

Trends in the Use of Information Technology in Maritime Transportation

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ABSTRACT: We set out to discuss in this paper about maritime transportation. It is known that more than 90% of global trade is supported at sea. In the last century, the shipping industry recorded an increase in total trade. The growth of industrialization and the liberalization of the national economies have favored free trade and increased demand for consumer products. The development of technologies has caused maritime transport to evolve efficiently and become a prompt method of transport. A look at the international maritime transport system presents a system consisting of three components, namely: the maritime transport system (freight and passengers), auxiliary maritime services (any activity related to cargo handling in ports and ships) and port services (activities related only to management ship in ports). Maritime transport and is an integral, sometimes less visible, part of the world economy.

KEYWORDS: global trade, maritime services, maritime transport, ships, world economy

Introduction

The history of the development of civilization provides clear evidence that navigation was one of man's oldest duties. The beginning of navigation occurred several hundred thousand years ago, when one of our ancestors, to escape either from the danger of wild animals, or from the calamities of nature, or to find a place to feed, ridden on a log and was carried by the waters of the river or further, offshore, by the sea currents. This act of courage and, perhaps, of curiosity for him was the first step in discovering a new activity that would become what we call navigation today.

The development of this activity, from the hollow log to the modern ship of today, has been and represents a means of communication between people, a means of exchanges or the way to discover and conquer new lands. The evolution of navigation has been slow and the seaway has always been full of dangers, and the man who operates on the ship is deprived of the advantages of the one who carries out his activity on land.

But with all these risks and privations, the sea drew the man, and the man sought to confront and subdue it. It can be said that the current ships, equipped with high technical equipment and offering increased comfort, represent a collective effort, in order to carry out the safe transport for the human, the ship and the cargo on board.

Within the complex and specific activity of maritime transport, an important place is the signing of the contract, the location of the cargo on board, so that the maritime shipment is carried out in complete safety, the goods do not move and do not endanger the stability of the ship, in any kind of weather and sea conditions.

Then the goods will be delivered to the destination as it was loaded. Since ancient times we have remained the written testimonies of some profane in the problem of maritime transport, but people with great authority in the world of scholars of those times, who show their admiration for the craftsmanship with which they were arranged, in the small space of a ship, huge quantities of goods intended for sea transport. Today, even with the means of modern technology, stacking is still an art and constitutes the visiting card for sea carriers.

However, the perfect loading and stacking of goods does not definitively solve the problem of maritime transport. During the transport period, a number of factors intervene that tend to change both the stacking and the condition of the goods.

In its journey, the ship is subjected to sea movements - roll and tang, which are very often extremely violent. The merchandise is subjected to great demands and, if it is not tightly tied (well tied and fixed by stacking), it can come off. The cargo thus released may be rolled inside the ship,

damaged or may remain on board, endangering the stability of the ship. Therefore, careful supervision of the goods during transport is required.

Then the ship, crossing areas with different temperatures, will be subjected to large temperature differences, which are transmitted to the goods inside the warehouses and it is known that the biggest enemy of the goods at sea is the moisture. So even in this situation, special care is required for the ventilation of the goods.

Once arrived at the destination, the goods must be delivered under the same conditions as when loading. The ship's personnel have the obligation to supervise the unloading of the goods, taking into account that the delivery of the goods in the same state as the loading will raise the prestige of the company to which the ship belongs and will lead to the avoidance of disputes. In this last stage of maritime transport other factors are involved, which will be shown during the work and which the ship's personnel will have to take into account.

If the problem of the transport of goods in maritime traffic was looked at very carefully from Antiquity, all the more the emphasis is nowadays that this problem is based on scientific basis because people are today driven to operate and exploit the colosses that cross the seas. Under safe conditions and with maximum efficiency. This is why the need for maritime transport has to be carried out according to precise rules and regulations, which limit the risks to seafarers and ships.

The terms used are those of international circulation; where the Romanian specialized literature does not have an equivalent of the foreign term, the corresponding English term, used exclusively in the field of maritime transport, will be used.

The work was sought to cover all the problems related to maritime transport and, where appropriate, it was exemplified by practical problems, most common in maritime transport.

Based on the general presentations it can be emphasized that the economic advance registered in the human society lately has involved, through real inter-relationships, an unprecedented increase of world trade, of the traffic with the basic raw materials needed for the industry, agriculture and exchanges of finished products. Industrial or food, when the general development orientation tends towards an adaptation to the postindustrial economic systems (the transition from the economy based on energy and transport to a economy focused on communications, in which the structural elements prior to this period will be only complex. mentality, while maintaining its importance and capabilities) (de Rosnay 1992, 28).

In achieving the movement of the huge volume of goods, naval transport has a first-class role, both quantitatively and operationally, as the seas and oceans form an indubitable, neocolitous, but also trainable, efficient and necessary bridge between the states of the world.

Paper content

Speaking about the primacy of world trade as a form of manifestation of the global economic circuit, it is necessary to underline the primordial form (arbitrarily selected based on the volume of goods circulated through it) to concretize the development of the international flow of goods, namely trade carried out by sea transport.

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

The maritime transport, as an economic activity of national (state or private) or international invoice, must be conceived and organized in a compulsory manner, both in terms of necessity and in order to ensure the profitability. It is one of the main factors of global economic cooperation. Its main function is to make the connection between production and consumption. The current conditions of the development of the world economy, characterized by cooperation and interdependence, impose on the maritime transport two essential features of an economic nature (Gheorghe 1996, 135):

1. Economic efficiency, in the sense of full satisfaction of the material requirements;
2. The profitability, as an essential condition of a broad economic activity, in the amount of the costs the transports and their related operations having their determining role.

The fundamental objective of trade and implicitly of maritime transport is to ensure the normal flow of goods at national and international level in safety, in time, with economic efficiency and in accordance with the conventions and contractual clauses in force.

Another aspect of the analysis of the economic efficiency of the transports is their implication in the final volume of the price. The price is constituted by the sum of the expenses incurred until the end of a process and can consist of the packing costs, the transport costs, the insurance costs and other expenses (taxes and charges, etc.). Within them, the transport costs are structured according to the delivery conditions, but also to the form of transport addressed.

The world ocean is today the most advantageous communication channel and which, in the context of international changes, conditions the huge annual traffic of billions of tons of goods. Among the means of transport it is known that the cheapest one is the one on water, which, according to world statistics, is estimated as realizing 90% of the volume of world-wide exchanges (the total quantity of goods that form the object of world trade transported by sea representing 65% of total exchange value).

At the current technical stage reached by civilization, no other means of transport other than ships can ensure the traffic of goods across the seas and oceans of the billions of tons of goods entered annually in the international trade circuit.

As a result, maritime transport fleets have seen a significant increase in global tonnage, accompanied by the diversification of types of ships, thus maritime trade becoming a vast and complex economic activity, both in volume of goods in annual traffic and in value (Anton 1988, 38). As the transport of the sea intensified, it became necessary and it was gradually necessary to improve these activities, to carry out the most efficient safety and insurance measures for ships, cargo, crews and to establish the most appropriate legal framework, which would allow the normal conduct of maritime trade.

These technical, economic and legal measures are indispensable as in the maritime transport the distances traveled are very large, as well as the quantities transported; In addition, crossing a single travel of several climatic zones can expose the goods either to the depreciation of the load or even to their definitive loss.

The world economic circuit, in its various forms, is conceived only to the extent that the states of the world enter into reciprocal relations. These relationships can stimulate or, on the contrary, slow down the various international economic flows. These economic flows have a permanent tendency to diversify, which makes their content heterogeneous.

The international flow of products can take different forms, each presenting particularities regarding the evolution of demand and supply, the formation of prices, etc. The reason for being of the world economic circuit is given by the existence and deepening of the world division of labor, of the specialization of national economies in certain directions, in order to optimize resources of the world market. For a long time, practically until the end of World War II, the main flow of international economic relations was trade in tangible goods.

In closer times and at present, trade, especially foreign trade, has a priority role in the economic life of countries such as Japan, or European countries such as the Netherlands, Belgium, Denmark, etc.

International trade in goods tangible has therefore in an important place in international economic relations, but within them appeared to have developed, especially in the twentieth century in the last three or four decades, and other flows with a dynamic evolution usually trade higher than territorial.

Thus, in the second half of the twentieth century, the invisible trade or the trade with services developed rapidly: international tourism, international transport and telecommunications, scientific-technical services, etc. The deepening of international economic relations results from the faster growth of the volume of economic affairs in the last two decades, compared to the earlier periods of modern history.

After the Second World War, the future of international economic relations showed a cautious optimism, expecting that international trade will develop faster than between the two world wars, but will not reach the known rhythms. During the period of free trade. In fact, in the last four decades, international trade has developed at an average rate of over 10% per year - with some differentiation of rhythm from one period to another -, these rhythms reflecting convincingly. Deepening international economic interdependencies

Obviously, these average rates reflect large differences in terms of the absolute volume of growth between developed countries, on the one hand and underdeveloped countries, on the other. The deepening and diversification of economic interdependencies also results from the structural changes that have taken place in each flow of international economic relations.

Thus, in the period following the Second World War, significant changes have occurred in the structure of international trade. If, until World War II, the basic products had the highest value share, accounting for 2/3 of the world export, in the post-war period the situation gradually changed in favor of manufactured products.

Significant for the inter-production-transport relationship is the period of the 1990s, which completely characterizes the end of the millennium, by the value increase of the transported goods, implicitly efficiency and technological specialization, post-industrial characteristic.

The change in the weight and place of the two product groups in international trade in favor of manufactured products is the result of several factors (Dobrotă 1992, 226):

1. Emphasizing the industrial character of the world economy;
2. The technical-scientific revolution, under the impact of which the industry is in a permanent process of modernization, diversification and superior exploitation of the national resources and the resources subject to processing;
3. The accentuation of the international division of labor and, first of all, of the industrial division of labor, which has led to a considerable increase in trade with these processed (manufactured) industrial products.

Conclusions

For Europe, maritime transport is a real catalyst for economic development and prosperity, as illustrated in this paper.

Maritime transport allows trade exchanges and links between all European nations. It ensures the security of energy supply, of goods and food and the transport of people, while facilitating European imports and exports to and from the entire world. About 90% of the European Union's foreign trade is by sea, and short sea shipping (SSS) accounts for 40% of intra-European trade. It is also worth noting that more than 400 million passengers are boarded and disembarked in European ports every year.

Overall, the maritime industry is an important source of income for the European economy. Considering the importance of the maritime transport field, the International Maritime Organization laid the foundations of the e-navigation concept in 2006, to increase offshore and offshore safety, to avoid accidents and to facilitate the safe movement of ships. This concept involves providing ships with navigation systems that have a standard user interface, making the exchange of data between ships, between them and shore or from shore to shore more accessible. The e-navigation objectives also include increasing efficiency in transport and logistics, efficient monitoring and coordination of ships through coastal technological systems, improving the management of naval traffic and developing an infrastructure to allow the rapid transfer of information between all users.

The European Commission aims to make maritime transport safe and efficient. Thus, in the medium and long term, the most important initiative in the process of developing the maritime transport is e-maritime of the European Union. It focuses on the simplification and cohesion of administrative requirements and procedures in maritime transport. E-maritime is meant to provide standardization, interoperability and security of information exchanges that will lay the groundwork for strategic cooperation networks within intermodal operations. In short, e-maritime should

eventually lead to the emergence and consolidation of commercial and public services in electronic format, which will result:

- Enhancing the safety and security of maritime transport goods and services, as well as environmental protection;
- Increasing the competitiveness of the maritime transport industry of the European Union and strengthening its presence on the international stage;
- The integration of sustainable and efficient maritime transport services and secure “in-door-to-door” transport services in Europe and beyond;
- Strengthening the human factor, in particular supporting the development of seafarers’ skills and well-being for them.

It can be said that encouraging the co-modality and optimal integration of maritime services in the logistics chains has become the key strategy of the European Union. This new notion of co-modality aims to reshape the transport market.

In order to achieve its objectives, the European Commission has set up several initiatives closely related to the e-maritime initiative, including short-distance shipping (SSS), freightwise, e-customs and others.

Therefore, the European Commission’s objective is to protect Europe by strict rules that eliminate poor quality maritime transport services, reduce the risk of serious maritime accidents and minimize the impact on the maritime transport environment. The Commission is also actively working against threats of piracy and terrorism. Another important activity refers to the social dimension, namely to ensuring the working conditions, health, safety and professional qualifications of seafarers.

Finally, the European Commission works to protect citizens as users of maritime transport services, to ensure safety and security conditions and to respect their rights as passengers.

As far as Romania is concerned, it has adopted the legislation of the European Commission on maritime transport, but it does not have a fleet.

As for the use of information technology, as we have shown in the paper, the so-called Templates MSW.ro (Romanian Maritime Single Window) is partially used. We expect the use of information technology to extend to the port of Constanta, as well as to other ports of the European Union and worldwide.

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