

THE TRADITIONAL MARITIME MARKET COMPONENTS AND ITS RELATIONS WITH THE GLOBAL MARITIME BUSINESS MODEL VARIABLES

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Abstract: *Traditionally, as approached within the applied literature concerning the maritime market components functional description, just four major segments have been depicted, namely: the freight market, the used ships trading market, the shipbuilding market and the ship scrapping market. These components were defined peculiarly within an integrated perspective, building together a well known and widely accepted maritime business model. But the naval industry logistic system became more than that, as nowadays other maritime business sectors come up as related dependent or even determinative to these predefined market segments. The authors have carried out a wide endeavor of redefining the maritime business components, defining a more comprehensive business model for maritime industry, promoting a new perspective for the Maritime Logistic Chain as well. The major contribution of the present article is due to the modern consideration of collaborative business model promoted as to be recognized and implemented within the maritime business on international level.*

Keywords: *maritime transports, business model, maritime market, maritime logistics*

1. Introduction. Literature review.

The maritime market traditional model has considered, as widely accepted perspective nowadays, four correlated dimensions of the maritime market, as shown synthetically in the figure no.1, namely: the shipbuilding sector, the ship trade market (second hand market), the ship scrapping market and, as major catalyst and functional binder, the freight rate market and its equilibrium mechanism (Stopford, 2009; Branch 2007; Karakitsos and Varnavides, 2014).

In this respect, most of the authors have identified the freight market as being the central variable of the common accepted maritime business model, from where all other components would take over the variances, adapting and rebounding to the recorded trends on the supply and demand side of maritime economics (Stopford, 2009). In detail, some of the authors have defined, in the same frame, the maritime business model, but depicting the maritime market focused on the cargo particularities, mainly for three peculiar models, as following: maritime transportation model for bulk industry, maritime transportation model for general cargo and containerization business model (Karakitsos and Varnavides, 2014). For each dimension of the maritime industry were described both the market mechanisms and the applied business strategies within the model (Lorange, 2009). Since the literature is focused on these distinctive areas of research, even the

international reporting official institutions profiled in providing the authorized statistics, have adopted a similar approach, depicting the analysis on these four segments within a similar framework, accordingly (Review of Maritime Transports, 2000-2016 collection). Most of the authors embrace this model, conceiving the maritime transportation services as an important key factor for the supply chain management on inter-regional level (Coyle et al, 2011). The importance of the maritime shipping is confirmed both in case of the large quantities of goods on the bulk market overcoming the low value of commodities based on economies of scale principles, but also in case of the general cargo freight for high value goods, based on containerization (Coyle et al, 2011).

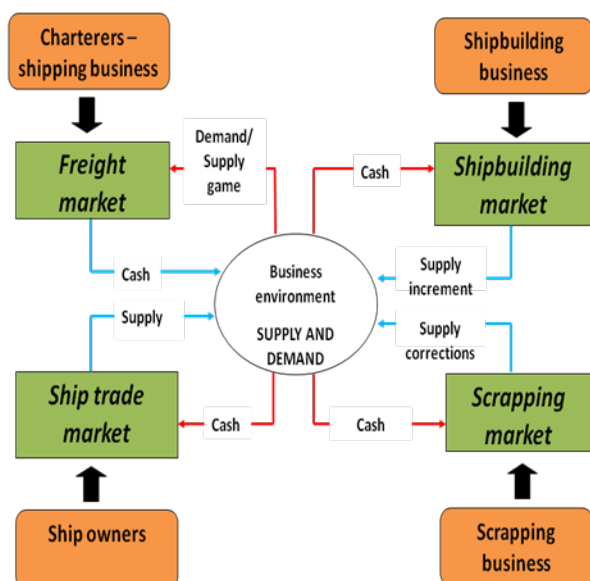


Figure no. 1: *Traditional shipping market components* (version adapted by the authors after Stopford, 2009)

2. The traditional business model for the maritime transportation business

Within the market centric balanced perspective, the major vector of the seaborne trade and the maritime business imbalances on medium and long run is the freight rate market, determining the cash flow distribution between other three components of the market, based on the trade-offs financial equilibrium principles (Stopford, 2009).

Briefly, carrying the freight rates as the main linkage among the market components' variance, the seaborne business model on maritime market is working like following:

a. Once the freight rates are hiking on the short run, the cash flow starts flooding the business environment both for the charterers and for the ship owners, the second hand ship trade markets, becoming sparkling on the short term perspective, due to the sudden demand incentive. It is useful to notice that the cash flow is moving in the same transactional streams, thus the money being practically kept within the maritime business frame.

b. Once the prices on ship's second hand market will overrun the utility value and the investment rate threshold, the shipbuilding business will take over the tremendous need for the fleet enlargement, the major ship owners or the financing entities booking new shipbuilding orders, permuting the short term perspective on the medium and long run, with all the associate risks. This is the moment when the cash flow will start leaving the maritime freight market, the money getting out of the market on the logistic chain.

2. Research Methodology

The conceptual study will apply an interpretative approach on modeling basis, based on literature review findings. The modeling technique has been used as a qualitative research tool, in order to build a comprehensive functional model for the maritime market. The functional drafted framework would be further explained based on updated statistics, gathered from different sources. The study starts as a theoretical base for further empirical approaches, aiming to validate the model functionality and of its variables.

The qualitative technique has been used to priory draft the traditional components of the maritime market, taking over the most common used concepts from the literature (figure no. 1). Following the qualitative methodology of modeling, the authors have further designed the new framework of the maritime market, but considering updated variables correlated based on statistics comparisons (figure no. 2).

3. The Maritime Market New Determinants

It is broadly accepted that the maritime business model nowadays aligns not only the ship's related variables, namely the shipbuilding industry, ship trade market or the scrapping market determinants, bound by the freight rate inflows (figure no.1), but also new vectors that impact the maritime business environment on reciprocal basis. Due to the globalism fingerprint, the shipping market traditional perspective should be consequently switched toward a wider perspective of the **maritime business market**, where the seaborne trade is connected to many other economic vectors. The maritime business market concept should define the systemic components functionally related under the maritime industry coverage, containing the maritime industry variables as: the shipping industry, the port industry, the manning/crewing market and, ultimately, the added value services market and other logistic support businesses involved in the transportation logistic chain. Thus, the shipping services nowadays should be sought within the broaden frame of the supply chain networks and the market should be comprehensive accordingly (figure nr. 2), where the maritime transportation is just a chain component for supporting the supply, manufacturing of demand/clients services, including distribution, providing the physical distribution/movement/handling of the goods, where the restrictions for quantity respects the economy of scale principle

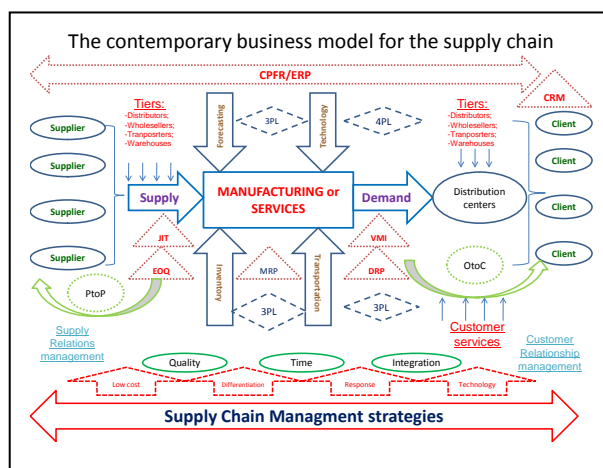


Figure no. 2: The contemporary business model for the supply chain network

Therefore, accepting the new role of the maritime transportation along the supply chain networks, valuing also the intermodal and multimodal perspectives, the maritime industry is widely inter-related to a complex sum of vectors. Within the new global business framework, throughout the last decade, due to the supply chain networks diversification, the maritime market configuration has got new variables, very significantly marked by the international goods distribution strategies (Coyle et al, 2011). Thus, the maritime market should not be considered isolated anymore, not even on beneath of the *ceteris paribus* cover. The traditional variables could be centered on the **ship related market components** (S_s), including here the shipbuilding sector, the ship trading market and the scrapping market, embedded by the seaborne evolutions. But alongside with these variables other driving forces should be considered, as relevant and influent, impacting the maritime business market model as following (figure no.3):

- The **port operation services** (P_s) include the services chain provided for ships operation or related to it, as stevedoring operations, cargo handling, packing/picking services, containerization or other similar services/technologies applied for goods handling in loading, unloading or transfer operations;

- The **added value services** (V_s) include the complex services in relation with the goods distribution and transformation, within the port area or in the upstream or downstream of the port operation services, on logistic hubs, alongside the supply chain, including the procurement services (bunkers), brokerage, agency services or forwarding services. Here are also included the provided services for ships, in relation with the periodic maintenance or other technical operations.

- The **manning services** (M_s) are related to the human resources recruited, selected and employed onboard the maritime ships, according to the international rules and regulations;

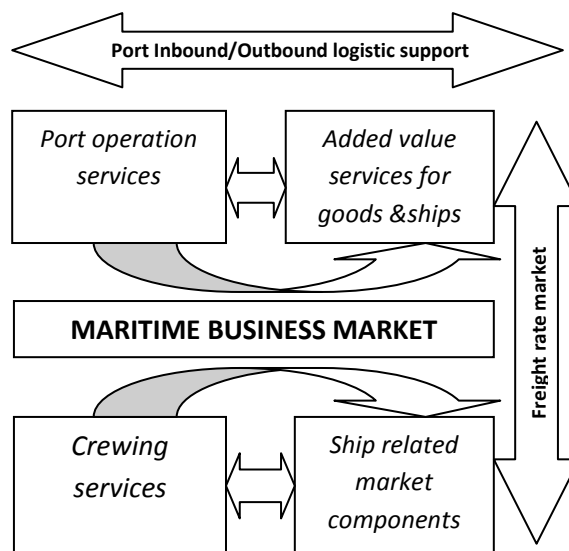


Figure no. 3: The contemporary maritime business market components

For the port services market is clear that once the seaborne trade is on a positive trend the business environment in port terminals will become also favorable (e.g. $S_s \uparrow \leftrightarrow P_s \uparrow$), the operating loads (loading/discharging units) hiking on not only in volumes but also in value. Once the freight rates are increasing the operations services are amplified. The seaborne trade elasticity in relation with the port throughput poses as positive, with a medium run mechanism of transmission. The transmission delay in elasticity is determined by the stocks size in upstream, usually taking a while to adapt the intensity of the port services to the seaborne new trends. Consequently, when the seaborne trade is falling in its dynamics, the port throughput decreases as well, looking forward to adapt itself alongside the supply chain and switching to other alternative added value services or business development.

The added value services for goods and ships comprehend the logistic support provided for goods and ships but other than the port operation services. Here the most relevant are: the goods processing/ manufacturing services, the bunker services and the forwarding services. The connection to the seaborne trade is not a strictly one way relation type, because once the added value service will be stimulated, diversified and intensified will determine a demand for transportation as, in the opposite way, the increasing seaborne trade will animate the port operating services inquiring consequently for increasing added value services (e.g.

$S_s \uparrow \leftrightarrow P_s \uparrow \leftrightarrow V_s \uparrow$). Moreover, if the economic area will inquire the added value services widening and diversification, then the port operation and regional seaborne trade will be also stimulated.

Not in the last, the crewing services market (C_s) defines the manning services business in terms of seafarers supply/demand market support, referring to the international human resource variable, bound in strong relation with the seaborne trade and shipping market evolution. Thus, the crew size, the salary range and the labor relations and professional standards are determined accordingly, in connection with the

seaborne trade evolution as a variable of the freight rates recorded on the shipping market. Considering this relation it could be stated that the manning services will be strongly related to the supply and demand mechanism for equilibrium, as recorded in maritime transportation services (e.g. $S_s \uparrow \leftrightarrow M_s \uparrow$). The same rule is applying for the shipbuilding services or for port operation or added value services, the manning services being totally dependent on the business volume and value within a region.

Summary and Concluding Remarks

As presented above by the authors, based on the literature review results processing by modeling, nowadays the seaborne trade gets connected in complex dependency with other business variables within the global economic framework. Once using the strategic management tools, the professionals should use within the new maritime business model new variables, in order to set up development strategies but valuing the supply chain concept and potential. The seaborne trade determines economic effects or regions or specific routes, but became on its turn deeply affected by other vectors in the upstream and downstream, apart to the international trade evolutions.

The maritime transportation services is just a chain alongside the logistic network, interfering in case of large quantities or long distances, as restrictions, due to its continuous advantages in economy of scales (figure no. 2). Once accepted this reality, adapted to the new trends, the new focus for future research would be the design of the maritime business model, but considering the comparisons of the recorded elasticity of the maritime market segments with the port operation, manning and added value services.

The utility and the added value of the present conclusions are related to the next statements:

- the maritime business model design is dependant to the supply chain variables and couldn't be conceived apart or insulated in its development to the logistic network;
- the major determinants for seaborne trade elasticity shouldn't be sought only in the maritime business components, but also in inbound and outbound vectors of the supply chain networks;
- the functional integration of the maritime business within the supply chain networks, as part for logistic support, become a major desiderata for the coming future.

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