CONCENTRATION IN LINER SHIPPING AND ALLIANCES FORMATION: ISSUES AND CHALLENGES

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Abstract: *The present article analyses the present status of the container liner shipping and its market concentration. The forming of strategic alliances is considered in detail against the other forms of market cooperation. The specifics of strategic alliances in liner shipping is outlined, the latter being one of the drivers for operational and strategic efficiency of liner services. The results show that there has been a significant increase of market concentration as from 2014. The formation of strategic alliances ensures for lower operational costs although leading to, in the short-run, overcapacity and increased internal competition. From a long-term perspective, the formation of strategic alliances will lead to increased market concentration and, eventually, to more stable shipping markets and decreased competition.*

Keywords: LINER SHIPPING, CONTAINER TRANSPORTATION, MARKET CONCENTRATION, STRATEGIC ALLIANCES

1. Introduction

The development of international trade is dependent primarily by seaborne trade. Efficient liner shipping services is the basis for provision of competitiveness of maritime companies. During the last three decades liner operators have not only provided the physical movement of goods but have undertaken various commercial and marketing actions to further promote international movements of goods by sea.

A specific opportunity for liner shipping companies for gaining competitive advantage in a crisis-strained market is by entering into cooperation with competitors via strategic alliances. It should mentioned that the liner shipping industry has pioneered with the concept of market cooperation in order improve their strategic goals. The first strategic alliances have been set up at the end of the XX^{th} century. Being a truly horizontal type of cooperation, integrating sharing of capacity and dedicated services, strategic alliances have proved to be a viable option for steadier market position. Alliance agreements can be characterized as technical agreements [6]. The marketing activity is retained within the control of the member as well as cargo documents and ship management.

There have been numerous agreements in the industry whereas only several companies participate in cooperation for the global network. The latter are presently forming the largest three strategic alliances concentrating mainly on the longest routes - East-West services. Liner shipping operators participate in the formation of different formats of market cooperation in newly established services and/or routes. The purpose of this article is to analyze the specifics and pertaining issues of strategic alliances in modern liner shipping. The specifics studied comprise structure of ownership, routes coverage and extent of cooperation with other liner operators. The specifics of the agreements of the largest three alliances are further outlined thus focusing on the development and re-structuring of services. Important features of the liner shipping companies that traditionally participate in alliances are also presented. The analysis encompasses market share, routes coverage and services organization. as well as the founding, conduct and structure of liner shipping strategic alliances.

2. Alliances in liner shipping – theoretical background

Liner shipping firms have a history of co-operation with the most prominent example being the price-fixing agreements between them in the context of the liner conference system [10]. The setback of the liner shipping conference system via the introduction of the US Ocean Shipping Reform Act in 1998 and the EU appeal of the exemption of anti-trust rules in 2008 have served as an impetus for establishment of other forms of cooperation in order to obtain competitive advantages [2]. The latter process started as of the mid to late 1990s and throughout the last decade. Main feature of strategic alliances in liner shipping have been the coordination of liner shipping services and cooperation. There are several types of alliances in modern liner shipping. One of the most common types is the strategic (global) alliance which is considered as a new type of co-operative agreement in ocean shipping [4]. Such alliances were established in the mid-1990s aiming global cooperation on major trade routes (Europe – Far East, Transpacific, Transatlantic).

The purpose of strategic alliances, being a form of horizontal integration, is to achieve cooperation for the ships' capacity utilization on certain routes. The latter includes distribution of ships by type and size, timetables, joint use of terminals and empty container repositioning on a large scale. Furthermore, none of the activities carried out by alliances' members include canvassing, sales, marketing or tariffs fixing, common assets ownership, collecting in a pool of revenues or the profit/loss sharing. Alliance membership imposes restrictions on a member's use of a non-member carrier [12]. There are also specific terms for severance (withdrawal) via advance notice and pertaining penalties especially in a longer term agreements. Unlike conferences, alliances have no policy of common tariff fixing but instead complete cooperation is achieved as concerns capacity and offered services. Each individual member ensures for the complete client relationship management starting from the enquiry up to the final delivery to the destination. Only a few large companies, having larger fleet and service network "play" on their own (Maersk Line, MSC, etc.). As such companies possess considerable assets, they can achieve scale economies individually. [8] have outlined the concept of value chain whereas making a distinction between cooperation strategies depending on the type of the pooled resources. Thus members might include similar resources in the cooperation for economies of scope and decrease business risk. Similarly, members might participate in the alliance and devote additional resources to achieve competitive advantages. It can be claimed that the formation of, or even defection from, strategic alliances as well as the implementation of other strategies (such as M&A) are all driven by the need to accomplish corporate objectives [7]. These strategies include maximization of profit, sharing of capital investment, reduction of costs, attaining economies of scale, covering wider geographical scope and development of new markets. More efficient activities related to marketing (higher flexibility and service frequency, expanding of networks and reliability as well as various operation objectives are also achieved via entering in alliance agreements.

One of the strongest incentives for companies is attaining market power. [11] define market power as: "the ability of a market participant or group of participants to influence price, quality, and the nature of the product in the market place". There are various options for market power: elimination of barriers to market entry, product differentiation, increase of market share. There are two basic types of market cooperation in this respect. Offensive cooperation is set up for enhancing the competitive advantage of the members by increasing the market share or decreasing of costs. On the other hand, defensive cooperation, typically favored by smaller companies, creates entry barriers thus securing the members' market shares and increasing profits. The establishment of alliances also created added value for customers. The main objective is to decrease transaction costs via timely and correct receipt of information using the members' benefits.

Irrespective of the obvious advantages of liner shipping alliances, there are certain issues of for some members related to strategic changes and company instability. The latter may be due to individual company's requirement to keep up with the company's objectives which may interfere with the proper cooperation within the alliance. In addition, other factors such as the number of partners in an alliance, the nature of their role and contribution to the alliance, the level of mutual trust and the complexity of the task itself may play a significant role in alliance instability [3]. There is also the issue of internal competition and conservative approach to the alliance strategy that also leads to possible instability of the alliance. [4] suggest that alliance stability and efficiency may be achieved by focusing on one or more of the following three measures: reduction in the number of partners, differentiation in their roles and contributions, and co-ordination of sales and marketing activities.

3. Global strategic alliances in liner shipping: structure and conduct

Figure 1 provides an overview of the fleet size and company characteristics. The companies are listed in accordance with their size based on capacity (TEU) volumes. As evident a vast majority of vessels are owned other than chartered in.

Rank	Opetator	Total		Owned		Chartered		
		Teu	Ships	TEU	Ships	TEU	Ships	% Chart
1	APM-Maersk	3,527,257	657	1,711,114	245	1,816,143	412	51.5%
2	Mediterranean Shg Co	3,061,443	505	1,082,557	190	1,978,886	315	64.6%
3	CMA CGM Group	2,455,764	484	914,214	117	1,541,550	367	62.8%
4	COSCO Shipping Co Ltd	1,808,844	326	493,079	81	1,315,765	245	72.7%
5	Hapag-Lloyd	1,514,958	216	1,016,413	117	498,545	99	32.9%
6	Evergreen Line	1,045,713	193	548,041	105	497,672	88	47.6%
7	OOCL	655,746	100	427,574	54	228,172	46	34.8%
8	Yang Ming Marine Transport Corp.	587,815	98	209,150	45	378,665	53	64.4%
9	Hamburg Süd Group	555,943	102	313,508	46	242,435	56	43.6%
10	NYK Line	538,101	95	238,574	40	299,527	55	55.7%

Figure 1. *Top 10 liner operators capacity structure [14]*

The largest shipping companies are APM-Maersk, MSC and CMA-CGM are in control over 60% of operated ships among the top 10 companies. The same is valid for ships that are chartered in. This suggests that there are significant differences between the companies in terms of their owned versus chartered strategies. The companies choose different models to alleviate risks of ship owning in the liner shipping industry. Figure 2 presents the market share of global liner operators as of May, 2017 [14].

The purpose of this article is to outline the trends, specifics, differences and similarities of some of the leading strategic alliances in liner shipping.

Figure 3 presents an overview of the alliances development. Traditionally, the strategic alliances formation comprised agreements on the busiest service routes - East-West trades.

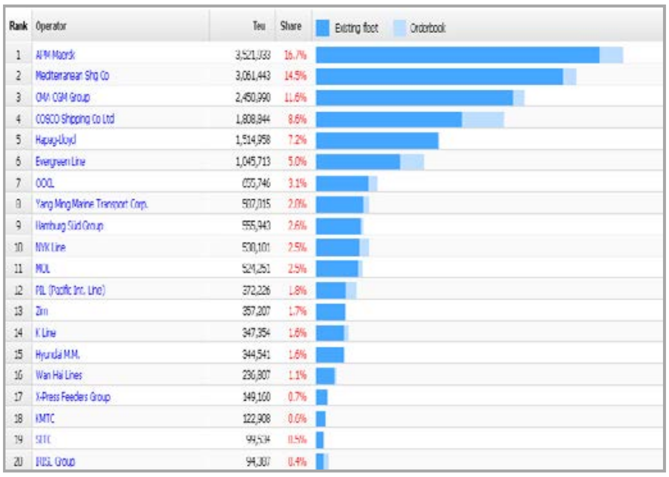

Figure 2. *Top 20 liner operators by market share (%) [14]*

However, during the last decade, cooperative activities have enlarged to encompass the north-south trades. As for the big three alliances, "Ocean Alliance", comprising CMA CGM, Cosco, Evergreen and OOCL is considered being most stable unlike the other two that have undergone some significant changes. There is a steady trend for alliances expansion in terms of number of ships operated and capacity. However, this development was supported by the individual growth of each alliance member [12].

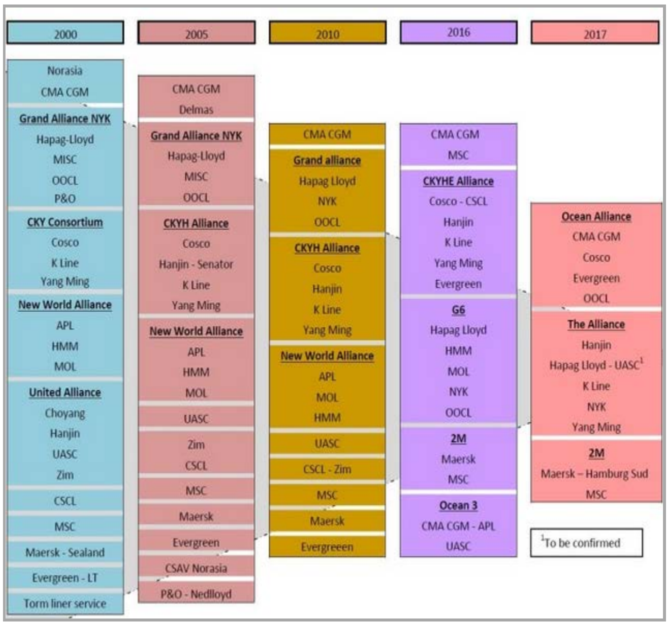

Figure 3*. Alliances formation for the period 2000 – 2017 [9]*

At the beginning of the 1990's the liner shipping industry was dominated by about thirty shipping companies (about 60% of the total fleet). Deregulations of liner shipping market concentration served as an impetus for capacity sharing in order to attain more flexibility on various trades. Gradually, to achieve lower costs and scale economies various forms of market concentration have become common - alliances, mergers and acquisitions. By the end of the 1990's only six alliances existed representing about 50% of the world container fleet (TEUs). By the end of the 2010 the overall fleet capacity of the top 30 operators has doubled, reaching about 11 mln TEUs. Even at that time there were only three alliances: Grand Alliance (Hapag-Lloyd, NYK and OOCL), CKYH Allian*c*e (Cosco, K Line, Yang Ming and Hanjin) and New World Alliance (APL, MOL and HMM) while Maersk, MSC and CMA CGM, being the biggest players in the sector, still acted on their own. The latter three companies represented about 50% of the fleet capacity. In 2014, the merging of CSAV and Hapag Lloyd was caused by the need to obtain additional resources and decrease losses. The same year, the P3 alliance was announced, comprising CMA CGM, Maersk and MSC but was further rejected by the merger control rules in China, The following year, in 2015, the Israeli controlled company Zim was the main individual carrier not participating in alliances, operating primarily via partnership and slot sharing on various routes except for Asia-North Europe [13]. By April 2017, three main alliances, The Alliance, Ocean Alliance and 2M, with a total fleet of 15.862.743 TEUs [5] are to be in operation, representing about 75% of the market. However, the “Ocean Alliance” is still undergoing formation by CMA-CGM, China COSCO, Evergreen and OOCL. “The Alliance” comprises Hapag-Lloyd, having merged with UASC, MOL, NYK line and Yang Ming. The two major market players - Maersk and MSC, are forming the 2M alliance. Lately, Hyundai Merchant Marine has also concluded an agreement thus forming H2M alliance.

For the purposes of concentration calculation the Herfindahl-Hirschman Index (HHI) is applied for demonstrating the specifics of the market. Until 2014 there was almost even distribution on the market with moderate concentration at about 1350 pints (Figure 4). Gradually, only within three years the HHI has increased up to 2000 point while the number of companies decreased. In 2017 COSCO merged with CSCL and CMA CGM acquired APL (NOL).

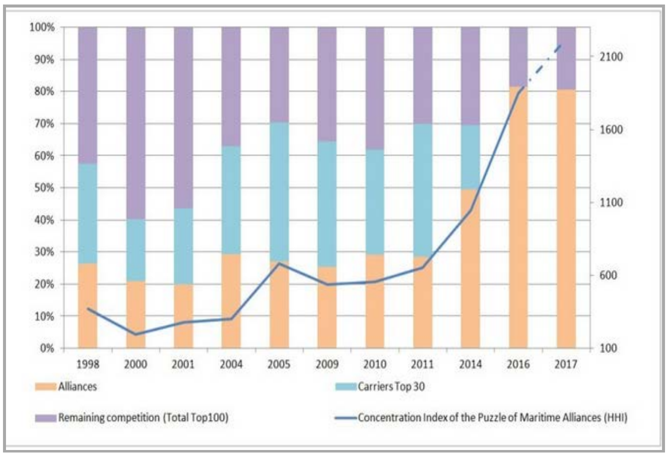

Figure 4. *Distribution of fleet capacity and market concentration (1998-2017) [9]*

According to [1] the present market is quite weak with low rates and overcapacity. The observations based on the HHI show a steady trend towards market concentration As the number of companies entering into alliances will increase, the index is expected to rise exponentially.

The operations of the three biggest alliances are concentrated on the Europe-Far East and Transpacific routes. The announcements for the formation of CKYH Alliance, the Grand Alliance (GA) and the New World Alliance (NWA) for the 10 year period 2000-2010 have been studied in order to outline the companies’ motives. On the basis of the announcements analysis made the motives for entering or leaving an alliance comprised firstly strategic reasons, secondly - operational reasons, enhancement of connectivity and optimization of capacity, new services establishment, slot sharing. Operational specifics – number of employed vessels, number of port calls, average voyage duration are similar among the biggest alliances. Services are constantly adjusted mainly due to strategic reasons despite the transfer of fleet capacity on the routes Asia. It should be noted that the management of the alliances requires internal negotiation of activities especially as concerns single services. Service agreements are being changed continuously according to the global demand for services – suspension or introduction of services, merging of services, balancing of capacities. Due to the latter there were over 300 adjustments to the services within the last decade. This requires close cooperation between alliance members while the operations activities are still the responsibility of the individual members. The announcements overview demonstrated that members are not seeking forms of joint operations.

As the liner shipping industry is very dynamic there is no distinguishable pattern for service adjustment. Reasons for service adjustment can be seasonal factors or merging of parallel lines. It is a fact the significant changes on liner shipping services patterns are the indicator for a global shift in the world trade. Having truly global networks, alliance members can easily handle surplus in capacities and redirect same to areas with high demand (geographical diversification). Following the major economic downturn in 2008, as container liner shipping was also negatively affected, liner agreements have undergone significant changes – fleet capacity was shifted to the Europe – Far East routes from Transatlantic/Transpacific routes. Thus Europe-Far East services have been adjusted more frequently unlike the Transatlantic services. These results are another argument in favor of the dynamic This observation reflects the high dynamics in the emerging Asian markets and their relationships with North American and European economies. Also the high flexibility in capacities geographical shifting justifies the high number of vessels ordered (unlike the dry bulk industry). Nevertheless, members have an individual understanding of the manner the joint services are organized. Companies would choose to have a central position in the alliance for two reasons: (1) enhance their internal influence within the alliance and thus decrease competitive instability and (2) ensure for maximization of access to strategic assets and decrease uncertainty of demand.

4. Conclusion

There are specifics pertinent to every alliance as concerns the variety of the partners, their market behavior and stability. These specifics are related to the alliance structure and size and also the individual conduct of the partners, namely partners’ new-building strategy, the scale of the agreement, etc. The present current analysis shows that every membership in the alliance is affected mainly by operational motives. Most firms are prone to establishing alliance relationship with competing companies on a number of services. Medium size firms are generally more active in joining strategic alliances in liner shipping as they are most vulnerable to the uncertainty of demand unlike large or small companies. Large-scale firms dispose of more assets and resources and have better options to achieve strategic objectives thus coping with demand uncertainty on their own. The article has proved that the formation of liner shipping strategic alliances includes one member having a dominant position as concerns the fleet capacity contributions. Excluding the “2M” alliance where there are two major members contributing with resources generally the dominant member ensures for above 50% of fleet capacity in the alliance.

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