: economic efficiency in the sense of full satisfaction of material requirements and profitability, as an essential condition of a broad economic activity, in which maritime and maritime transport, as well as all other related activities, have a determining role.

It is known that transport is involved in the final price setting. As part of the costs incurred by the completion of a product, transport costs are structured according to the transport formula approached, but also according to delivery conditions. The fundamental objective of shipping and maritime trade is to ensure the normal commodity circulation at international and national level, in a safe, timely and economically efficient manner and in accordance with applicable conventions, laws and contractual clauses. In the framework of maritime transport, an economic and legal framework has been created, consisting of national and international rules of rules governing the commercial exploitation of ships.

Management of Maritime Transportation in the World Economy

Maritime transport is a basic branch of the world economy, playing a major role in the temporal-spatial relationship between different geographic areas of the world. It creates value links between regions and human clusters in order to develop complex categories of commercial and economic activities.

Sea transport activity is a cumulative multidimensional service that has spurred and influenced the various aspects of human existence.

The determinant role of maritime transport can be analyzed from the following points of view:

- *historically* - facilitating the development of civilizations through the creation of complex social and military structures over time;

- *social* - facilitating the cross-border movement of people across large geographical areas, in order to meet commercial needs in a first phase, followed by the emergence of new requirements. Transport in general (maritime in particular) has had a major impact on the whole of the human society, ensuring over time the formation of lasting relationships between the various beneficiaries, suppliers and entrepreneurs;

- *politically* - governments play an important role both as decision-makers and shareholders. The political role of transport, especially maritime, can not be denied. The correlation of transport requirements with economic imperatives is largely due to the influence of politics. It is appreciated that transport plays an essential role in strengthening national unity by linking every corner of a country's territory through rail, road, river and maritime networks;

- *economic* - the evolution of transport has always been linked to economic development, the creation of new jobs;

- *environment* - all decisions relating to transport activities must be evaluated taking into account the costs and benefits to the population. Both the environmental consequences of transport (pollution, topographical changes), but also the environmental implications of transport (the costs of exploiting natural resources) must be taken into account.

Transport is a sector that economically facilitates the production of goods and services, thus contributing to the increase in the added value of products and services.

Of the contemporary trends that contribute to the growth of the importance of transport, the following can be mentioned:

- *increasing transport requirements*: the 20th century, more than any other, has faced a considerable increase in demand for transport, both in terms of passenger and freight transport;

- *cost reduction*: some transport systems, especially the shipping industry, have the potential to cover long distances at low costs, notably at the level of the unit being transported;

- *infrastructure expansion*: the already mentioned trends have gained importance due to the development of transport infrastructure, both qualitatively and quantitatively. New capacities have been added to the existing transport networks, which has led to a broad development of these (roads, bridges, ports, communication facilities, transport pipelines, etc.).

Consequently, the purpose of transport is to cover a space, or rather, to respond to human constraints materialized by distance, time, administrative division, and topography. All this gives each movement a so-called space conflict.

However, these constraints are only partially circumscribed. Their extension has a cost that varies depending on certain factors, such as the spatial amplitude or the nature of what is being transported. The specificity of transport is the satisfaction of a mobility requirement, so transport can only exist if the population, commodity or information is moving, otherwise it simply loses its purpose. Urbanization, multinational corporations, the phenomenon of globalization is contributing factors to transport development.

The fundamental purpose of transport is therefore to facilitate movements between different locations. If in the 19th century the aim of the transport planners was to cover the largest areas with traffic routes, in the 20th century this objective turned into selecting the itineraries, choosing the most convenient type of transport and increasing the capacity of the networks existing needs, responding to a need for

mobility of people, products, services and information, a concern that is continued at the beginning of the new millennium.

Peculiar Aspects of the International Maritime Transportation in the Recent Years

Given the general economic progress of society, over the last decade there has been an unprecedented increase in world trade, the transport of basic raw materials needed for industry, agriculture, and the trade of finished products.

On the other hand, the intensification of trade between countries in different geographical areas, the participation of the respective countries in this process is a necessary condition for boosting the economic and social progress of each geographical region.

Worldwide, an analysis of the shipping industry made a few years back in early 2014 by Moore Stephens, financial consultant and international shipping consultant, believes that the shipping industry should be considerably improved by 2015, if the previous year's recovery is maintained. Recovery prospects may still be fragile if industry fails to address a number of challenges, including stricter regulations and increased operating costs.

Shipping is now in a different place from the one it occupied years ago. Trust has grown over the past three to four years. Several companies have begun to consider new investments as well as economic and political issues with the potential to affect shipping, which are considered less severe for the future.

In the next twelve months, shipping growth was expected to rise on the basis of public and private capital. The supply and demand levels should have come close. Increased ship dismantling levels will be needed to offset new constructions. China already offers subsidies to shipping companies for ship dismantling before their operational expiration date and replaces them with new "eco" vessels under the Chinese flag. So everyone is happy - owners, shipyards, ecologists (except those worried about irresponsible recycling) and politicians alike.

All positive indicators, however, remain somewhat fragile. Maritime transport can not operate without fuel and skilled labor. Meanwhile, regulations on shipboard conditions have changed, as well as fuel quality and ballast water management. Environmental regulations are topical, and the IMO regulates the monitoring of fuel consumption data in order to create new regulations for reducing carbon dioxide emissions. It is to be hoped, however, that the maritime transport industry can sustain the recovery that started in 2013 and we could expect a return, although the market may sometimes be irrational.

Understanding Management Transportation

The national transport system supports and influences the social-economical evolution of the country and facilitates the opportunities for a country like ours to make a difference in the European economy and provides access to the Western European transport services and infrastructure network.

After a "disordered" evolution in which each mode of transport has developed autonomously and independently, in recent years a certain "settlement" has occurred in the development of various modes of transport in Romania. Autonomous development has generated a system where transport

operators compete (sometimes to the limit of legality) with each other (including the provision of facilities and resources) instead of collaborating to provide the best service to the user and society.

Romania has a national transport system (infrastructure, means of transport, transport operators, etc.), largely located both in terms of the functional structure and the services rendered at the level of the average standards of the conventional transport systems in Europe, able to cope with the current needs of domestic and international users. Overall, the network of public transport infrastructures (roads, railways, waterways, waterways, seaports and airports, airports) ensures the connection of all the localities of the country to the national transport network and to the international transport systems. It also generates opportunities for the development of some sectors of the economy engaged in the implementation of the investment program for modernization of the transport infrastructure employed by Romania.

With the liberalization of the economy and the growing gap between economic areas, access to transport infrastructure will facilitate the concentration and centralization of economic activity in a small number of large nuclei but will also lead to weaker areas with lower potential for dominant areas and, to modify the structure of the transport system.

The networks will be "waterproof" for much of the territory, leading to an increase in spatial segregation and to population migration, implicitly. The resources in terms of which they could be secured were "fractured" and channeled to a very large number of objectives, the criteria technical-economic ones being subordinated in many cases to the political commands, programming of investments could not be respected and the assignments in function have been prolonged permanently. It is also ignored a frequency with too great impact in the system of each action creating networks and itineraries parallel sections overlapping sections of capacity and capacity infrastructures high performance with aging and outdated parts of the current quality and safety parameters. Overflows have been generated forced mobility of some sectors of the network road infrastructure (especially in main-city entrances and exits) and drastic decreases in the use of the railway infrastructure network (in many cases the same transport relationship). The uncertainties in the national transport system in our country - for example - derive from the possibilities for achieving the endowment levels to ensure: overcoming large deficits and bottlenecks in the road system; decrease imbalances in accessibility to the territory as a whole and a transport impacts on health and the environment; satisfying demand for transport generated by increased mobility people and goods especially in urban and metropolitan areas; the challenges of an increasingly integrated international transport system which demand greater competitiveness of the sector and greater attention to safety.

Improving the transport system by prioritizing the TEN-T[1] infrastructure Connecting Europe and pan-European corridors IV, VII and IX will contribute to Romania's economic progress and increase integration into Europe, but will also generate disparities in territory and a reduction in the possibilities to meet the requirements at a given time. The liberalization of the transport market and the free and non-discriminatory access of operators to transport infrastructure will continue to produce important changes both in the distribution structure the volume of transport by modes of transport and the degree of utilization of existing capacities.

The merchant shipping fleet belongs to private companies, mixed companies, state-owned companies or multinational companies. It is interesting to note that although there are still small, family-owned,

[1] TEN-T = Trans-European Network – Transport.

small, 2-3-ship-owned private firms, there is a strong concentration of the fleet, of dozens of ships to a single ship owner or a single company.

The highest concentration is recorded in line navigation, because very large investments are needed to organize and maintain a navigation line. With the development of containerized transport, this concentration has grown even more, as this type of transport is almost exclusively done in the form of line navigation requiring, besides a large number of container vessels and containers. Under these circumstances, the invested capital is very high, which is increasingly leading to the interpenetration of industrial and transport capital. More and more production companies (oil processing companies, car companies, ores exploiting firms, phosphates, etc), as well as some banks, buy and exploit many commercial vessels.

Another important feature of the global maritime market is that many ships are registered in tax havens. The main motivation of ship owners is that there are no taxes in these countries and maritime legislation is very permissive. Most of these ships are recorded on a "ship-to-company" basis to avoid arresting a ship for damage from another ship belonging to the same company.

Forming Conferences and Their Importance

A conference is a structure capable of gathering all shipping companies that transport between ports and together transform into a monopolistic structure. Although it is said that there are over 360 such conferences, most of them have a very low power, their impact on the market is insignificant. On the market there are also a number of very strong conferences that are capable of imposing certain rules.

The basic element of a conference is that it limits the competition between conference members. Limitation of competition is made by:

- the common arrangement of a tariff to be applied by all members

- the existence of a system of allocation of goods

- constitution of a revenue sharing system.

Conferences can be closed or open. Closed conferences were the first types of conferences, they provided a monopolistic service between two ports and the access of other companies was only allowed by a favorable vote to all members. Following interventions by various governments, particularly the US government, which banned closed conferences from operating in US ports.

In the case of open conferences, any company is accepted provided it complies with the rules and obligations arising from membership. To operate in the US, any company wishing to become a member of a conference must provide a regular service of not less than 14 days. It is also noted that any company member of a line can take independent measures that may lead to reductions in vans, but these can not be less than the marginal transport cost of that commodity.

The emergence of new states interested in becoming members of conferences has led to the involvement of UNCTAD, which has developed a code attempting to regulate this activity by introducing a system for dividing goods by formula 40-40-20, 40% the companies that were based in the ports of loading and unloading and 20% for other companies. This code has not had much impact on the maritime market because CEE countries have made this code inapplicable for goods loaded or unloaded in Europe and the US has never signed this code.

The fluctuations between demand and supply over a period of time, the trends expressed by the relationship between them and the effects they generate form the market conjuncture. The conjuncture of the market also expresses a certain relationship between different partners within the market, from their positions by sellers or buyers, the conjuncture of the market may be favorable or unfavorable. With other words, the conjuncture can not be characterized in a neutral way. Indeed, when it is favorable to the seller, it is automatically unfavorable to the buyer.

The correct understanding of the dual state of the conjuncture, depending on the position held by the economic agent in the market in a particular situation, is the premise of capitalizing or counteracting, as the case may be, the effects of the conjuncture. The evolution of the conjuncture over a certain period of time is the effect of the combined action of market influence factors. Particularly useful in analyzing the market situation is the grouping of market factors according to their intensity and their action over time. This criterion distinguishes the following main categories of factors: lasting, cyclical, seasonal and incidental.

Lasting factors acts in the long term and very long, determining the overall evolution of the market, its tendency. For this reason, they are also known as trending factors. Usually, lasting factors have a permanent effect, conjugating themselves in certain periods to other factors (cyclic, seasonal, etc.). In principle, long-term factors contribute to foreseeable changes to the market: neglecting and non-aligning the firm with the tendencies expressed by them leads to the continuous increase of the gap between the firm and the environment and its gradual placement in an unfavorable situation. Besides the factors of maximum overall (technical progress, natural resources) included in this group, in the context of the conjuncture, a long-term economic policy measures adopted by some states are of particular importance. The starting point for any discussion on the availability of freight transport by sea is the existing available tonnage both from the point of view of the world-wide commercial fleet as a whole and for each sector of the transport market, how this indicator has evolved over certain periods. As we shall notice, these changes were either the result of orders placed on shipyards or the result of some decommissioning or scrapping decisions. Since the average duration of operation of a commercial ship for the purpose of which it was commissioned and built is about 20 years, such global changes in exploitable tonnage become noticeable over longer periods and not from one month to the next, a situation often encountered when the subject of analysis is demand dynamics.

A characteristic feature of how the mechanism of the maritime market is functioning is how to self-regulate the offer when it comes to a decrease in the profitability of certain types of vessels, even if they can be considered new.

Another cause, perfectly normal, if we look at the financial situation, which led to the prolongation of this imbalance state, was that most of those interested in one or the other in the exploitation of these ships were seeking to convince them that there was an alternative a little harsh than that of a massive decommissioning and ship sales of scrap iron. The uniqueness of this solution, with all its economic drama, was accepted in the early 1980's and the sharp decrease in tonnage that followed the implementation of this radical measure. In practice, many types of ships do not operate within strict, restrictive market sectors. In spite of this tendency to specialize vessels, there is a high degree of substitution between the different categories of vessels. This flexibility has become one of the conditions of survival in the context of a strong market dynamics.

Another important element in studying the evolution of the world fleet is the structure of the world's maritime fleet according to the flag under which the ships are sailing. From the point of view of the

maritime market researcher trying to make correlations between the evolution of the tonnage supply and the evolution of the various national economies, it should be noted that this division of vessels does not bring anything spectacular as several ships sail under the flags of very poor (Panama, Liberia, Saint Vincent de Grenadine, Bermuda, Cyprus, Malta, etc) and which have very little maritime legislation as regards the imposition of minimum standards on working conditions on board vessels and timely maintenance and repairs.

It is generally accepted that the pace of renewal of a fleet depends on demand dynamics but is a long-term process given the functional and constructive features of ships as durable goods. In 1974, for example, they left the shipyard docks at 12% of the world's commercial tonnage, while in 1986 this percentage dropped to 4%.

The commercial fleet dynamics depend on the existing ratio between new ship deliveries and tonnage reductions resulting from the sale of scrapped ships or sea accidents, but this balance has changed radically in the late 1970s.

The phenomenon of the sale of scrapped ships with the intention of determining the factors that make up such a decision appears to be extremely complex, making it even more difficult to judge fairly the development of a fleet's transport capacity. Among these factors that interact in a variety of ways include age, moral wear, price of scrap metal and market dynamics forecasts. The age of a ship constitutes, under normal circumstances, the primary element in making decommissioning decisions. The efficiency of a ship is gradually reduced with the passage of years, increasing proportionally the maintenance, repair costs, etc. Although the process of physical degradation is gradual over time, it is not possible to indicate an exact age of expulsion. As this market also has a limited absorption capacity, the prices obtained vary depending on the supply/demand balance of the market at that time, the availability of scrap metal resulting from the scrapping of vessels or vehicles, the most important suppliers of such resources. A period of intense scrapping may cause a price drop, a process accentuated by the unfavorable economic conjuncture that usually accompanies such periods.

Finally, it should be emphasized that taking a decision to sell a scrap metal ship is itself a business whose outcome depends to a large extent on the correctness of the owner's predictions regarding the future profitability of the ship and how it can influence its financial situation. The world economy is undoubtedly the self-evident factor exerting the most significant influence on the evolution of tonnage demand. Numerous comparative analyzes highlighted the close link between fluctuations in the rate of freight and the phases of the world economy. The link between maritime trade and the world economy is also influenced by three different factors:

- economic cycles that exert a huge influence on the world economy and implicitly on maritime trade;

- the long-term inter-dependencies between the evolution of the maritime trade flow and the evolution of the world economy;

- economic shocks, these are remarked by their random nature and their particularly strong impact on the maritime market.

Conclusion

The evolution of the maritime market can be associated with the tendency of the supply to meet demand. Often, demand is very close to reaching its goal, but it is never fast enough. This is why, although economic analysts are talking about the so-called balancing of the balance as the normal, identical, competitive market situation, in the case of the maritime market this hypostasis is more due to the hazard, some periods of exceptional stability of demand, meeting for short periods and long intervals throughout the last century. The quality of maritime transport services involves the provision of a service where goods are loaded, transported and delivered in time and in the same condition as they were loaded. In order for a firm to provide a quality service, it must have certain standards regarding inputs, workloads and outputs from the system and these standards need to be quantified. Because outputs from a system are inputs for another system, once a firm is engaged in the quality implementation process, it will ask all its suppliers to implement such a system. Customer pressure is one of the reasons why a firm may be required to implement a quality system.

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