COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

MASTER THESIS

Copenhagen Business School 2017

MSc in Economics and Business Administration

Specialization in

Supply Chain Management
and
Finance and Strategic Management
and
Minor in Maritime Business

Consolidation Strategies in the Container Shipping Industry

Competitive Analysis of Horizontal Mergers and Acquisitions and Global Strategic Alliances

Authors
David Polestyuk & Noemi Olah

Supervisor
René Taudal Poulsen
Department of Innovation and Organizational Economics
CBS

15 May 2017

Total # pages: 68
Total # characters with spaces: 149.040

Abstract

The aim of the research is to provide a better understanding of the market forces shaping the low-margin container shipping industry highly important for the global trade, and to identify and analyze the resource capabilities of the static and dynamic consolidation strategies (M&A-s and strategic alliances respectively) that could provide sources of sustained competitive advantage (SCA) for container liners. A deductive approach is used whereby the resource-based view (RBV), relational view and complementary theoretical perspectives provide the foundations for the exploratory research. For evaluating strategic resources and capabilities, Barney's (1995) VRIO model provides the framework of the analysis. This research updates the existing literature on horizontal M&A-s in the industry as a time gap exists, and uses the VRIO tool that has not been applied to industry consolidation methods before. The results show that various strategic subsidiaries owned by the M&A-partners could potentially lead to SCA, such as port operation and/or freight forwarders. The combination of assets (vessels), IT systems, and product offerings do not lead to SCA per se, but might provide economies of scale benefits. Moreover, global strategic alliances are deemed valuable and are currently a prerequisite for large scale operations on the major East-West trade lanes. However, an intra-alliance competition is present and due to the opportunistic behavior of member parties, resources are not shared among the players and therefore are not considered rare and inimitable in the alliance networks. The results imply that in order to exploit SCA, managers should look for ways to integrate with other actors in the container chain or in external industries.

Table of Contents

List of Figures and Tables

1. Introduction

Container liner shipping has been one of the most rapidly changing sectors in the last decade and 2016 has turned out to be one of the most turbulent years of the industry (Lloyd's List, 2016). Five merger and acquisition (M&A) deals, one bankruptcy, and the reorganization of strategic partnerships have reshaped the competitive landscape in response to five years of volatile earnings and unprofitability (Glave et al., 2014). M&A-s and global strategic alliances have been the principal focus of the last two years, yet the academic research conducted on this topic is scarce. This paper aims at providing a comprehensive study on how both consolidation strategies can lead to competitive advantages for individual firms.

1. 1 History and impact

The birth of containerization dates back to 1955 when Malcolm McLean, a trucking entrepreneur from North Carolina, invented the standardized container unit that can be simply interchanged between ships, trains and trucks (Stopford, 2009). It was in the late 60s that the first large orders of 1,000 TEU container ships have been built (World Shipping Council, 2017a). By the end of the 70s, the top shipping lines operating today have been established and shipping between Europe, South East and Eastern Asia, South Africa, Australia/New Zealand, North America and South America have become containerized (ibid). If it were not for the liner shipping industry, the modern global economy would not exist (Levinson, 2006). Shipping lines have allowed countries, markets and businesses to be connected; facilitated companies to grow international and developing countries to become suppliers to more developed regions overseas (ibid). It has not only facilitated global trade, but enabled the development of the logistics industry and has indirectly created millions of jobs (World Shipping Council, 2017a). As the cheapest and most efficient mode of transportation, 60% of the total value and 90% of the total volume of global trade is moved by ocean carriers (Stopford, 2009; Song & Panayides, 2015). Hence, developments as well as disruptions in the liner shipping market affect international trade, global growth, and economic development.

1.2 Market orientation

The scope of the paper is limited to the liner shipping industry which calls for a precise market definition. Liner shipping companies *"consist of fleets of ships, with a common ownership or*

management, which provide a fixed shipping service at regular intervals between seaport, and offers transport services to any containerized cargoes" (Lun et al., 2009: 439). In this definition and throughout the paper, liner shipping is differentiated from ro-ro, general cargo, tankers and bulk carriers, even though the companies presented have operations in different business segments. The container ships use standard steel containers of sizes of twenty-foot (TEU) or forty-foot equivalent (FFE) units to easily load, transport and unload goods between different modes of transport. There are three main trade routes defined by the United Nations namely the (1) East-West linking North America and Western Europe to Asia, (2) the North-South linking Europe, Asia and North America to the developing countries in the South, and (3) interregional trades operating smaller ships on shorter hauls, the so-called feeder networks (United Nations ESCAP, 2007).

1.3 Freight rate mechanism

Due to the lack of alternatives for high volume cargo transportation overseas, demand for the services of container carriers remain relatively predictable. Demand for seaborne trade can be anticipated by the changes in a nation's overall economic activity i.e. gross domestic product (GDP) (UNCTAD, 2016). Positive demand shocks will induce carriers to increase available capacity. It is timely before the supply of new container space is readily available, due to the time and investment required to deploy new vessels. Provided that expected demand does not increase proportionally to the total projected supply in the market, freight rates will decrease. Holding back supply in the market as a whole might increase freight rates, but due to the high competition for market share and tendency toward building larger vessels overall supply has been steadily increasing

A challenge for shipping companies is to differentiate services other than freight rates in the highly-commoditized market. Shippers expect lower freight rates and a higher level of service quality in terms of end-to-end solutions, better reliability, and reduced transit times (Tirschwell, 2017b). Through subsidiaries, some global shipping lines have extended their services along the supply chain to increase customer satisfaction, network, and bargaining power. Yet, profitability remains a key issue and companies are unable to charge premiums for value-added services.

1.4 Current challenges

The container liner industry has been struggling in the past years with the top 12 companies accumulating a loss of a total USD 12 billion for the industry in 2016 alone (Tirschwell, 2017a). Several economic factors have influenced the profitability of shipping companies. Recently, a deceleration of trade has been observed in several developing countries along with China resulting in a slowdown in container throughput (UNCTAD, 2016). The market is characterized by capacity oversupply, with a record high idle capacity since the Global Financial Crisis (ibid). Consequently, freight rates have been steadily declining leading to weak financial results and to the bankruptcy of Hanjin, one of the largest shipping companies. Besides having to cope with weak demand and manage excess capacity, companies compete on improving schedule reliability, environmental efficiency, reducing costs through larger vessels, and entering the digital era (Bloor et al. 2013; Lindstad et al., 2016; Sys, 2017). Looking at how the market has evolved over time, cooperative agreements and M&A deals allowed mid-sized companies to grow and consequently gave rise to smaller regional players (Sys, 2017). The year of 2016, being one of the most tumultuous years in the history of containerization, brought a major wave of consolidation with five merger deals as well as the restructuring of strategic alliances (Porter, 2016).

1.5 Growth strategies

Scope economies can be achieved by offering services on a large variety of trade routes to better meet shipper's requirements through mergers and acquisitions, strategic alliances and organic growth (Drewry, 2016; Porter, 2016). Strategic alliances are the most common among the global carriers on the high demand trade regions and can be defined as a sort of consortium on a worldwide scope (OECD, 2015). Currently there are three global alliances; "2M", "Ocean Alliance", and "THE Alliance", together representing the majority of the total container capacity on all East-West trade lanes (Hapag-Lloyd, 2017). The cooperation entails slot and vessel sharing agreements to fulfil demand, utilize capacity, and optimize vessel schedule times (Panayides & Wiedmer, 2011). It does not entail fixing freight rates, sharing customer related information and other commercial issues (Tan & Thai, 2014). Strategic alliance members enjoy advantages of better capacity adjustments despite volatile demand and take advantage of scale and scope economies on a greater geographic coverage. Strategic alliances are two to ten year

agreements between players, and dynamic in nature due to changes in the competitive landscape (OECD, 2015). In this case, competition for freight rates and market share still remains, hence a shipping line might choose to grow through static consolidation (M&A-s). Upon a successful integration, carriers are able to gain scale economies from reduced overhead and administration costs, and better utilize available container space to minimize idle capacity (Drewry, 2016). Other advantages of having access to additional markets, supplier and buyer networks could provide valuable resources in certain M&A arrangements. However, given the cultural differences and the size of global container lines, the complexity of integrating operational business units and IT systems should not be neglected when considering this strategy. For this reason, some firms could choose to pursue organic growth strategies instead, provided that the necessary operational as well as financial resources are available. The recent horizontal M&A trend in 2016-2017 and consequently the realignment of strategic alliances have raised questions on whether these consolidation strategies will provide strategic advantages for individuals and create favorable conditions for the market as a whole.

1.6 Motivation for the research

The primary motivation of the authors is to provide a better understanding of the market forces shaping this low-margin industry highly important for the global trade and to identify strategic resources in relation to the consolidation strategies that could provide sources of sustained competitive advantage for individual firms. Additionally, private interests have played a key role in conducting this research due to being employed in one of the largest freight forwarding companies highly impacted by ocean carriers' major restructurings.

1.7 Focus of analysis

The primary goal of this paper is to investigate whether strategic resources and capabilities from static and dynamic consolidation strategies could potentially lead to sustained competitive advantage of the focal firm. Furthermore, it is important to analyze the issues faced by liner companies in the market and the strategies used to cope with a current market slowdown. The following research question and sub questions are designed to set main direction of the research and to provide the logical structure of the analysis.

2. Research Question

2.1 Research Question

How could global container lines achieve sustained competitive advantages through horizontal M&A-s and strategic alliances in the container shipping segment?

The following sub questions intend to guide the researcher towards comprehensives answer to the main question:

a) *Under what conditions could M&A-s create unique, company specific resources for the focal firm potential leading to sustained competitive advantage?*
b) *Under what conditions could shipping alliances create unique, company specific resources for the focal firm potential leading to sustained competitive advantage?*

2.2 Research Design

The aim of the research is to provide an understanding of the market forces shaping the container shipping industry and to identify and analyze resources derived from the static and dynamic consolidation strategies (M&A-s and strategic alliances respectively) that could provide sources of SCA for container liners. The core as well as complementary theories are presented to provide a comprehensive framework for the analysis. Through an extensive literature review, the authors draw on both general and maritime economics perspectives in relation to the primary factors driving M&A and strategic alliance formation. The goal is to justify whether the consolidation methods could generate sources of competitive advantages for the focal firm. In the industry analysis, the main factors influencing the industry and the players' competitiveness are identified, while providing a thorough understanding of the container shipping segment and the current challenges. A separate section is dedicated to investigate the principal topic stated in the research question. The discussion elaborates on the feasibility of utilizing strategic resources from M&A-s and strategic alliances. Finally, the last chapters encompass the conclusion and suggestion for future studies.

3. Methodology

The following chapter presents the methodological framework of the research, which rationalizes the methodological decisions, the applied research structure, primary data collection methods and pinpoints the limitations of the report. This research utilizes an adapted version of the Saunders et al. (2009) *Research Onion Model* which provides a systematic approach for structuring the applied research design and presents the various stages of research strategy. Figure 1 shows the overall methodological framework of this project, which provides a clear guidance for structuring the report and helps the researchers to construct the theoretical framework.

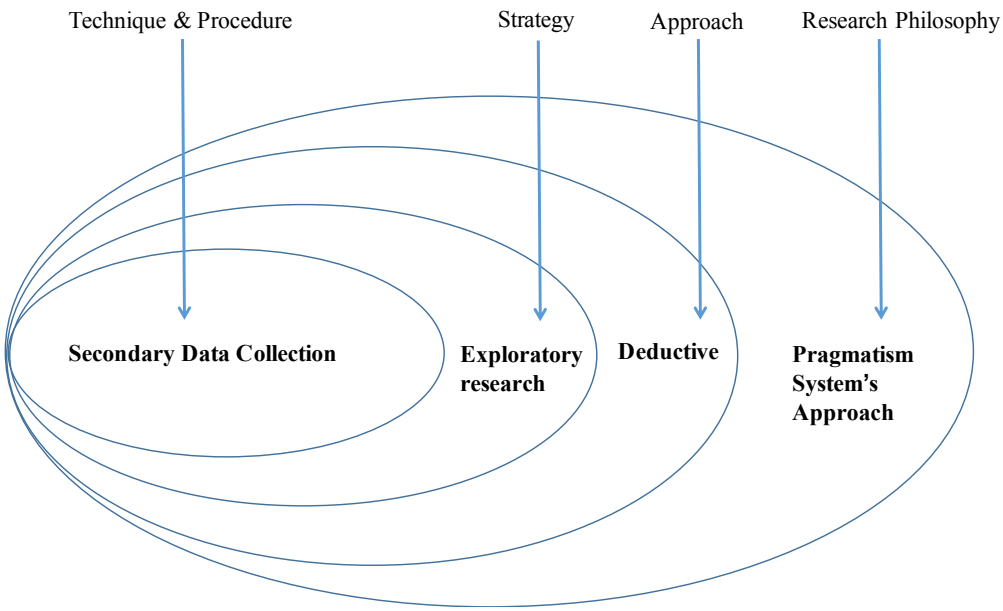


Figure 1 - Overview of the chosen methodological framework adapted from Saunders et al. (2009)

3.1 Research Philosophy

Research philosophy can be characterized as an over-arching view of the nature of knowledge and how it is created (Saunders et al., 2009: 108). The adopted research philosophy predetermines the researcher's view on the nature of reality and knowledge and therefore reflects the underlying assumptions which form the base of the research strategy.

This contextual research adopts a *pragmatist philosophy* as it intends to create a logical link between existing theories and the available information, in order to reach a comprehensive answer to the given research question. Pragmatism argues that the most important determinant

of research philosophy is the research question itself and to provide an adequate answer to the question, the research ought to integrate different perspective to collect and interpret data (Saunders et al., 2009). The researcher's goal is to objectively approach the research problem at hand, and to acquire thorough understanding of the analyzed topic by applying the available data on different theoretical viewpoints (ibid). This comprises the knowledge-creating process, which is the key enabler of reaching the expected outcome of the research.

The complexity of the container shipping segment requires an integrated view of the pragmatist philosophy. To obtain an in-depth understanding of the topic and to acquire the essential knowledge to answer the research question, this report must adopt a holistic approach and take into account fundamentally different factors affecting the industry. These factors could be macroeconomic, strategic, financial, technological, environmental and so on. These components interact and influence each other and it would be meaningless to decompose these components into fragmented parts and consider them individually instead of being part of the same system (Gammelgaard, 2004). From the systems perspective *"the world must be understood in terms of mutually dependent components"* (Gammelgaard, 2004: 481). The researcher must analyze the different factors from multiple angles as parts of the same system directly related to the specific study, in this instance, the container shipping industry, therefore this paper relies also on the principles of the *systems approach*.

3.2 Approach

This paper uses existing theories to analyze and to gain in-depth understanding of the forces driving consolidation in the container shipping segment, and to identify the motives for companies engaging in shipping alliances or M&A-s, making the research approach deductive. The top-down approach first identifies relevant theories which are then applied to construct the theoretical framework. This provides the structure of the analysis which leads to the final discussion. Finally, the results of the analysis and the discussion are used to draw specific conclusions (Saunders et al., 2009).

3.3 Research Strategy

The main purpose of this *exploratory study* is to provide a comprehensive overview of the major shipping companies and their strategies in the container shipping segment and to investigate the

internal drivers and external forces fostering consolidation in the industry. Furthermore, the study focuses on analyzing the recent M&A-s and the current shipping alliance structures, and aims at determining if these "static" and "dynamic" consolidation strategies could potentially provide long-term competitive benefits for the focal companies. The research considers these factors from a macroeconomic and strategic point-of-view seeking to provide an in-depth understanding of the characteristics of the industry and to highlight its future challenges.

The exploratory study enables the researcher to assess a phenomenon in a new light in order to gain a comprehensive understanding of the research topic (Robson cited in Saunders et al., 2009: 139). This approach is adaptable to changes if new data or insight occurs (Saunders et al., 2009). The flexibility lies in the ability to incorporate a broad industry analysis followed by a narrower study on specific strategies of the companies involved.

3.4 Technique and Procedure

The research solely relies on secondary data which is used for developing and constructing thorough understanding of the industry and the strategic considerations of the consolidation approaches. Company publications about historical and forward looking activities and financial performance are used to provide firm-specific information directly from the source. Quality newspapers from business and maritime industry background provide a reliable and external perspective on market-related events. Examples include Lloyd's List, the Economist, Financial Times, World Maritime News, and Reuters. Databases accessed through the Copenhagen Business School, such as Orbis and Bloomberg, are used to provide detailed company information on freight forwarding subsidiaries and historical prices of a weighted average bunker fuel index respectively. Benefits of using these databases include ensuring the up-to-date and full validity of information on matters in need of great accuracy. Research from the leading market intelligence provider in the container shipping industry – SeaIntel – contributes to the extensive analysis on the new global strategic alliance setup. Together with Alphaliner's quantitative data regarding the operating capacity of shipping line's container fleet, updated maritime research and consulting reports by Drewry provide a basis of arguments for the consolidation strategy part of the analysis. Both are highly reliable sources used by liner shipping executives and other shipping professionals related to the industry. Analysis from the forums of OECD and UNCTAD are used to predict future economic trends which gives valuable insight

into changes in the container shipping market. Finally, academic journals and articles are used to provide the principal data to formulate the theoretical framework.

3.5 Limitations

The analysis is limited to the recent events in the industry, specifically from the date when the latest M&A wave started in 2016. This allows the existing literature on this topic to be updated and contribute to a future looking discussion on the market outlook. The paper is limited by not taking a thorough historical perspective of the evolvement of the industry structure. Specifically, regulations that have shaped competition throughout the years could have provided an additional explanation for the evolvement of global strategic alliances.

Secondly, the analysis focuses on the positive aspects of the consolidation strategies partially disregarding the potential negative impacts of M&A-s and strategic alliances. This due to the fact that the consolidation strategies are analyzed by using the VRIO model on competitive "advantages". A supplementary section about under which circumstances M&A-s and strategic alliance could provide disadvantages and negative returns should be incorporated in future research.

Finally, the game theoretical approach has been excluded from this research as the model fails to incorporate multiple dimensions necessary for the analysis of strategic alliances in the container shipping industry (Song & Panayides, 2002). Game theory is "*concerned with the prediction of outcomes from `games', which are commercial situations involving two or more players whose interests are interlinked or interdependent*" (Von Neuman and Morgenstern cited in Song & Panayides, 2002). The research is limited in the sense that it does not analyze the opportunistic behavior of players' and respective payoff functions in strategic alliances among liner shipping companies.

4. Theory

The following section introduces a comprehensive theoretical framework which helps the researcher to evaluate the strategic resource capabilities of different consolidation approaches in the container shipping industry and to determine whether these strategies could potentially lead to sustained competitive advantage of the focal firm. This chapter aims at providing a systematic tool that supports the methodological choices made in the research and presents a logical structure for the analysis. First, this chapter introduces the theoretical foundation of the research followed by complementary theoretical perspectives. Thereafter, M&A and strategic alliance theory and literature review are presented respectively, with the distinction of a general and maritime economics perspective.

4.1 Theoretical Foundation

The basis of the framework is derived from strategic management literature, encompassing two prominent views regarding the sources of supernormal returns. The first – the resource-based view (RBV) – argues, that *"firms within an industry may be heterogeneous with respect to strategic resources they control. These resources may not be perfectly mobile across firms; thus, heterogeneity can be long lasting"* (Barney, 1991: 101) The source of supernormal profit and differential firm performance originates from this heterogeneity and from the different resources and capabilities the firm is ready to deploy (Barney, 1991; Rumelt, 1984; Dyer & Singh, 1998; Holcomb et al., 2006). Firms' resources refer to all intangible and tangible assets, organizational processes, information, knowledge and other attributes which are controlled by the company. Companies that are able to accumulate resources and capabilities which are valuable, rare, inimitable and can be exploited by the organization could achieve a sustained competitive advantage over competing firms (Barney, 1991; Barney, 1995; Dyer & Singh, 1998).

The second approach – the relational view – suggests *"that a firm's critical resources may span across firm boundaries and may be embedded in interfirm routines and processes"* (Dyer & Singh, 1998: 661). The strategic resources are the "relational rents" in partnerships and alliances which is "*the jointly generated supernormal profit in an exchange relationship that cannot be generated by either firm in isolation and can be created through a joint idiosyncratic contribution of the specific alliance partners"* (Dyer & Singh, 1998: 662). In order for firms to

gain competitive advantage from an interfirm cooperation, the cooperation has to move away from the attributes of an arm's length relationship by 1) investing in relationship-specific assets 2) exchanging substantial knowledge between the parties which results in joint learning 3) combining complementary, but scarce resources or capabilities 4) achieving lower transaction costs than competing partnerships (Dyer & Singh, 1998; Holcomb et al., 2006).

Both theoretical aspects are concerned with explaining the relationship between firms' strategic resource capabilities and sustained competitive advantage, with the fundamental difference between the two approaches being the unit of analysis and the sources of supernormal profits (Dyer & Singh, 1998). In the former case, the strategic resources are derived from the focal firm itself (unit of analysis is the firm) and the supernormal profit is derived from heterogeneous tangible and intangible resources at the firm's disposal. Regarding M&A-s as a source of sustained competitive advantage in the liner shipping segment, this consolidation strategy could create unique resources through combining the existing ones with those obtained through the merger or acquisition. The newly established business entity represents the unit of analysis where the supernormal returns originate from, rationalizing the application of RBV. In the latter however, the point of departure is the partnership or an interfirm relationship and the relationship-specific resources, "relational rents", are the sources of sustained competitive advantage. In strategic alliances, the potential source of sustained competitive advantage is derived from the interfirm relationship with the alliance members, which generates the strategic resource enabling the firm to achieve the supernormal return for the focal firm. Under this consolidation approach, the unit of analysis is the network of firms and the heterogeneous resource could be originated from the alliance itself, explaining the use of the relational-view.

A firm has competitive advantage when *"it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitor."* (Barney, 1991: 102) The competitive advantage is considered sustained if other firms within an industry are unable to duplicate and able to exploit the benefits of this strategy. It is important to note, that the basic assumption to achieve sustained competitive advantage is that the resources firms possess are heterogeneous and immobile. If a resource is homogenous, it can be replaced or substituted by another resource. If a resource is mobile, then a given resource could be relocated in order to mitigate the other firm's competitive advantage.

The tool by which the resources and capabilities are analyzed, the VRIO framework by Barney (1995), helps companies evaluate their strategic capabilities and indicate whether they possess resources which could potentially lead to sustained competitive advantage. The presence or absence of the four empirical indicators, namely how valuable, rare, the imitability and the organizational exploitability, determine the level of competitiveness the company can achieve through a given resource, summarized in Table 1 (Barney, 1991; Barney, 1995).

Table 1 - VRIO framework (Barney, 1995)

V Valuable	R Rare	I Inimitable	O Organized	
No				Competitive disadvantage
Yes	No			Competitive parity
Yes	Yes	No		Temporary competitive advantage
Yes	Yes	Yes	No	Unused competitive advantage
Yes	Yes	Yes	Yes	Sustainable competitive advantage

A resource is considered *valuable* if

- it enables a firm to conceive or implement strategies which improve the firm's efficiency
- exploits opportunities and/or neutralizes threats in a firm's environment

A resource is considered *rare* if

- it is not possessed by a large number of other firms
- the number of firms that possess it is less than the number of firms needed to generate perfect competition in an industry

A resource is considered *inimitable* for one or a combination of three reasons

- unique historical conditions
    - A firms' ability to acquire and exploit some resources depends upon their place in time and space. Firms who do not have the space- and time- dependent resources cannot obtain them.

    - Firms that do not have the same particular path of development through history cannot obtain the resources necessary to implement the same strategy.
- casual ambiguity
    - The link between the resource that the firm possesses and the source of its sustained competitive advantage is unclear.
    - In order for casual ambiguity to be a source of sustained competitive advantage, all firms in the industry must have incomplete knowledge about the link, including the firm that has the advantage.
- social complexity
    - Resources may be very complex social phenomena, beyond the ability of firms to systematically manage and influence
    - For example: firm's internal culture, reputation, interpersonal relations among managers

The firm is *organized* to capture value from the resource

- The firm's management systems, processes, policies, organizational structure and culture is organized to be able to fully realize the potential of its resources

In this paper, the model is used to analyze the strategic resources generated through the two different consolidation strategies. In case of M&A-s, the tool is utilized to evaluate the combined resources of the new entity while considering the fundamental motives behind such transactions. In terms of shipping alliances, the framework is reflected on the interfirm relationship between shipping lines to analyze whether such cooperation could generate relationship specific resources or "relational rents".

4.2 Complementary Theoretical Perspectives

Additional theoretical perspectives are considered that affect firms' competitiveness and pinpoint additional sources of competitive advantage. The theoretical foundation described previously investigates the potential sources of competitive advantage through company- and relationship-specific resources. However, the RBV and the relational-view are not directly concerned with external factors such as market forces, environmental effects, institutional actors and knowledge, and organizational learning, which have significant strategic impacts on the focal firm. This section draws upon these theoretical perspectives and explains their application with regards to this research.

4.2.1 Competitive Analysis

A separate section is dedicated to the analysis of the competitive environment of the liner shipping segment to identify the forces shaping the industry and to get an in-depth understanding of the factors influencing player's competitiveness. Porter's Five Forces model provides simple but powerful tool to determine the specific market forces affecting the companies namely; the threat of substitutes, entry barriers, the degree of rivalry, buyers' and supplier's bargaining power (Porter, 1980; Porter, 2008). According to Porter (1980) *"the essence of formulating a competitive strategy is to relate a company to its environment"* and to adjust their strategic choices and orientation according to the specific market characteristics to achieve supernormal returns (Lindstad et al., 2016: 281). The industry analysis highlights the specific challenges relevant to the liner shipping segment and contributes to the analysis of whether consolidation strategies could help the focal firm obtain sustained competitive advantage.

4.2.2 Environmental Theory

The competitive analysis framework provides an in-depth understanding of the market, however it does not consider the external environmental conditions such as the macroeconomic pressures, political situations, legal, social and cultural factors, and technological developments that affect the companies in shipping segment. The environmental theory suggests that companies constantly interact with their environment and their response to the various environmental pressures determine how effectively these organizations manage their operations (Hatch & Cunliffe, 2013). The environment changes continuously and the various organizations must

adapt to these changes in order to maintain their profitability and competitiveness (ibid). In relation to shipping companies, it is particularly important to study external pressures, particularly macroeconomic which heavily influence firms' performance (Notteboom, 2004).

4.2.3 Network Theory

Network theory focuses on the links between the nodes within inter-firm networks, and the context of these links. The interaction between the links could lead to information exchange and, through this exchange, knowledge generation could occur between the interacting parties (Granovetter, 1973; Granovetter, 1983; Håkansson & Ford, 2002). Interfirm interactions, regardless if it is in the form of M&A or strategic alliances, could entail process exchanges, organizational learning, joint knowledge generation and innovation, which could become a strategic resource, in terms of M&A-s or a relational rent in respect to strategic alliances (Dyer & Singh, 1998; Håkansson & Ford, 2002).

4.2.4 The Knowledge-Based View

According to the knowledge-based view, knowledge is viewed as a critical resource vital for achieving sustained competitive advantage. The firm's competitiveness is determined by its ability to access, create and assimilate knowledge (Grant, 1996; Tan & Thai, 2014). While this research does not consider knowledge as a separate source of sustained competitive advantage, it is important to investigate whether knowledge, as a potential strategic resource, could be generated through M&A-s and strategic alliances in the container liner segment. According to previous research, the primary intent for collaboration is to acquire, access and exchange knowledge is key to evaluate the strategic resources and capabilities of these consolidation strategies (Khanna et al., 1998; Dyer & Noboeka, 2000). Knowledge acquisition, access and sharing by themselves can be considered as a unique resource or relationship-specific capability if it is not widely available among competitors and therefore it can be analyzed under the umbrella of the resources-based and the relational-view.

4.2.5 Institutional Theory

Through the lens of Institutional Theory, sources of formal and informal institutional pressures can be investigated (DiMaggio & Powell, 1983). This approach explains the isomorphic behavior

and strategic choices of the shipping companies in respect to the demotion of the shipping conference systems through the US OSRA (1998) and the abolition of the exemption from anti-trust rules by the EU in 2008. (Oliver, 1991; Panayides & Wiedmer, 2011). The application of this perspective helps the researcher to understand the increasing importance of the M&A-s and shipping alliances in the recent years.

4.3 Mergers and Acquisitions Theory

Mergers and acquisitions as a strategy to consolidate have been increasing in importance in the maritime industry. In belief that substantial resources are allocated to create a new corporate structure, M&A-s are perpetual investments for firms. Additionally, due to the irreversible nature of such deals, we define M&A-s as a *static* consolidation approach, as opposed to the *dynamic* strategic alliances. With regards to terminology in the research, there is no distinction between a merger or acquisition deal, hence the term M&A is used throughout the study. Although there are substantial financial and strategic differences between merger or acquisition, the static way of bundling resources is treated uniformly. Additionally, the paper is limited to analyze horizontal mergers where the parties involved are direct competitors. This ensures alignment with the subject of liner shipping market consolidation from a competitive perspective. Vertical partnerships are included in the sense that they might be strategic resources and capabilities with unique attributes that create competitive advantages. The theoretical framework is guided by insights from industrial organization theory as well as maritime economics literature on why companies engage in M&A transactions. Combined with firm specific resources from the RBV, this research aims at providing a comprehensive tool to analyze how static consolidation can provide sustained competitive advantages for container lines.

4.3.2 Motives for M&A – General Perspective

An essential motive for engaging in M&As is the *synergy* effect. The underlying definition is that the value of the combined entity is higher than the sum of the individuals (Brealey et al. 2012: 598) In the RBV setting it is defined as "the degree to which various resources' deployment complement and reinforce one another" (Lun et al. 2010). Financial synergies create a win-win situation for shareholders of both companies in the form of a higher share price. The integrated entity can benefit from higher revenues and profits, lower costs and business risk, and potentially tax benefits that could not otherwise be achieved individually. Besides financial,

synergic gains from the close integration of hard-to-trade assets or know-how among merging firms can be recognized (Motis, 2007). Examples include technological capabilities, human capital, organizational cultures or patents complementary to each other (ibid). In addition, a target company might be acquired for its high R&D capabilities that provide a faster means of investment for the acquirer than internally expending on it (Roller et al. cited in Motis, 2007).

Another driving force behind horizontal M&As is explained by the *market power* hypothesis. It refers to a company's ability to raise product or service prices and control its profit margin (Gao et al., 2015). By reducing the number of firms in the industry, competition decreases, and depending on the market concentration, prices can be influenced (Stigler, 1964). As opposed to having full control over prices in a monopoly, gaining substantial market power is nearly impossible in perfect competition. Therefore, merging to reduce competition and influence prices is a reasonable motivation in oligopolistic markets. Coordinated effects facilitated by reducing the number of competitors as well as unilateral effects of individual mergers attempting to raise prices are ways to enhance market power (Motis, 2007). The latter is riskier and may only provide temporary gains. Merging firms selling substitute products benefit from raising prices due to the elimination of competition of those products, provided that other firms produce non-substitutes (ibid). Additionally, if entry barriers are low, post-merger price increase is only temporary as new firms will set more attractive prices (ibid).

Achieving *economies of scale* is another motivator for engaging in M&A-s. By increasing output quantity, production cost per unit can decrease leading to substantial cost savings. However, an organization too complex might generate costs outweighing benefits from economies of scale leading to diseconomies (The Economist, 2017a). The application of the concept differs for the service industry from that of manufacturing. Instead of production-, costs such as marketing and administration can be reduced up to a certain extent. M&A-s can result in *economies of scope* whereby producing multiple products jointly becomes more cost efficient. This is due to efficiencies from combining facilities required to produce a good. In a service industry, using marketing and research and development skills across multiple products/services can result in economies of scope.

To conclude, the three types of motivations for entering M&As from economics literature are due to synergy gains, market power, and efficiency gains. Managerial gains (agency theory, empire building, hubris hypothesis) as motivators were excluded, as they are not critical enough

to solely determine whether an M&A would or would not occur (Das & Teng, 2000; Motis, 2007). Since each motive force discussed is specific to industry type (service or manufacturing), industry concentration (monopoly or perfect competition), product differentiation, and entry barriers, insights from maritime literature is essential to complete the theoretical framework.

4.3.3 Motives for M&A – Maritime Economics Perspective

Maritime economics literature studying motivations behind mergers mostly coincide with that of industrial organizational theory. Findings of the research mostly reveal synergy and efficiency gains, and less reasoning for market power due to the fragmented nature of the industry (Khandelwal, 2000; Notteboom, 2004; Fusillo, 2009; Alexandrou et al., 2014; OECD, 2015; Drewry, 2016a). Additional rationales for entering M&As in the liner shipping market include that of regulatory, growth and survival (Khandelwal, 2000; Notteboom, 2004; Fusillo, 2009; Drewry, 2016). The last two reasons being paradoxical are due to the time and industry phase the research has been conducted at. Generally, due to high entry barriers and the maturity of the industry, horizontal M&A-s make sense (Notteboom, 2004). The M&A trend was triggered off by deregulation in the market and the erosion of the liner conference system by the Ocean Shipping Reform Act of 1998 with the intention to preserve competitiveness (Khandelwal, 2000; Fusillo, 2009). Carriers were forced into a race to reduce unit costs and seek alternative means to preserve market share (Fusillo, 2009). The trend in static consolidation among major shipping lines have been strong in the early 2000s and has only picked up again since 2014 (Drewry, 2016a). Scholars' reasoning for driving forces behind M&A activity in the liner shipping industry is presented in the following sections.

M&A-s are advantageous if *synergy* effects occur and the combined cost of operations are lower than the cost of operating alone (Notteboom, 2004). Alexandrou et al. (2014) have studied the wealth gains from all shipping M&A-s that occurred between the years 1984 and 2011. Their results show that after the transaction, both acquirers and targets realized above average wealth gains of 1.2% and 3.3% respectively conforming with financial synergy effects. Drewry (2016) summarize that synergies can be realized from cost savings, economies of scale, competitive position and protection against weak industry fundamentals. For example, the larger business should be able to improve container productivity and reduce imbalances through the synergies of the combined fleet, thereby tackling the issue of capacity utilization (Drewry, 2016a). In

addition, a larger firm with a higher volume and bargaining power should be able to obtain better terms with its suppliers (ibid). Hence, there is an opportunity to leverage procurement benefits by M&A-s that would otherwise not be possible. Nevertheless, to take advantage of positive synergy effect from M&A-s, the effective utilization of the combined strategic resources is inevitable.

Exploiting *market power* through consolidation can be rational in some cases as mentioned in the industrial organization theory. However, since the industry is fragmented and characterized by volatile and elastic demand, container lines cannot rely on yields from market power. Over the past 20 years, large shipping lines, even Maersk, have not been able to influence prices (Drewry, 2016a).

Maritime economics literature provide evidence that M&A-s are also a means to secure *economies of scale* (Khandelwal, 2000; Notteboom, 2004; Fusillo, 2009; Alexandrou et al., 2014; Drewry, 2016a). Two levels can be distinguished when applying the theory to the liner shipping industry (Khandelwal, 2000). On the technical side, vessels with larger TEU capacity provide substantial cost benefits for the liner firm, given a fixed level of capacity utilization. These include operational efficiency per slot, but most importantly fuel savings (Kemp, 2015). Since construction costs increase slower than ship size, companies find it beneficial to invest in mega vessels to take advantage of technical economies of scale. On the organizational side, however, economies of scale can be realized in business processes, especially administration, IT, and container logistics (Khandelwal, 2000). Figure 2 summarizes the areas and size of scale economies that can be gained by a large carrier handling over 1.000.000 units per year as opposed to a medium sized handling less than 500.000 units (Roland Berger & Partners cited in Khandelwal, 2000). It demonstrates the percentage decrease in operational costs that can be realized by operating a larger container fleet, such as through horizontal M&A. Research by Fusillo (2009) looking at M&A-s occurring per quarter between 1991 and 2006 in the US shipping market provide evidence for transactions which took advantage of scale economies. The results shows that among global carriers, 47% acquired or merged with another global carrier, 33% acquired a multi-market and 20% a regional carrier (Fusillo, 2009). This indicates that global carriers are interested in economies of scale and a strategy for growth (ibid).

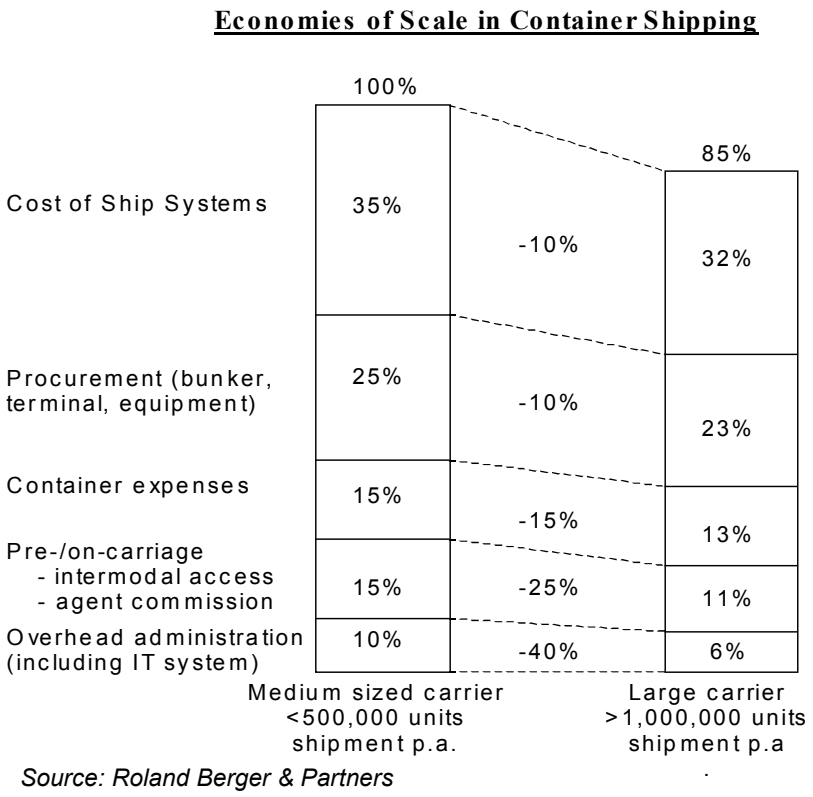


Figure 2 - Economies of scale arising from increased vessel size (Roland Berger & Partners cited in Khandelwal 2000)

Gaining substantial market share have been a motivation for *growth* and strategic advantage for ocean carriers (Drewry, 2016a). The cases of P&O and Nedlloyd, NOL and APL, and Maersk and Sealand show that M&A-s are one sure path to supremacy (Khandelwal, 2000). Instant access to markets, distribution networks and new technologies are reasons to invest in an instant growth strategy (Notteboom, 2004). In the last three years, there has been a common tendency towards striving for growth by investing in horizontal M&A-s in the market, raising both benefits and difficulties for carriers. Although competition is eliminated, carriers must cope with the same excess capacity as well as successfully manage the restructuring of their newly merged or acquired entity. Pitfalls in M&A deals must not be neglected when considering empire building. Most deals fail due to cultural differences, overestimated synergies, and the time and effort required to meet financial, legal and regulatory hurdles (Notteboom, 2004; Fusillo, 2009).

Consolidation that took place before 2008 was driven by the desire for growth changed to a strive for *survival* in the last few years (Drewry, 2016a). The industry is facing intense competition, low margins, challenges to adapt to the low growth environment and majority of the carriers' investors experience poor returns. *"With the outlook for the global container shipping industry*

remaining grim, joining forces is key to riding out the storm. Joining forces will enable us to grow [as] our industry faces new challenges .We believe that scale is more critical than ever to sustainable growth." said Mr Rodolphe Saadé, vice chairman of CMA CGM (Drewry, 2016a). Due to current market conditions, M&A deals among ocean liners are expected to increase. The analysis reflects on how sustained competitive advantage can be achieved from static consolidation.

4.4 Strategic Alliances Theory

4.4.1 Motives for Strategic Alliances – General Perspective

The *dynamic* strategy to consolidate in the liner shipping industry is through strategic alliances. By definition, it is a form of bilateral or multi partner cooperative strategy whereby firms combine resources and capabilities to achieve mutually beneficial ends (Grant, 2010: 159). It has been increasing its importance among firms as it is a fast and low-cost means of extending the resource base (ibid). There are three levels where companies can cooperate namely on the resource base (stock of assets), activity system (value chain) and product offering (value proposition) based on the model by Wit & Meyer (2010) summarized in Figure 11 in the Appendix. For the concise competitive analysis of strategic alliances in the liner shipping industry, the general objectives for entering such agreements is examined in the following section.

On the basic level, companies can enhance the attributes of their resources by leveraging them from the strategic alliance. Firstly, firms can enter into a learning relationship whereby knowledge and skills are exchanged or newly created. Secondly, lending provides synergic gains if a firm cannot make full use of its own resources but another can. On the next level, relations are oriented towards integrating activities. To focus on a limited number of value-adding activities, companies can create vertical cooperation links with buyers or sellers. On the other hand, to gain economies of scale, firms can 'lump' or bring together similar activities. Finally, on the product offering level, relations are oriented towards aligning positions. This is usually aimed at improving the joint bargaining power of the cooperating parties. Parties can lean on each other to build more powerful negotiation position towards their suppliers and offer better products and services to their buyers. Additionally, firms can cooperate with the intention to put pressure on political and regulatory actors by lobbying.

Generally, it is beneficial that the cooperating parties have common objectives, however, it is also possible that the actors have poorly defined intentions, hidden agendas, or mutually exclusive goals (Wit & Meyer, 2010: 368). Value destruction can also arise from high transaction costs, management's opportunism, or unintended knowledge spillovers. Therefore, as the partners' strategic goals converge, their competitive goals might diverge. Furthermore, partners desire to learn and at the same time limit access to their proprietary skills. Therefore, the ability to build good relational capabilities are rare.

4.4.2 Motives for Strategic Alliances – Maritime Economics Perspective

Research from maritime economics literature have studied the objectives behind liner shipping companies engaging in strategic alliances and questioning their profitability by highlighting factors leading to instability and intra-alliance competition (Midoro & Pitto, 2000; Panayides & Cullinane, 2002; Notteboom, 2004; Lun et al., 2009; Panayides & Wiedmer, 2011; Tan & Thai, 2014). Motives for cooperation via strategic alliances in the liner shipping industry are of strategic and operational reasons to: achieve a critical mass in the scale of operation; cooperate at sea and ashore; share terminals; utilization of ships on particular routes; and share risks associated with investment in ships (Panayides & Cullinane, 2002; Notteboom, 2004; Panayides & Wiedmer, 2011). Slot and vessel sharing, specifically, are collaborative agreements to fulfil demand, utilize capacity, and jointly optimize vessel schedule times (Panayides & Wiedmer, 2011). In these cases, carriers share operating costs and profit (ibid). From a knowledge-based perspective, the study by Tan & Thai (2014) concludes that whereas operational knowledge sharing is essential, market specific information such as freight rates, customer related info and other commercial issues are considered taboo. Operational safety and service integrity can be ensured by sharing information on stowage plan, vessel alignment and scheduling, and engine failures (Tan & Thai, 2014). Firm performance can increase on an operational level (ibid).

Horizontal cooperative alliance formation has been a characteristics of the ocean shipping industry since 1995 (Panayides & Wiedmer, 2011). However, instability has always been an issue in such agreements due to the complexity, level of mutual trust and presence of intra-alliance competition among partners (Midoro & Pitto, 2000; Panayider & Wiedmer, 2002). Therefore, cooperation is not a sustainable strategy for all companies (Panayides & Cullinane, 2002). Midoro & Pitto (2000) suggest, that by reducing the number of partners, differentiation

of roles and coordination of marketing and sales activities, alliance members can achieve meaningful results. Hence, an analysis on how resources and capabilities of strategic alliances can lead to individual competitive advantage for members is necessary.

4.5 Theoretical Conclusion

This research differs from and adds value to the existing for two main reasons: 1) the literature on static consolidation strategies in the liner shipping industry needs to be updated as a time gap exists; and 2) the application of the theoretical view (RBV and relational view) has not been applied to M&A-s and strategic alliances in the same method before. Due to industry dynamics, the most recent empirical and exploratory research on consolidation strategies were conducted in the early 2000s (Khandelwal, 2000; Panayides & Cullinane, 2002; Notteboom, 2004; Fusillo, 2009; Alexandrou et al., 2014). During these years, regulatory changes regarding anti-trust laws, the abolition of the conference system, and the growth phase of the industry resulted in a static consolidation boom. Since 2014, has this growth strategy become important again, due to weak financial outlook in the industry as a whole. Although the expected benefits are the same as before, the general motivation shifted towards “survival”. Additionally, considering the success rate and pitfalls regarding M&A-s, a comprehensive analysis on how such transactions can provide sustained competitive advantage for liner shipping companies in the current market outlook calls for an updated study. Furthermore, the recent trends in static consolidation directly influences the structure of strategic alliance networks, hence the research on dynamic strategies must be updated accordingly. Regarding static consolidation, synergy effects have been identified but not analyzed in a competitive manner and the RBV has been applied to pre-merger resources and capabilities of individual firms rather than on the combined entity (Khandelwal, 2000; Notteboom, 2004; Fusillo, 2009; Alexandrou et al., 2014). Holcomb et al. (2006) developed a more comprehensive RBV tool for the latter stages of the transaction, but did not apply it to the liner shipping industry. They conclude that through diversification strategies, for example acquisitions, firms can accumulate, acquire and access resources to establish and maintain an effective resource portfolio (Holcomb et al., 2006). In order to differentiate oneself from competitors, a firm has to effectively bundle and leverage the acquired resources (ibid). This research differs from previous in that the unit of analysis is the newly merged entity and aims at identifying strategic resources and capabilities in horizontal liner shipping M&A-s that provide competitive gains.

With regards to dynamic consolidation, previously the benefits of such a cooperation have been analyzed from multiple angles. Knowledge-based view and network theory do not provide a competitive edge, and the game theory approach fails to fully explain the multiple strategic issues of shipping alliances (Tan & Thai, 2014; Venus Lun et al., 2009; Song & Panayides, 2002). Moreover, economic research in liner shipping has concentrated on the industry and markets as a mean for explaining economic performance, and to some extent the view of the theory of the firm has been neglected (Panayides & Cullinane, 2002). An up-to-date and comprehensive study of the liner shipping segment is required to identify the strategic benefits of these approaches and to investigate if these elements could be source of sustained competitive advantage through a novel theoretical approach.

5. Industry Analysis and the Competitive Environment

Shipping alliances and M&A-s within the container shipping industry have become more and more frequent and impactful in the recent years, however the question, whether these strategies could really lead to a favorable competitive position for the focal shipping line, remained unanswered. As the theoretical framework outlined, an up-to-date research of the liner shipping segment is long-due, which provides a comprehensive and rigorous analysis of the current market forces and on-going challenges, and investigates the strategic importance of the consolidation approach pursued by liner shipping companies. The following chapter looks into these market-specific factors and challenges, and analyzes the strategic resource capabilities of the outlined consolidation strategies.

The analysis is structured in the following way. The first part is an in-depth analysis of the container shipping market which pinpoints the main characteristics and challenges of the industry. Once the market attributes are identified, Porter's Five Forces model is used for constructing an in-depth competitive analysis. Afterwards, a separate part is dedicated to the overview of M&A-s in the recent years and the current shipping alliance networks. The goals are to identify the main factors influencing the industry and the players' competitiveness, while providing a thorough understanding of the container shipping segment.

Once the industry analysis is concluded, the separate section dedicated to the analysis of the market consolidation strategies through Barney's VRIO framework (1995), which aims at investigating the strategic resource capabilities of M&A-s and shipping alliances. Firstly, mergers and acquisitions in container shipping segment are examined with the purpose of identifying and explaining the primary reasons for M&A-s, and then to determine if the focal firm could obtain supernormal return through utilizing and combining the resources and capabilities of the newly acquired firm with the buyer company's. The goal is to investigate if the focal firm is capable of achieving lasting competitive position by combining the strategic resources of the parties and then redeploying them as a unified strategic resource. M&A-s as 'static consolidation strategies' are analyzed through the lens of the resource-based view.

The second section is concerned with the analysis of strategic alliance networks, which constitutes the most common horizontal co-operation between shipping lines (Panayides &

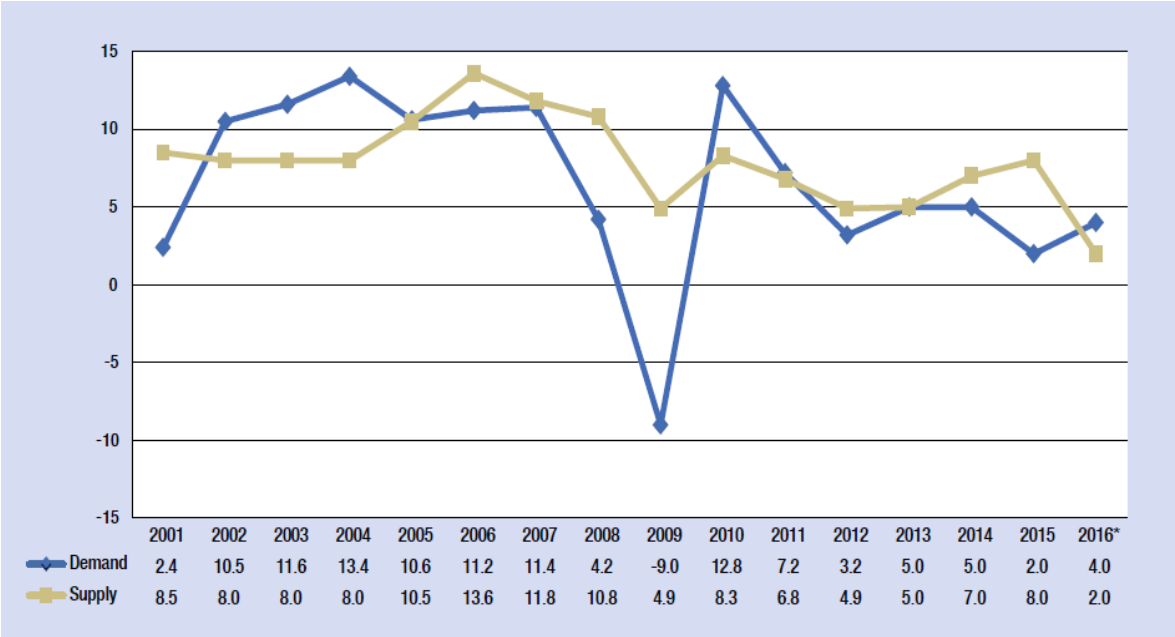
Wiedmer, 2011). The aim of this part is to analyze the impact of shipping alliances on the focal firm's strategic resources capabilities and to discuss whether such a cooperative mechanism could contribute to achieving sustained competitive advantage for the shipping line. Strategic alliances are defined as 'dynamic consolidation strategies' in this paper and examined through the concept of the relational-view. The findings of the analysis are summarized at the end of this chapter leading to the discussion part of this paper.

5.1 The Container Shipping Industry

International trade proliferation to large extent depends on the efficient movement of cargo from the source of production to points of consumption. The global growth in productivity in the late 90s and early 2000s has been directly correlated with the efficiencies and capabilities of shipping lines (Stopford, 2009). These companies played a prominent role in international trade facilitation not just through the physical transportation of cargo, but also through their marketing and commercial involvement in global trade (Stopford, 2009; Panayides & Wiedmer, 2011). In fact, the liner shipping industry has contributed a direct gross output (GDP contribution) of USD 183,3 billion and 4,2 million jobs to the world economy according to a 2008 study by IHS Global Insight (2009). The top ten global companies have grown immensely in terms of fleet size, revenues, and the number of employees controlling 80% of the market (UNCTAD, 2016; Alphaliner, 2017). The high capital investment required to maintain and develop operations have forced companies to put a high emphasis on cost reduction strategies (Notteboom, 2004; Stopford, 2009; Song & Panayides, 2015; Bovermann, 2016). However, the industry has been struggling to raise prices above marginal costs for the past few years, compromising the survival of some major players. In order to map the industry characteristics and highlight the obstacles, the following sections analyze the financial and macroeconomic environment, service differentiation and the current market challenges.

5.1.1 Financial and Macroeconomic Environment

The container liner segment is heavily influenced by global financial and macroeconomic factors. The demand for container shipping follows a cyclical pattern and it positively correlates with the changes in global productivity, macroeconomic booms and downturns as represented in Figure 3 (Stopford, 2009; UNCTAD, 2016). When the global economy is booming, global productivity increases which positively affects the demand for container shipping. However, during economic decline the demand for carrier services fall, lowering freight cost and creating fierce price competition between the players. As Figure 3 indicates the supply curve gradually adjusts to the market demand. However, the shift in the supply lags behind the demand curve due to difficulties and the time required to lay down excess capacity in response to the lower need for the shipping lines' services or due to the shipbuilding lag or the time required to obtain additional vessels through chartering if excess demand arises (Notteboom, 2004, Stopford, 2009; Song & Panayides, 2015; UNCTAD, 2016).



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
Demand	2.4	10.5	11.6	13.4	10.6	11.2	11.4	4.2	-9.0	12.8	7.2	3.2	5.0	5.0	2.0	4.0
Supply	8.5	8.0	8.0	8.0	10.5	13.6	11.8	10.8	4.9	8.3	6.8	4.9	5.0	7.0	8.0	2.0

Figure 3 - Growth of supply and demand in container shipping, 2001-2016 (UNCTAD, 2016)

The container shipping segment was hit severely by the Global Financial Crisis in 2008. Global productivity decreased drastically which stipulated a sharp decline in demand and freight prices respectively as shown Figure 4. In 2010, the rates seem to be normalizing back to pre-crisis level, however, the slow growth rate, lack of demand and constantly low productivity led to gradual

decrease in container freight rates. By the end of 2015, freight prices were generally more than 50% lower compared to the prices in 2010, except for the Shanghai – US East Coast Lane, which remained relatively constant (UNCTAD, 2016). Capacity increased during this period with deployment of the new 18.000 TEU vessels which led to a pandemic overcapacity and fierce price competition, significantly decreased the shipping lines profitability and credit worthiness due to the low freight rates and declining asset value (Bovermann, 2016).

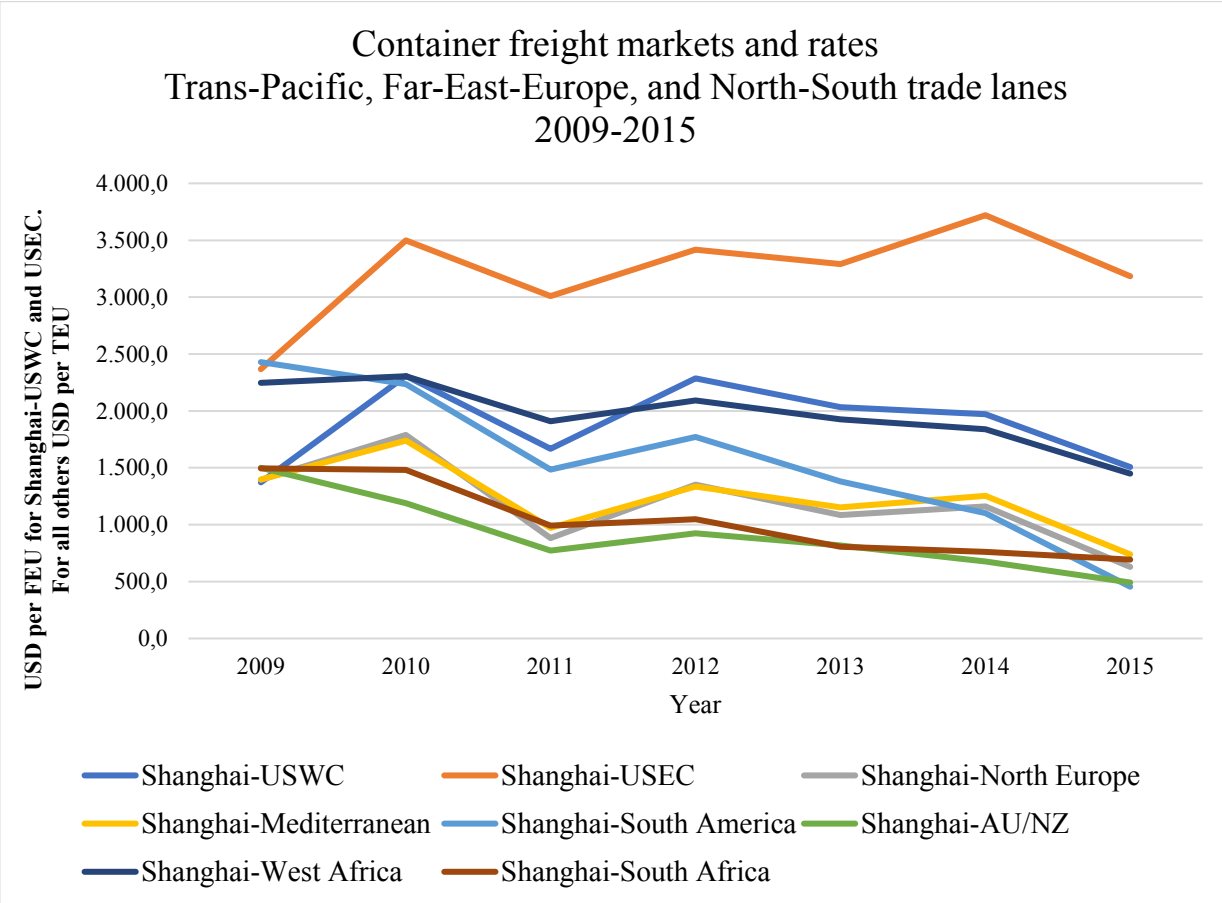


Figure 4 - Container freight markets and rates 2009-2015 adopted from UNCTAD (2016)

5.1.2 Service Differentiation

Since the introduction of containerization, liner shipping is characterized by high level of standardization which left limited space for service differentiation and commoditized the ocean freight industry. The shippers consider price as the primary carrier selection criteria, the shipping lines' specific service offering is only secondary factor (Song & Panayides, 2015). Carriers could potentially differentiate themselves from competitors by offering lower transit time, on-time

delivery, transparency and visibility (cargo tracking), extended network coverage, better environmental performance, but the perception of service differentiation depends on the particular shipper's priorities (Poulsen et al., 2016).

5.1.3 Current Market Challenges for Shipping Lines

The previous section indicated that the current macroeconomic environment, slow growth in global productivity, fierce price competition and significant overcapacity places the companies in the liner shipping segment in a difficult position in terms of profitability, growth potentials and future outlooks. The major shipping lines reported losses in their financial results for 2016, in the same year the sixth biggest carrier, the South Korean Hanjin Shipping, filed for bankruptcy (Drewry, 2016; Porter, 2016; China COSCO, 2017; Hapag-Lloyd, 2017; Maersk, 2017; NYK, 2017; Tirschwell, 2017). Regardless of the collaborative efforts, the industry structure is changing faster than ever before, the alliance networks are constantly in motion preventing companies from achieving long-term benefits from collaborative partnerships. M&A-s have become common strategy to eliminate competition, to gain instant access to new markets, to normalize capacity levels, and to fortify the shipping lines' market position, however these strategies alone do not resolve the industry-specific problems (Notteboom, 2004, Panayides & Wiedmer, 2011; Song & Panayides, 2015). In the concluding part of this section, the research investigates the current market challenges of the industry namely; capacity utilization/overcapacity, trade imbalances and demand fluctuations and increasing operating costs.

5.1.3.1 Capacity utilization

Overcapacity is currently one of the most significant challenges of the liner shipping industry which has a strong negative impact on the companies' profit, efficiencies and operating cost. Companies invest heavily in larger vessels while the demand of container shipping does not grow at the same pace. Since the Global Financial Crisis in 2008, there was only a slight increase in global exports (by 2%), however shipping lines put heavy emphasis on increasing vessel size (by 57%) flooding the market with excess container space, shown in Figure 12 in the Appendix (Bovermann, 2016).

The reasons for investing in larger vessels could be partially explained by the expected growth in global trade and the aim to reduce operating costs by exploiting economies of scale. However, the marginal rate of cost saving decreases with the increase in the vessels size, shown in Figure 13 in the Appendix. The behavior to ever increase vessel sizes can be explained by response to competitors' strategy, environmental factors and financial decisions, however the actions of the major players have left the entire industry worse off (Song & Panayides, 2015; Kuo & Luo, 2016). Investment decision have the most detrimental effect on the liner shipping industry when the demand for shipping services is at the lowest and freight rates are plummeting, resulting in additional excess capacity (Kuo & Luo, 2016). Under these circumstances if a company decides to take advantage of the lower shipbuilding price and decides to expand its capacity, competitors are likely to invest themselves fearing they are lack behind the competition, resulting in persistent overcapacity (ibid). In the same research Kuo and Luo (2016) suggested that the likelihood of investment further increases when companies believe that they could achieve efficiencies through reducing operating cost, utilizing new ship designs, and exploiting lower fuel prices or there is a favorable opportunity for investment due to low demand for new vessels. Due to the cyclical nature of the industry, "shipbuilding lag" – the time required to build new vessels – could also serve as an explanation for investing in shipbuilding under unfavorable market conditions, hoping to obtain supernormal return when the market grows.

The carriers' response to deal with the staggering overcapacity in the market can be divided into three major activities (Bovermann, 2016). The first option is to delay newly-built vessel deliveries or to cancel existing orders. Under this scenario delaying is more favorable for the companies as they do not lose the initial investments required by shipbuilding companies and they could respond faster to sudden surges of demand (Song & Panayides, 2015).

The second possibility is to introduce slow-steaming, meaning the carriers reduce the operating speed of the vessels. Slow steaming has two obvious benefits for the carriers; it reduces bunker consumption and it removes active capacity from the market due to longer transit times (Maloni et al., 2013; Bovermann, 2016). The disadvantages of slow steaming are service quality reduction and increasing maintenance cost. Longer transit times could have negative impact on service quality if the customers' priorities are short lead times and delivery speed. Increasing maintenance cost could derive from the fact that older vessels were not designed to operate on

18 knots speed therefore the engine requires regular inspection and repair. The most recent vessels are originally designed to be able to operate on lower speed if required.

The third possibility is to lay off or scrap older vessels which have a higher operating cost and lower efficiencies. This strategy could lead to cost saving, better operating performance and capacity optimization. The downside of vessel scrapping is that scrap value is determined by external market conditions, such as scrap steel price, which could result in significant losses for the shipping line. Furthermore, the lack of capacity and slow response time if demand for container shipping increases could lead to unfavorable competitive position for the focal firm (Kagkarakis et al., 2016).

5.1.3.2 Trade imbalance and demand fluctuations

Trade imbalances and demand fluctuations leads to unpredictable market conditions making forecasting, capacity planning and utilization challenging for container lines (Stopford, 2009; Song & Panayides, 2015; Bovermann, 2016).

Firstly, trade imbalances refer to the difference in cargo volume and quality transported between ports on the same trade lane. It is relatively easy to utilize the available container space from Far-East to Europe as significant part of the global production is outsourced to this region. However, it is a more challenging task to fill up the ships from Europe to Far-East as shown in Figure 5, because European economies are mainly service oriented and production primarily focuses on domestic or regional markets (UNCTAD, 2016; MDS Transmodal cited in Lloyd's List, 2017b). Trade imbalance indirectly leads to the issue of container relocation to Far-East markets, as the demand for boxes is always higher in that region compared to Europe (UNCTAD, 2016; OECD, 2015). Vessels often carry empty boxes to satisfy the excess demand, further increasing operating costs and creating inefficiencies in capacity utilizations.

Secondly, demand fluctuation is closely related to level of productivity and the current macroeconomic environment. When the global economy is booming, there is an excess demand for container shipping, positively effecting freight rates and capacity utilization. However, during economic downturns, there is excess supply of shipping services, plummeting freight rates and causing overcapacity in the market (Stopford, 2009; Song & Panayides, 2015).

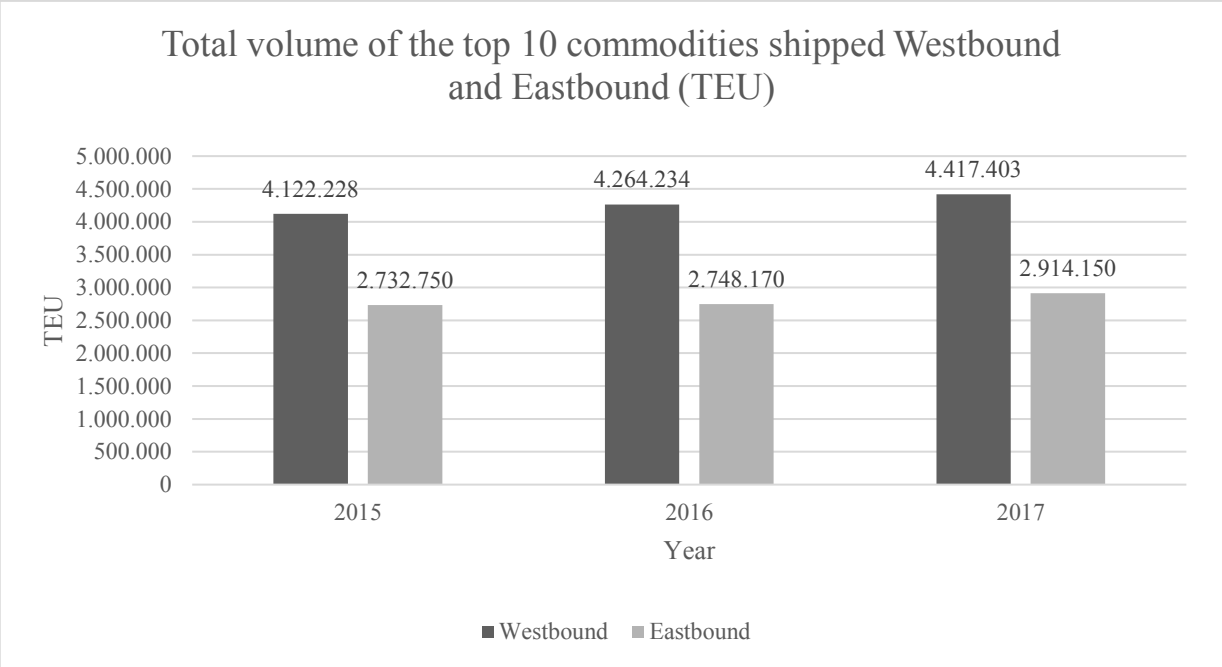


Figure 5 - Trade imbalance of the East-West trade lane (MDS Transmodal cited in Lloyd's List, 2017b)

Carriers could respond to trade imbalance and demand fluctuations by selecting appropriate markets for their services and designing effective networks in respect to the given market conditions. On the one hand, focusing on a specific market, the carrier could achieve a strong competitive position by realizing market-specific customer needs, deploying suitable vessel size through careful capacity planning and optimizing the operating cost through financial instruments (bunker fuel options, forward freight agreements), technological innovations and exploitation of economies of scale (Alizadeh & Nomikos, 2009; Stopford, 2009; Song & Panayides, 2015). On the other hand, designing efficient network could give access to wider customer base, extended feeder network and better port coverage (Lun et. al, 2009; Panayides & Wiedmer, 2011). The utilization of alliance networks could also provide advantages in regard to managing demand fluctuations and imbalances in trade. Figure 6 below represents the major shipping lines' market positioning as of end of 2015 throughout the various geographic regions, highlights their primary focus areas and indicates their network coverage. Important to note, that Hanjin Shipping filed for bankruptcy in August 2016 and should be disregarded from the figure below.

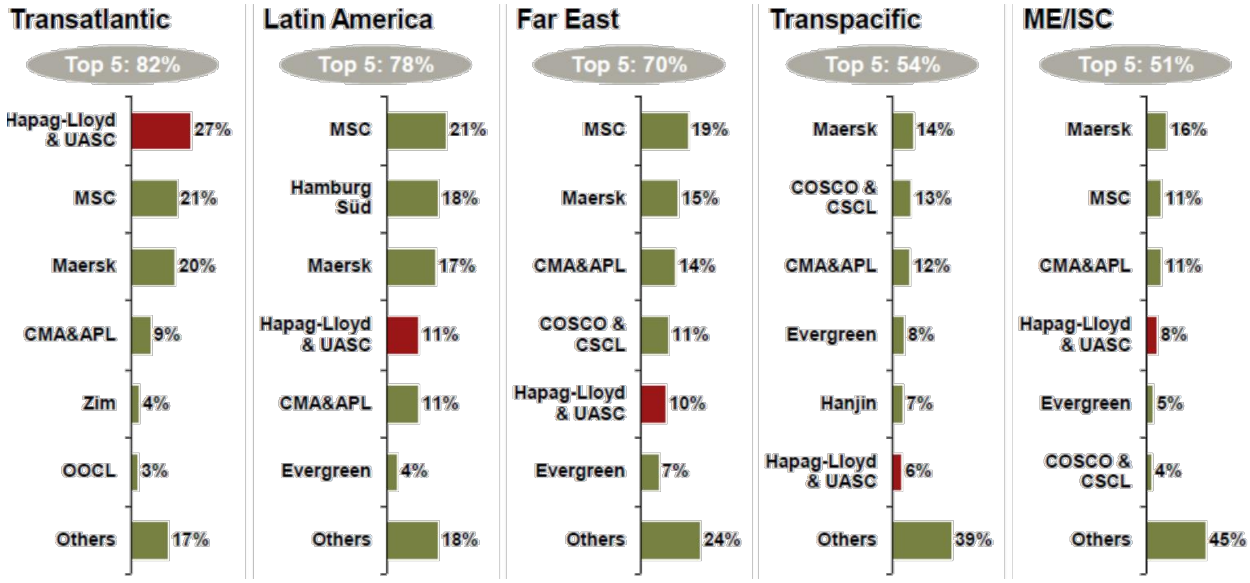


Figure 6 - Capacity share per trade and player, June 2016 (AT Kearney, 2016)

5.1.3.1 Increasing operating costs

Vessel cost structure consists of four main categories namely; port-, bunker-, operating-, and capital- cost influencing the financials of carriers.

Port charges generally depend on the ship's tonnage, but vary among developed and developing countries (Stopford, 2009). Port costs globally are the largest portion of cost to carriers due to the labor intensity of port operations and the amount of cargo handled (ibid). Additionally, larger vessels increase fees per tonnage, time spent at port, and consequently bunker consumption. Hence, co-operation between ports and carriers is necessary to enable an efficient scheduling and cargo flow and decrease further costs.

High bunker fees further increased carriers' cost until the end of 2014 and a sudden drop in fuel prices eased the burden on the shipping companies, shown in Figure 7. As bunker price decreased, companies were motivated even more to invest in larger vessels as the fuel cost is proportionally the same regardless of the vessels size further contributing to the current overcapacity. Furthermore, lower bunker prices hinder investment in developing alternative, environmental friendly fuel substitutes, slowing down the shift towards sustainable shipping and limiting service differentiation (Rojon & Dieperink, 2014).

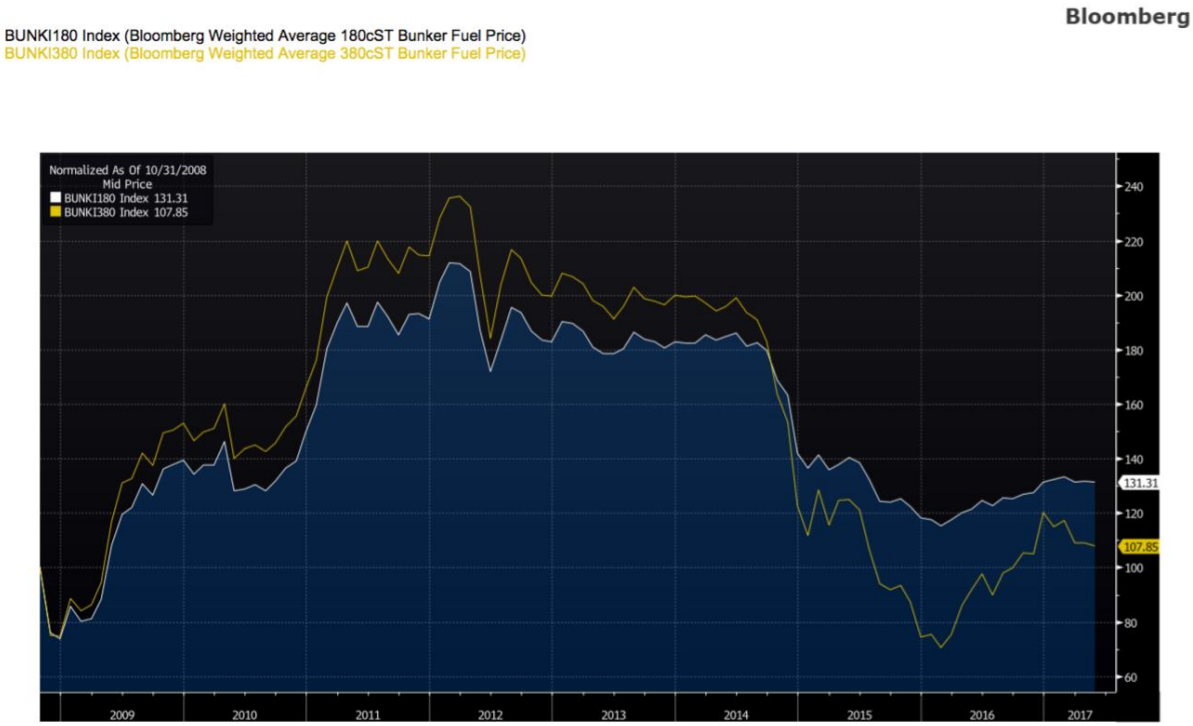


Figure 7 - Bunker fuel price 2009-2017 (Bloomberg weighted average I180 and I380) (Bloomberg, 2017)

Vessels' operating cost refers to wages, maintenance and repair cost, insurance cost and various additional and overheads cost, such as water, provisions, deriving primarily from the basic operational activities of the carriers (Stopford, 2009). In the recent years, the costs related to operations have increased significantly due to external environmental factors, such as financial and governmental pressures, regulatory requirements, and strategic considerations. Regarding the wages of the crew, changes in the regulatory framework improved the employment terms of the sailors by setting minimum wage requirements and obligatory holiday leaves partially deteriorating the advantages of employing low-cost labor from developing countries (Bloor, 2013). By increasing the vessel size, carriers could decrease the labor cost per unit (TEU), as larger ships require the same number of crew for the operation. With the introduction of slow steaming, maintenance and repair cost has increased as the engines of older vessels were not designed operate on a lower efficiency. As discussed in the previous section, by upgrading the fleet with modern ships capable of operating with adjustable speed, the maintenance and repair cost could be decreased. Finally, insurance cost most likely to increase as the capital value of larger ships are higher, indicating the damage and value insurance should be proportionally higher as well, further increasing operating cost.

Carriers have delivered poor shareholder returns due to weak freight rates and volatile bunker prices since the Global Financial Crisis (Drewry, 2016). In fact, Drewry (2016) estimates that container shipping industry returns on an average index basis have been 30% lower than the MSCI Global Index since 2010, shown in Figure 14 in the Appendix. Due to the current profitability, and creditworthiness of carriers, a higher risk premium will be requested from investors. On one hand, attracting equity finance will be difficult. On the other hand, the banks terms to lend are dependent on the assessed risk that will lead to challenges in debt financing as well (Brealey et al., 2012). In addition, rising debt levels and negative cash flows exert pressure on carriers' viability, shown by Hanjin's example. (Drewry, 2016).

5.2 Competitive Environment

In order to understand the competitive environment Porter's (2008) five forces model is used to determine the competitive intensity and attractiveness of the global container shipping market. The analysis focuses on the following forces that shape the industry: rivalry among existing companies; threat of entry; supplier power; buyer power; and threat of substitutes. This framework supplements the analysis on M&A-s and strategic alliances by providing insight to the competitive forces in the industry, an essential starting point to develop firm strategy.

5.2.1 Rivalry among existing competitors

The global container shipping market is characterized by a capacity oversupply with a high number liner companies competing for market share. The research consider only those carriers which are members of one of the global strategic alliances defined as "*cooperative agreements where liners manage several joint shipping services worldwide covering all major East-West shipping lanes*" (OECD, 2015). Hence, our sample size includes the top shipping lines such as: APM Maersk merging with Hamburg Süd; MSC; CMA CGM including APL (of NOL); China COSCO; Hapag-Lloyd merging with UASC; NYK Line merging with MOL and K Line; Evergreen Line; OOCL; Yang Ming Marine Transport Corp; and Hyundai Merchant Marine. Carriers excluded from this sample are not primarily focused on international trade, but on specialized cargo and/or a regional focus. The global carriers have a total of 83,77% while the remaining 86 regional players from Alphaliner's (2017) list have a combined market share of 16,23% measured by operated TEU capacity. The market characterized by high concentration and oligopolistic structure.

High exit barriers keep companies in the market even though they may be earning low or negative returns deteriorating the profitability of healthy companies (Porter, 2008). Depending on the amount of investment in container vessels, exiting the market comes with the cost of not being able to sell at market price. The higher the carriers' investment in assets, human resources, and vertically integrated partners, the higher the exit barriers. Management's devotion to the business might also impede exiting the industry (Porter, 2008). The negative profitability and eventually bankruptcy of the South Korean liner, Hanjin, provides an example of the difficulties that arise with exiting this market. Hanjin filed for court receivership on 31 August 2016, due to its inability to repay its debts (Reuters, 2016a). The company had to pay back debts totaling six trillion KRW (5,4 billion USD), sell their assets, manpower, its Asian-US business, five containerships, seven overseas businesses and logistics operation systems (Reuters 2016a; Jung-a & Wells 2016).

Rivalry may take the form of price competition that is destructive to firms' profitability (Porter 2008). The near identical services offered by container lines encourage competitors to cut prices to win customers. Yet, price competition on the major East-West trade lanes is moderated by the global strategic alliances offering a degree of stability in the business environment (Stopford, 2009: 535). By reducing competition, the recent M&A trend has also contributed to easing the price war.

To conclude, there are high exit barriers and fight for market share, but the tendency towards reduction of the competition by static and dynamic consolidation strategies moderate the rivalry between existing container lines.

5.2.2 Threat of entry

Entry barriers in the global container shipping industry provide advantages for incumbents relative to newcomers from sources of high supply side economies of scale and capital investments required. Economies of scale advantages exists for firms operating large volumes as costs- of overhead administration, pre-/on-carriage, container, procurement (bunker, terminal, equipment), and ship systems decrease with size (Roland Berger & Partners cited in Khandelwal, 2000). Carriers are considered large when transporting above one million units (TEUs) per year that allow for an approximately 15% cost savings compared to a medium size carrier handling less than 500.000 units per year (ibid). New entrants are either forced to enter the market on a

scale comparable to the top global players or accept initial cost disadvantages (Porter, 2008). Additionally, investment in vessels for the planned routes with sizes large enough to bring slot cost economies and fuel savings is beneficial (Kemp, 2015). This requires a large capital investment as well as operating risks of being able to fully utilize the vessels. Capital investments alone, however, might not deter entry for some players. Investors will provide funds needed to enter the market if industry returns are promising and capital markets are efficient (Porter, 2008). However, listed container liners have delivered very poor shareholder returns in the past five years, market shares have been eroding and revenues declining (Drewry, 2016a). Thus, that the threat of entry to the global container shipping market is low.

5.2.3 Power of suppliers

Powerful suppliers can increase their prices squeezing profitability for the industry (Porter, 2008). The most important suppliers in the container shipping industry consist of terminals, charter-owners, shipbuilders, and bunker suppliers (Stopford, 2009: 536). Given the geographically dispersed nature of the industry, the size of the local terminal operators compared to the global carrier may vary. By the cause of the increased vessel sizes and time it takes to transform or build new terminal facilities, it is possible that terminal supply will be limited at some ports increasing supplier power (Mckinstry, 2004). Therefore, it might be advantageous for carriers to secure supply of terminal service at strategically important ports. Furthermore, the suppliers of port operations depend heavily on revenues from shipping companies using the facilities that lead to a low bargaining power (Porter, 2008). Service contracts with key clients are common to secure berth schedules and fixed rates per container volume handled, however, there is no volume guarantee, leaving operators with earnings' volatility (DBRS, 2016). The revenue of charter-owners and shipbuilders is also heavily dependent on container liners decision to scrap, charter or build vessels. The challenges of global excess capacity restrain supplier's business, however, the current surge in demolition rates, alliance relocation and consolidation resulted in a demand cascade for large (7.500-11.000 TEU) vessels (OECD, 2015; Wackett, 2017). The bargaining power of bunker suppliers is higher than other suppliers previously mentioned. Bunker fuel is the largest cost for carriers often exceeding 40% of all operating costs (Glave et al., 2014). Common ways to control it are optimizing vessel speed, more frequent hull and propeller cleaning, drawing from a wider number of suppliers and using lower quality fuel (ibid). However, as bunker fuel is the main source to power vessel engines, the bargaining power

of bunker suppliers remains high. In conclusion, considering the geographical diversity, the size of suppliers and commercial dependency on carriers, bargaining power is moderate, with the exception of bunker suppliers which is considered high.

5.2.4 Power of buyers

Powerful customers in the industry such as large cargo shippers and freight forwarders are able to force down prices at the expense of industry profitability due to the standardized nature of the products, low switching costs, and high price sensitivity (Stopford, 2009; Porter, 2008). Large cargo shippers are multinational corporations in the retail, electronic goods, mechanical equipment, food, and beverages industry (Salisbury, 2016; Stopford, 2009: 536). Large industry players command a considerable volume of business and exert a pricing pressure on competing carriers. The leading importing countries in 2016 were USA, China, Germany, UK, and Japan ranked by cargo value (Statista, 2016). Among the largest shippers are Wal-Mart Stores, Target, and Home Depot with annual import volumes of 795.900, 537.000, and 352.900 TEU-s in 2015 respectively (Salisbury, 2016). In geographical regions where shippers are smaller, freight forwarders and logistics companies provide business often with a strong bargaining power in the area (Mckinstry, 2004). Due to the high fixed costs and asset specificity in the container shipping industry, there is no threat of backward integration by shippers (ibid). However, shipping lines can secure cargo and better utilize capacity by integrating with a cargo consolidator with a wide customer base. To conclude, shipper's negotiating leverage is very high due to the oversupply in the market, carrier's fight for market share, and price as the main product differentiator.

5.2.5 Threat of substitutes

There are not much alternatives to ocean transport to move heavy and voluminous goods other than shipping in smaller consignments (Mckinstry, 2004). In some cases, other service providers such as bulk, multi-purpose operators, and airfreight can provide substitute products, however, container shipping provides the lowest costs of all means of transport (Stopford, 2009; Mckinstry, 2004). Foreign direct investment (FDI) and offshoring from developed to developing countries increase the need of ocean transportation of manufacturing goods, resulting in the immense volumes on the East-West trade lanes (Mckinstry, 2004). Nearshoring, whereby companies find it beneficial to bring back manufacturing sites close to consumption, might pose a threat to the container liner business (Brett, 2013). Reasons for such strategy include improving

supply chain responsiveness, reducing transport costs and escaping the increasing cost of producing in China (ibid). However, the threat of substitutes might be neutralized by new offshoring activities launched, therefore it is hard to measure its real effect. Conclusively, the threat of substitutes for transporting high volume cargo overseas remains very low.

The analysis revealed the position where global shipping lines stand versus rivals, buyers, suppliers, entrants and substitutes. The results from Porter's five forces analysis is summarized in Figure 8. On the upside, incumbent firms should worry little about the threat of new entrants and substitutes deteriorating market share and profitability. However, rivalry among existing competitors remains fierce with very limited opportunities to differentiate products. Conclusively, buyer's price sensitivity is very high, resulting in a carrier's war to cut costs below margins to preserve market share. Supplier's negotiating leverage is generally low except for bunker suppliers, but can vary with geographical concentration. This chapter provided a guide to strategic choices global container carriers must make in order to increase profitability in the low performing industry to complement a comprehensive analysis on competitive advantages discussed in the following parts.

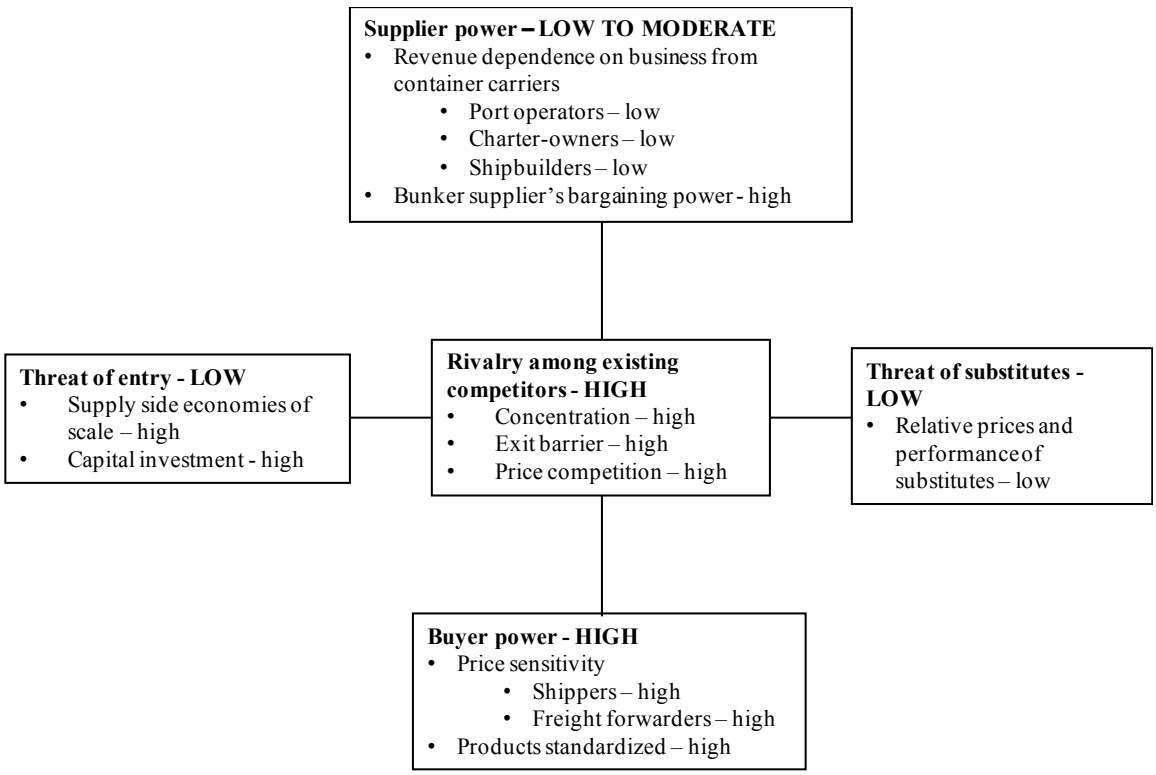


Figure 8 - Porter's five forces applied to the global container shipping industry

5.3 Introduction to the players – M&As and current strategic alliances

To set the stage for a concise analysis, the global carriers of the container liner industry is presented. This section includes changes in market shares per trade lane, capacity from new deliveries, and service frequency based on the latest M&A and strategic alliance announcements of 2017. This allows for a better understanding of the competitive landscape and strategies used in the global container liner industry.

5.3.1 Mergers and Acquisitions 2016-2017

The five M&A deals in the past two years have considerably contributed to removing competition and to achieving a less fragmented industry structure. The combined market shares in terms of total capacity are summarized in Table 2.

China's two biggest ocean carriers COSCO and CSCL merged into China COSCO Shipping creating benefits of scale economies in the East/West trades in January 2016 (China COSCO Shipping, 2016). A strategic advantage for the container liner segment is that they own 46 container terminals around the world with an annual throughput of 90 million TEU in 2015 (China COSCO Shipping, 2016). However, the companies have a similar geographic cover in the major trades and neither of them have significant presence in the North/South trade (Drewry, 2016).

In June 2016, the Singaporean Neptune Orient Lines (NOL) was acquired by the French CMA CGM (CMA CGM, 2017a). NOL's container shipping arm, APL, is a world-class in container shipping and terminal services, intermodal operations supported by leading-edge IT and e-commerce (ibid). APL will strengthen CMA CGM's presence in the Trans-Pacific trade (APL, 2016).

The German Hapag-Lloyd and the formerly independent United Arab Shipping Co. of the Middle East will complete merger negotiations by May 31, 2017 (Barnard, 2016). The merger combines UASC's emerging global presence, young and highly efficient fleet with Hapag-Lloyd's broad and diversified market coverage and customer base (ibid). UASC has invested in six 18.800 TEU and eleven 15.000 TEU using the new dual fuel – LNG – technology that have been recently delivered (United Arab Shipping Company (S.A.G.), 2014; Barnard, 2016).

The three Japanese formerly rivals, Nippon Yusen Kabushiki Kaisha (NYK), Mitsui OSK Lines (MOL), and Kawasaki Kisen Kaisha Ltd (K Line) have agreed to form a joint venture with 38, 31 and 31 percent stakes respectively expecting to start operations in July 2017 (Lewis & Wright, 2016). The combined fleet has a capacity of 1,4 million TEUs, making it the world's six largest by 2017 from a previous 9th, 12th and 14th rank of MOL, NYK, and K Line respectively (Drewry, 2016a; Alphaliner, 2017). The merger will allow the combined entity to cut costs on operational networks, administration overhead and remove capacity from oversupplied trade lanes by rationalizing vessel schedules (Buxbaum, 2016). The deal was driven by low energy prices, weak cargo demand and historically low container freight rates with the purpose "*so none of us become zero*" (ibid). K Line's president said it was also a "*necessary response to the competition created by industry mergers in Europe and the creation of 'mega carriers*' ", highlighting the competitive challenges brought by the M&A trend (ibid).

Finally, the world's largest liner shipping company, APM Maersk, have announced to acquire Hamburg Süd giving up 80 years of family ownership (Reuters, 2016b). The merge is expected to be completed by the end of 2017 (ibid). Hamburg Süd is represented by three brands, a German, a Chilean and a Brazilian shipping company and is a strong niche player in the North-South trade (Hamburg Süd Group, 2016; Drewry, 2016). The company is a good strategic fit for Maersk to strengthen their value proposition in the South American and Australasian trades (Reuters, 2016; Drewry, 2016; Maersk, 2016)

Table 2 - Operated fleets as per 24 April 2017 adapted from Alphaliner (2017)

Rank	Operator	Total TEU	Total Ships	Market Share
1	APM-Maersk including Hamburg Süd Group	3.898.341	744	18,7%
2	Mediterranean Shipping Co	3.018.776	501	14,5%
3	CMA CGM Group including APL	2.229.109	450	10,7%
4	COSCO including China Shipping Co Ltd	1.741.983	317	8,4%
5	Hapag-Lloyd including UASC	1.515.300	226	7,3%
6	NYK Line + MOL + K Line	1.473.605	249	7,1%
7	Evergreen Line	1.011.655	194	4,9%
8	OOCL	654.756	105	3,1%
9	Yang Ming Marine Transport Corp.	577.049	101	2,8%
10	Hyundai M.M.	436.532	68	2,1%

5.3.2 Global Strategic Alliances 2016-2017

The realignment of the competitive landscape can be seen from the newly established strategic alliances. From the four initial alliances that operated since 2014-2015, three new ones were formed starting operations as of 1 April, 2017, shown in Figure 9.

Besides the 2M, there has been a complete rearrangement of resources among the cooperative agreements. Maersk and MSC have agreed on a three-year slot exchange and purchase agreement with HMM with the new name 2M+H Strategic Cooperation (Knowler, 2016). Asian carriers NYK, MOL, K Line, Yang Ming and German Hapag-Lloyd (merged with UASC) agreed to form 'THE Alliance' for a five-year term (Matsuda et al., 2016). They will offer 31 services on the East-West trades with 240 vessels and port coverage of 75 ports (Hapag-Lloyd, 2016). Last but not least, the newly formed Ocean Alliance consisting of the Asian China COSCO, Evergreen, OOCL and the French CMA CGM signed a ten-year agreement offering 40 services, 323 vessels and 146 port calls on the East-West trades (CMA CGM, 2017).

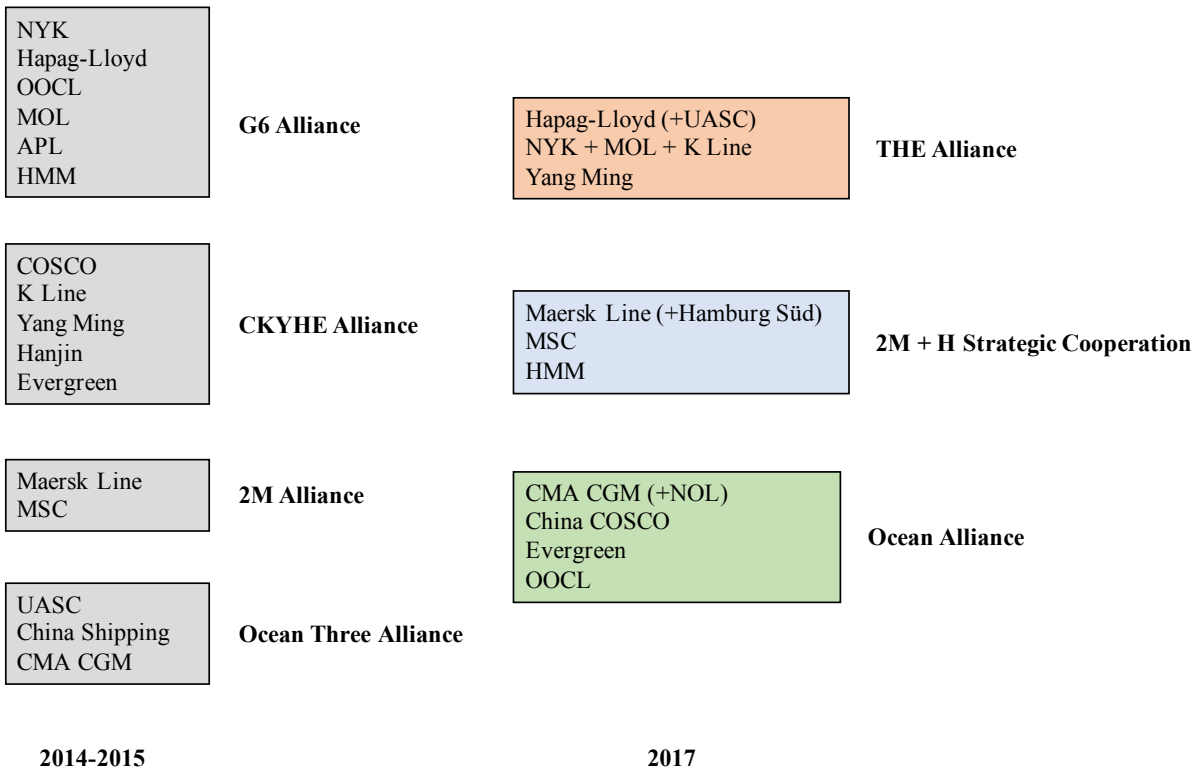


Figure 9 - Global Strategic Alliances in container shipping adopted from OECD (2015)

5.3.2.1 Market shares per trade lane

With the new market structure, capacity market shares of alliances differ significantly per major trade lanes, summarized in Figure 10. The East-West trade lane can be divided into *Asia-Europe*, including Asia-North Europe and Asia-Mediterranean, the *Transpacific*, including Asia-US West Coast (USWC) and Asia-US East Coast (USEC), and the *Transatlantic* between the Mediterranean-USEC and North Europe-USEC (SeaIntel, 2017). All of Asia-Europe trade is dominated by the network of 2M with 50% and 25% larger weekly average deployed capacity than THE Alliance and the Ocean Alliance respectively (SeaIntel, 2017). However, 2M deploys the same number of weekly services implying that the vessels used are much larger giving them a slot-cost advantage (ibid). The Transpacific trade, is dominated by the Ocean Alliance (ibid). On the Asia-USWC lanes, Ocean Alliance offers 35% more weekly slots than THE Alliance and almost 100% more than 2M (ibid). The Transatlantic trade connecting two mature economies is characterized by much lower volumes than on other East-West routes with rather stable volumes (SeaIntel, 2017). THE Alliance and 2M offer 6 loops each while the Ocean Alliance offers only 3 weekly strings (Hapag-Lloyd, 2017; CMA CGM, 2017).

5.3.2.2 Orderbook challenges

Capacity growth and relating challenges are expected as carriers have existing orderbooks. To balance scarce or excess capacity around demand, carriers can order or redeliver the chartered vessels. The flexibility can be maintained by an adequate ratio between owned and chartered ships.

China COSCO, Evergreen, and the Japanese merger (NYK, MOL, K Line) have the largest capacity to be delivered by 2019 (SeaIntel, 2017). Provided that they utilize all chartered ships, their market share is expected to grow the most compared to other players. OOCL has outstanding orders as well but a very low charter ratio, meaning that the newly built vessels must be fully utilized to avoid any losses (SeaIntel, 2017).

5.3.2.3 Service frequency

Service frequency and product diversity has changed considerably with the new alliance setup. There will be a massive loss in product diversity with 150 port pairs lost and only 56 new ones offered in the analyzed trade lanes of Asia-Europe and the Transpacific (SeaIntel, 2017). 39%

of the port pairs that remain will experience a decrease in service frequency (ibid). Ocean Alliance will offer services on most port-pairs and a greater service frequency (ibid). With other alliances, however, direct connectivity will be lost and most ports will be served via transshipment.

To conclude, there is still a large competition among carriers and alliances for market share, to effectively utilize capacity and best cope with demand fluctuations. Strategic alliance membership seems inevitable for global carriers, but due to their dynamic nature, carriers must rely on gains from internal operations. How these consolidation strategies (static and dynamic) can contribute to achieving sustained competitive advantage is analyzed in the next sections.

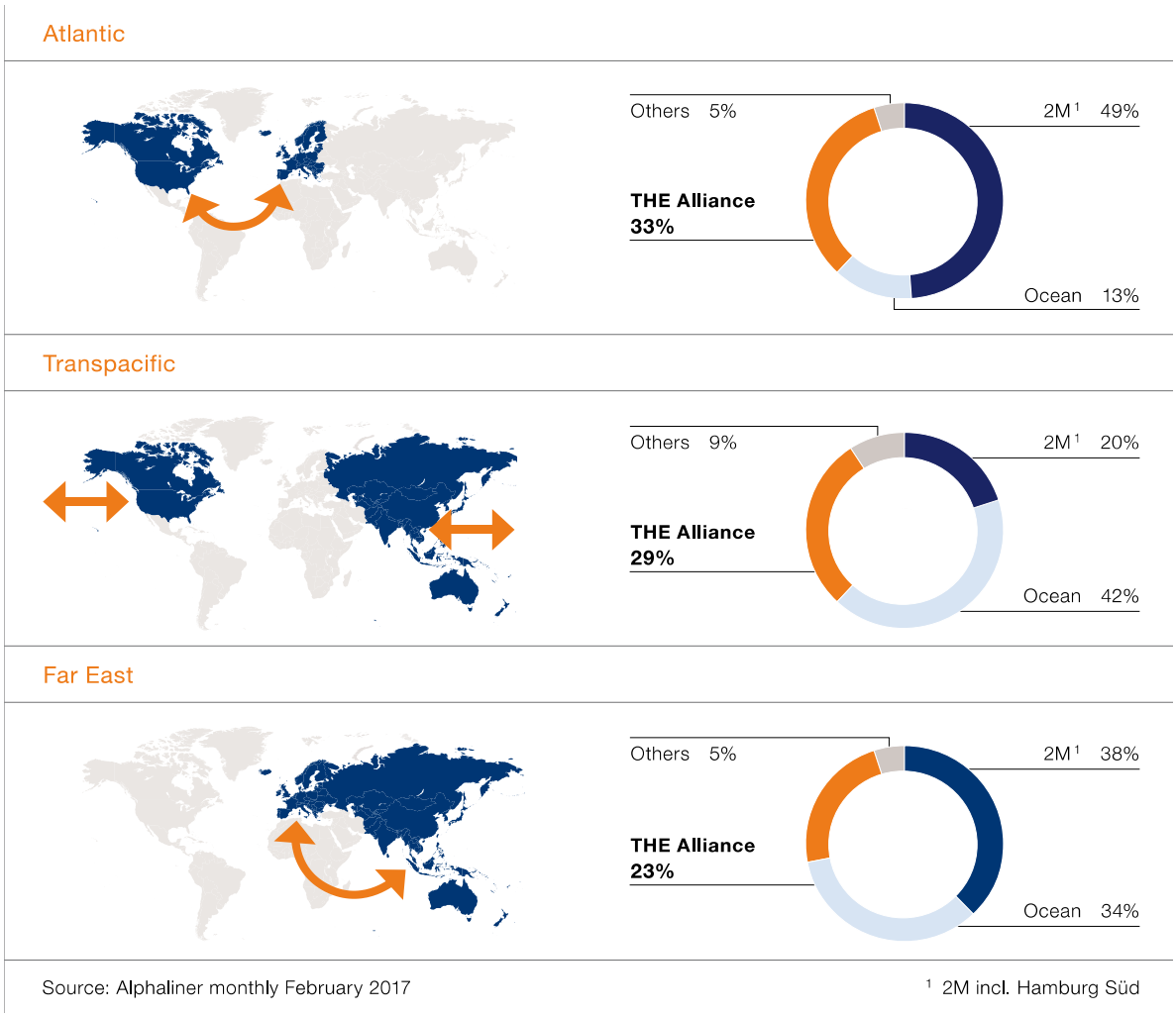


Figure 10 - New Alliance setup of 2017, market shares per major trade regions (Hapag-Lloyd, 2017)

6. Analysis of the Strategic Capabilities of the Consolidation Approaches

6.1 Strategic Resource Capabilities of the Static Consolidation – Horizontal M&A-s in the Liner Shipping Segment

In this section, resources and capabilities derived from container liners' static consolidation are defined and analyzed. The theoretical chapter outlined that the motives for M&A-s are of synergic, market power, scale and scope economies, growth as well as of survival origin. The enablers of such gains are classified as the combined- pool of *assets, systems, products, and network.* The drivers are more specifically classified into the combined resources from vessels, IT systems, service offerings, supplier and buyer network. Table 3 summarizes the authors' framework. This section determines whether these specific resources and capabilities lead to competitive disadvantage or parity, or could enable the firm to achieve temporary competitive advantage, unused competitive advantage or sustainable competitive advantage described in the theoretical framework.

Table 3 - VRIO framework applied to strategic resources and capabilities from shipping lines' static consolidation

Drivers of M&A gains	Valuable	Rare	Inimitable	Organized
Assets	+	-	-	-
System	-	-	-	-
Service	+	-	-	-
Network	+	+	+	+

6.1.1 Are the combined resources created by M&A valuable?

The *valuable* nature of resources specific to M&A-s among shipping lines are analyzed in the following section. The first classification is the group of *assets*, where the sources of strategic resources and capabilities are derived from combining vessels, and IT systems.

Combining both existing and orderbook container ships, might allow for an upgraded fleet in terms of age and technology. For example, UASC will bring six 18.800 TEU and eleven 15.000

TEU newly built vessels using the newest duel fuel – LNG – technology ordered in 2014 to the merger with Hapag-Lloyd (United Arab Shipping Company (S.A.G.), 2014). Thereby, capital investments in the near future can be reduced considerably along with time savings to build a young and efficient fleet. Additionally, the increased variety of sizes enable the firm to better utilize the supplied capacity on a specific trade lane. Furthermore, the combination of chartered and owned ships of the new entity might give a more optimal setup which allows for a prompt and flexible adjustment of capacity in times of demand fluctuations. The above-mentioned resources enable the organization to exploit an upgraded fleet without additional investment costs leading to better utilization and increased flexibility making the product of the M&A valuable for the new organization.

IT systems increase transparency and reduce administration costs providing efficiency gains. Various online platforms have been tested and are in place, however, there is still a need for improvement of digitalization in the industry (Tirschwell, 2017). The high costs spent on documentation and other shipping processes could be reduced by switching to automated systems. However, effective integration of IT systems of the joint companies is a long-term objective. For example, differences in IT systems and corporate culture resulted in a loss in market share for Maersk upon the acquiring P&O Nedlloyd (PONL) in 2005 (AlixPartners, 2016). It took three years to decrease the inefficiencies between the system through a major reorganization (ibid). In general, only after a year an integrated system is able to start to deliver cost and revenue synergies, and it is usually takes two to three years until it is fully operational (Shah et al., 2014). Hence, IT integration might result in an initial competitive disadvantage for merged container lines in the short-run, as it slows down the process of cross-selling products thereby decreasing profitability. However, once the system integration is completed, the long-term benefits deriving from efficiencies, process improvements and synergies outweigh the initial unfavorable competitive position leading to the competitive advantage of the firm (ibid).

The second classification is the service offering in which both complementary and supplementary services through the merger could provide sources of strategic resources and capabilities for the new organization. Profitable services on trade lanes dissimilar to each other could exploit growth opportunities by extending the geographical scope, product diversity, and the customer base (Notteboom, 2004; Stopford, 2009). These factors could be achieved, for example, by a global liner acquiring a company focusing on an extensive feeder network.

However, the supplied capacity increase on supplementary trade lanes can increase frequency of the services potentially leading to service level improvement and transit time reductions. For example, Hamburg Süd represented by a German, Chilean, and Brazilian brand is a niche player in the North-South trade. The value proposition on these trade lanes is expected to develop by the merger with Maersk. In both cases, the merged company must successfully integrate the new service offerings into the original portfolio and must ensure that the available capacity is utilized in order for this strategic resource to be valuable.

Cooperative benefits originating from network synergies such as the supplier base must not be neglected. If one of the merged parties manages terminal operations, the performance can be influenced in favor of the new company. In a close collaboration with ports, IT solutions, process streamlining and information exchange between parties can provide operational savings, efficiency improvements and a greater network stability (Andersen, 2016).

On the buyer's side of the network, the ownership of freight consolidators such as NVOCC-s or freight forwarders provides strategic advantages for the merged entity. With access to a wider customer base, an integrated freight consolidator could ensure larger volumes and better capacity utilization mitigating the risks of excess supply through vertical partnership. For example, the freight forwarding branch of the Maersk Group, Damco, has developed long-term relationships with its key customers providing synergistic benefits for Maersk Line through end-to-end service offering and multimodal solutions (A.P. Moller - Maersk, 2016) .

6.1.2 Are the combined resources created by M&A rare?

Possessing a state-of the art container fleet could lead to competitive advantage if competitors at a given point in time do not own vessels with similar capabilities. If a shipping line acquire a competitor and able to utilize the access capacity, the company could benefit from the latest technologies. However, this can only be considered as a temporary advantage as other companies could use a similar grow strategy to upgrade their fleet, therefore vessels by themselves cannot be considered as rare strategic resources.

If the acquired company's geographic coverage and network structure could extend the buyer's firm service offering in a way which is currently not present in the market, this strategic resource created by the merger could be considered rare. The strategic reason behind the M&A-s in the past two years is closely related to gaining access to new markets. In 2015, Hapag-Lloyd acquired CSAV, a Chilean line, to increase its presence in South America and exploit new market opportunities. In 2016, a similar rationale was behind the acquisition of UASC, this time the focus was on Middle-East (Porter, 2016; Hapag-Lloyd, 2017). However, this strategic approach is not unique, Maersk Line with the acquisition of Hamburg Süd and CMA CGM with the acquisition of APL aimed at extending their geographic coverage indicating that service synergies cannot be utilized to create rare, not commonly available resource.

Carrier ownership of container terminals in a given a geographical area might be a unique resource, especially if it is among the high throughput ports. Table 4 shows that Chinese ports are among the busiest followed by Singapore and South Korea (World Shipping Council, 2017). Examples include one of the largest terminal operators owned by a carrier is COSCO Shipping Ports comprising of both COSCO Pacific's and China Shipping's port entities (Lloyd's List, 2017a). Ranked by container throughput, it is the second largest port operator in the world and leader in Greater China since the merger of the two companies (ibid). Fourth largest PSA International entered a joint venture with CMA CGM after the acquisition with NOL and APL subsidiary, Singapore's national carrier (Lauriat, 2016). CMA CMG will lease and operate four container berths at the Port of Singapore (ibid). By owning terminal operations, carriers could benefit from streamlined processes, transparency and more efficient cargo handling through system integration. If a carrier acquires a competitor possessing majority of the terminal

operations in a certain geographic area, terminal ownership through merger can be rare strategic resource through network synergies.

Table 4 - Top 20 ports and annual throughput in 2015 adopted from World Shipping Council (2017)

	Port	Country	Annual throughput in 2015 (TEU)
1	Shanghai	China	36.516.000
2	Singapore	Singapore	30.922.000
3	Shenzhen	China	24.142.000
4	Ningbo	China	20.636.000
5	Hong Kong	China	20.073.000
6	Busan	South Korea	19.469.000
7	Qingdao	China	17.323.000
8	Guangzhou	China	17.097.000
9	Dubai Ports	United Arab Emirates	15.585.000
10	Tianjin	China	13.881.000
11	Rotterdam	Netherlands	12.235.000
12	Port Kelang	Malaysia	11.887.000
13	Kaohsiung	Taiwan	10.264.000
14	Antwerp	Belgium	9.654.000
15	Dalian	China	9.591.000
16	Xiamen	China	9.215.000
17	Hamburg	Germany	8.821.000
18	Tanjung Pelepas	Malaysia	8.797.000
19	Los Angeles	United States	8.160.000
20	Long Beach	United States	7.192.000

The ownership of freight forwarders by container lines is not a commonly available resource among the global players. Among the top 50 most profitable third party logistics providers (3PL) five are subsidiaries of container lines, summarized in Table 5 (Armstrong & Associates, 2016; Bureau van Dijk, 2017). According to research by Armstrong & Associates (2016), among the most profitable were Yusen Logistics and Kintetsu World Express branches of NYK and MOL respectively, and Damco owned by APM Maersk. NOL and UASC also have 3PL subsidiaries namely APL Logistics and Fiege Logistics present among the top 50 in the industry. By utilizing cross-functional business units to offer integrated end-to-end solution to customers and by expanding annual revenues, the merged entity could potentially generate a rare strategic resource (Leach, 2011; A.P. Moller - Maersk, 2016). By eliminating reliance on the volumes of other freight forwarders, container lines could improve their capacity utilization and service level by applying their 3PL's multimodal network, expertise and customer base.

Table 5 - Global container lines' 3PL subsidiaries (among top 50) (Armstrong & Associates 2016; Bureau van Dijk 2017)

Company name	Country ISO Code	# of total recorded subsidiaries	3PL subsidiary - Name	3PL Gross Revenue 2015 (US$ Millions) (Armstrong and Associates, 2016)
A.P. MOLLER - MAERSK A/S	DK	288	DAMCO	2.740
NIPPON YUSEN KABUSHIKI KAISHA	JP	667	YUSEN LOGISTICS	3.835
MITSUI OSK LINES LIMITED	JP	504	KINTETSU WORLD EXPRESS INC	3.729
NEPTUNE ORIENT LINES LTD	SG	23	APL LOGISTICS	1.561
UNITED ARAB SHIPPING COMPANY SAG	KW	96	FIEGE LOGISTICS	1.860

6.1.3 Are the combined resources created by M&A inimitable?

International terminal operators as company-specific resources can be inimitable for reasons of unique historical conditions and social complexity. Due to the limited availability of suitable locations, the substantial capital investment required to develop a terminal, the stringent approval process, and the need for an operating track record, makes expanding to the terminal operation challenging (DBRS, 2016). The presence of competition, however, can be seen in the changing market shares, continuous expansion- and consolidation plans. Table 6 shows the forecasted capacity ranking of international container terminal operators by 2020 (Drewry, 2016). Presence in one geographical location with relatively high throughput as well as a global spread could potentially provide a temporary competitive advantage for the firm.

With a freight forwarding business unit that is an organic part of the shipping line sharing the same values and principals, the core businesses could supplement each other. In form of joint ventures, strategic alliances, mergers or acquisitions, shipping lines can contract with freight forwarders, however, significant difference in the business culture could prevent integration and development of cross-functional synergies. Therefore, this complex social phenomenon could allow temporary competitive advantages.

Table 6 - International container terminal operator capacity ranking 2020 forecast (Drewry, 2016)

	Capacity rank	
Operator	**Year 2020**	**Year 2016**
COSCO-China Shipping	1	4 and 8
APM Terminals	2	2
PSA International	3	3
Hutchison Port Holdings	4	1
DP World	5	5
Terminal Investment Ltd	6	6
CMA CGM	7	9

6.1.4 Is the joint resource obtained exploitable by the merged organization?

Container terminals must be already organized by either of the parties prior to the M&A deal. The organizational structure of the merged firm must be designed to fully exploit the value from this resource. This can be achieved if the companies mainly operate on the same or similar geographical regions. Additionally, the increased buyer power and combined capital provide advantages to further invest in supplementary or new terminal facilities. On the other hand, if the port calls and serviced trade lanes would have to be rescheduled, the company is not organized to exploit this resource.

Freight forwarders already possess competences, which is ready to be used by the container liner part of the organization. These companies are fully functional independent units, which are ready to be deployed to serve the collective benefits of the parent company. The question however remains, if these companies will solely focus on serving other members of the group or they will cooperate with external organizations as well? If they remain internal, could Damco, for example, deliver those volumes, which is required by Maersk Line or will Maersk Line rely heavily on other forwarders as well?

6.1.5 Summary

Having looked at strategic resources that are drivers for entering M&A-s, the results show the following. State of the art technology and large capacity vessels might provide economic

benefits, but owning them do not lead to competitive advantages because it is not rare among competitors. Due to the complexity of integrating IT systems an initial competitive disadvantage could occur, however, in the long-run perspective might provide administrative cost reductions. From the buyer's perspective, however, IT system synergies are not valuable enough and therefore it does not justify engaging in horizontal M&A-s for this reason. Combined services offered could allow for a higher frequency, volume and larger customer base, but the improved service could be imitated by competitors. A larger firm does not provide a competitive advantage per se. Combined resources could, however, provide economies of scale and cost savings, that are the main motives for M&A-s. Traditional opportunities to cut costs such as improving vessel fuel efficiency, slow-steaming, building larger ships or improving port productivity will at some point be limited (Tirschwell, 2017). Therefore, carriers must find new ways to control industry challenges and differentiate products. The analysis revealed that network advantages such as vertical consolidation with port operators and freight forwarders brought by the M&A enables value chain transparency, ability to influence port charges and secure volume, and customer base that could lead to sustained competitive advantage.

6.2 Strategic Resource Capabilities of the Dynamic Consolidation – Strategic Alliances in the Liner Shipping Segment

Originally alliance agreements in the liner shipping segment covered three main areas. Firstly, parties involved aligned their service schedules, vessel types and port rotations (Panayides & Wiedmer, 2011; Song & Panayides, 2015). Secondly, they jointly coordinated the various support services, terminal sharing, container management, feeder- and hinterland services. Finally, agreements covered the restrictions on members' activities in relation to the use of third-party carriers on specific routes. Alliance agreements did not generally cover sales, marketing and pricing activities, these were controlled by the individual members (Stopford, 2009).

Companies moved beyond the traditional alliance framework and they developed various other type slot and vessel sharing agreements in response to the abolition of cartel like arrangements to be able to collaborate in the turbulent market environment (Panayides & Wiedmer, 2011). Slot sharing agreements (SSA) require a fixed percentage of vessel capacity to be exchanged between the parties over a given time period to benefit companies, who operate vessel on the same route with different departure schedules (ibid). *"Vessel sharing agreements (VSA) entail that the collaborating companies work together to fulfill demand on particular trade routes"* by utilizing the other party's vessels, optimizing the sailing schedule and cargo allocation, sharing profit and operating cost while fostering collaboration is respect to the current market demand (Panayides & Wiedmer, 2011: 26). At the beginning, only smaller carriers engaged in SSA and VSA as they did not possess alone the necessary capacities and economies of scale (Song & Panayides, 2015). Since 2015, however, Maersk Line and MSC, the world's two largest container carriers, have been engaged in a 10-year vessel sharing agreement on Asia-Europe, Transatlantic and Transpacific trades emphasizing the strategic importance of the various alliance agreements (World Maritime News, 2015). While the benefits of the various strategic alliances are obvious and vital for the container lines, it is essential to investigate if in the current market environment this inter-firm relationship could generate sustained competitive advantage for the parties.

6.2.1 Are the shipping alliances valuable?

Undoubtedly, shipping alliances are valuable strategic resources generating significant advantages for the alliance partners. SSA-s and VSA-s help the carrier to overcome some of the

current market challenges by improving capacity utilization, reducing operating cost, sharing demand information and ensuring relatively stable freight rates on specific trades. Furthermore, alliances provide access to a wider feeder network and extend the shipping lines geographic coverage, enabling service level improvements and accessibility to a potential new customer base (Song & Panayides, 2015; Hapag-Lloyd, 2017). The emphasis on shipping alliances is undoubtedly valuable.

6.2.2 Is the relational resource generated by shipping alliances rare?

Most of the top global container carriers are members of a shipping alliance and these companies seek to achieve unique, relationship specific synergies from the alliance membership. On the one hand, there are currently three alliances with very similar basic characteristics and the recent years have proven, it is a relatively simple task to form a new alliance if shipping companies see certain benefits of a strategic cooperation with another carrier (OECD, 2015; Porter, 2016; Lloyd's List, 2016). There are some carriers, which have been cooperating for a longer time-period, however the benefits they achieve and the strategic rationale behind their partnership is rather similar to one another; improving capacity utilization, extending geographic and port coverage and achieving efficiencies. One observable difference between the various alliance is the allocation of market share (per TEU), service frequency and port calls on various trade lanes as shown in Figure 10.

On the other hand, the alliance members could contribute to the network with their firm-specific rare resources, such as cross-functional business units (port operation, freight forwarding companies) or state of the art IT systems. The combination of these unique attributes could lead to further, unique synergies for the involved parties, if they could successfully utilize these inter-organizational resources. Synergies could derive from lower operating cost, more efficient sales activities, more accurate planning and forecasting, transparencies, better capacity utilization and overall improved firm performance. These benefits are available and exploitable only by the parties involved in the alliance network leading to rare relationship-specific resources and potentially to temporary competitive advantage for the alliance.

However, the focus point of our research is the individual firm and whether the benefits obtained through the alliance membership could lead to competitive advantage for the focal company not to the alliance network. In the liner shipping segment, alliances are formed horizontally among

direct competitors, therefore the individual firm cannot obtain a rare resource through alliance participation as all the other "direct competitors" in the alliance will benefits from the same advantages. Companies collectively might be better off compared to external carriers, however internally resources are the same and accessible by all the players.

From a holistic perspective, the strategic relationship between the individual carriers in a shipping alliance cannot be considered rare, as they all aim at pursuing homogenous benefits with limited unique attributes and capabilities. On the inter-firm level the carriers could acquire rare resources by combining their unique capabilities for the alliances itself, but these resources cannot be considered rare on the company level as the resources are available for all the alliance members across the partnership.

6.2.3 Are the alliance-specific resources imitable?

As the strategic relationship between the individual carriers could not create company-specific rare resources, the relationship specific advantages can be imitated by competitors. Firstly, once the key attributes of an existing strategic alliance are identified, other carriers could form competing alliances with the purpose of generating similar benefits. Secondly, if an alliance creates unique resources and capabilities for the alliance members, these cannot be exploited by the individual firm as the alliance members' benefits from the unique resource collectively.

6.2.4 Are the alliance-specific resources exploitable by individual firms?

The exploitation of an alliance-specific resource is highly dependent on the carrier's accessibility to an alliance. The alliance members seek synergies among their individual operations and their resources and capabilities are shared across framework of the alliance agreement. A potential new entrant should possess attributes and resources, which can be utilized by the members and supplement the main objective of the alliance. These capabilities can be extended feeder network, port accessibilities, IT infrastructure and specific routes not served by other carriers.

The analysis above revealed that shipping alliances in general do not generate, unique, relationship-specific advantages which solely benefit the individual firm, therefore they cannot be sources of relational rents. Relationship specific resources derived from shipping alliance cannot be considered as rare, as the general purposes of these collaborative agreements are to

align and optimize schedules and services, improve capacity utilization, stabilize freight rates and extend geographic coverage in most cases (Song & Panayides, 2015; Stopford, 2009; Panayides & Wiedmer, 2011). If an alliance creates rare resource, it is accessible by all the alliance members eliminating potential firm-specific benefits. Furthermore, the benefits of a shipping alliance can be imitated by similar cooperative initiatives from competing firms hindering its ability to generate sustained competitive advantage for the alliance partners.

However, under the current market conditions, participation in shipping alliances can be seen as a prerequisite in order for container carriers to maintain a profitable operation. Shipping alliances provide unique benefits for the involved parties that are difficult achieve for a carrier in isolation. Shipping lines must differentiate themselves from the other carriers by offerings specialized services, providing improved customer experience, covering special routes, and achieving efficiencies leading to lower operating costs (Song & Panayides, 2015).

6.3 Summary

In the previous sections the research investigated if static and dynamic consolidation strategies in the liner shipping segment could generate strategic resource capabilities and relational rents leading to sustained competitive advantage of the focal firm. The analysis revealed that through horizontal M&A-s, sustained competitive advantage could only be achieved by the acquisition of a carrier, which operates with cross-functional business units (e.g. terminal operators, freight forwarders) throughout the container chain. The buyer firm could obtain an integrated end-to-end service offering by combining the core competences of the various subsidiaries leading to transparency, visibility, lower operating cost, higher efficiency and ultimately opportunity for service differentiation and increased customer satisfaction.

Strategic alliance could generate obvious benefits for the alliance members not just through SSA-s and VSA-s, but also through inter-company synergies, but horizontal interfirm partnerships cannot generate relational rents for the focal firm as the benefits are shared among the members. Alliance participation was deemed as prerequisite for carriers to ensure profitability, efficiency and improved capacity utilization in the current turbulent financial environment. Independent shipping lines could be in competitive disadvantage compared to the alliances networks unless they focus on niche segments and service offerings, cover special geographic areas and able to realize and satisfy customer-specific needs.

Based on the findings of the analysis, the following section looks into possible strategic consideration for shipping lines in respect to the current market outlook, discusses if M&A-s and strategic partnerships should still be considered a viable option for achieving favorable competitive position and supernormal returns. Finally, this section elaborates on potential future outlooks of the container shipping segment given the current financial and macroeconomic factors and industry challenges.

7. Discussion

The findings of the analysis section identified that from the horizontal consolidation strategies, only M&A-s driven by network-related synergies could create strategic resources for the focal firm leading to sustained competitive advantage. Other factors from M&A-s and strategic alliances between shipping lines are unable to generate heterogeneous resources to achieve supernormal returns from the RBV and the relational-view perspective. Regardless of the limited strategic capabilities of M&A-s and alliance networks, all the major global players are involved in the ongoing industry consolidation to various degrees and mergers, acquisitions and strategic alliances constitute a central component of the current industry landscape (Porter, 2016; Llyod's List, 2017). This chapter aims at critically discussing the implication of the M&A-s and shipping alliances in order to understand their role in the industry and to assess if moving from horizontal to vertical M&A-s and interfirm cooperation could potentially be considered as a source of sustained competitive advantage in the liner shipping segment.

7.1 Consolidation in the current market environment

The industry analysis highlighted that the current container shipping segment is characterized by low growth in demand, staggering overcapacity, fierce price competition, limited space for service differentiation and highly-commoditized service offering. The industry is concentrated around the top ten global players which control approximately 80% of the market (Alphaliner, 2017). The major trade lanes are dominated by oligopolistic alliance networks with the main goal of stabilizing freight rates and improving capacity utilization (Bovermann, 2016; Hapag-Lloyd. 2017). Regardless of the impact of these collaborative arrangements, slow growth in global productivity and international trade, and constantly increasing capacity keeps the freight rates well below the pre-crisis level hindering growth and increase in profitability for the carriers.

Considering these rough market conditions, the recent wave of M&A-s between 2015-2017 and changes in the alliances structures can be justified. The major shipping lines aim at further concentrating the industry by increasing their market share, expanding their fleet and geographic coverage hoping to gain better control over the available capacity, demand and customer base. Membership in a strategic alliance or a horizontal merger undoubtedly leads to certain benefits in terms of capacity utilization, collaborative forecasting, efficiency and potential cost saving, yet alone these consolidation strategies cannot solve the industry-specific challenges and cannot

help the individual firms to achieve sustained competitive advantage over the other players. Alliance participation can be considered as a prerequisite in the current market and staying outside the alliance framework could lead to competitive disadvantages for the individual firms operating on the major East-West trade lanes.

As the current consolidation strategies only under specific circumstances could lead to sustained competitive advantages, shipping lines should consider alternative ways for developing strategic resources capabilities. As the focus point of the research is M&A-s and strategic alliances in the container liner segment, this research proposes to investigate if M&A-s with external companies and vertical partnerships could create heterogeneous strategic resources and capabilities for the shipping line. The following section discusses the viability of these strategies in-depth.

7.2 Achieving sustained competitive advantages through M&A-s

In the analysis section the research identified that horizontal M&A-s could only be sources of sustained competitive if at least one of the shipping lines possesses a subsidiary whose operation extends to other segments of the container chain, such as terminal operation, cargo consolidator. In this case, the core competences of the cross-functional business units could be embedded in the processes of the new entities. The drivers of this type of M&A are the network-synergies and the strategic resources are generated through efficiencies, cross-functional capabilities, potentially lower operating cost and improved service portfolio. Other types of M&A-s driven by asset, system or service synergies could create value for the focal firm, but these resources will not be rare and can be easily imitated by other players, therefore those types of M&A-s will not lead to sustained competitive advantage.

This finding indicates that shipping lines could deviate their focus from horizontal M&A-s and seek for opportunities in directly or indirectly related complementary segments. Acquisition of a company, which supports the primary activities of container lines, could provide interfirm synergies creating strategic resources for the buyer entity. The resource pool gained through the merger could be heterogeneous and rare in the container shipping segment, if similar strategic expansion has not been done before by competing carriers. If the synergistic effect cannot be easily imitated, the shipping line is able to utilize the resources of the acquired company and to embed its new subsidiary in its organizational structure, such a cross-industrial merger could be a source of sustained competitive advantage.

The history of A.P. Møller Maersk could give examples of both types of M&A-s explained above; horizontal M&A-s where the acquired firm owned a subsidiary operating in another segment of the container chain and cross-industry acquisition where Maersk directly acquired a firm operating in a complementary segment. The former is the acquisition of P&O Nedlloyd in 2005, which at that point fully owned Damco, a global freight forwarding company (Damco, 2017). The latter is the acquisition of Svitzer by Maersk Group in 1979, a company which provides towage, marine and security services for harbor and vessels operators (Svitzer, 2017). Until recently, Maersk Group's strategic approach was to separate its various business units and therefore the company could only realize limited cross-functional synergies (Maersk, 2013). In September 2016, Maersk announced a major transformation in their company structure; separating its transport and logistics operations from its energy related activities. By doing so the company can fully utilize the synergies among its complementary brands and benefit from the company-specific core competences (Maersk, 2016; Prahalad & Hamel, 1990). Focusing on the Transport and Logistics segment, the combination of Maersk's individual organizations provides unique strategic resource which could be used to create a comprehensive, integrated end-to-end service offering, potentially leading to reduced operating costs, broader customer base, service-level improvements, competitive pricing and wider global coverage. Such an extensive and comprehensive cross-functional business portfolio is currently not present in the liner shipping segment indicating that by combining the core competences of the different business units, unique, company-specific resources could be created potentially leading to sustained competitive advantage for the firm.

Shipping lines could also look outside the container chain to find suitable companies for merger or acquisition which could add synergies and generate strategic capabilities for the carrier through combined core competences. However, the negative aspects of M&A-s should not be neglected regardless if it is a horizontal or vertical merger. Primarily, the perceived benefits of a merger could be overstated and the combined resources of the companies may not provide the expected gains and lead to favorable competitive position, but to operational disadvantages and increased cost burdens. Furthermore, the inter-company integration could also pose challenges due to differences in organizational structure, corporate culture, management style and the companies 'value propositions'. It is not a coincidence that some of top carriers, namely MSC, OOCL, Evergreen announced that they will not conduct horizontal M&A-s in the near future due to the high uncertainty involved (Lloyd's List, 2017a). They have decided to pursue organic

growth strategies focusing on systematic cost cutting, service differentiation, process optimization to gain efficiencies in the new alliance setup (ibid).

7.3 Strategic Alliances and Sustained Competitive Advantage

The analysis section identified that horizontal shipping alliances cannot be sources of relational rents and thereby help the companies to achieve supernormal returns, due to the commonality of the alliance networks, the shared resource pools and imitability of the benefits. However, shipping alliances provide tangible benefits for the members in the form better capacity utilization, reduced operating cost, demand information sharing and ensuring relatively stable freight rates on specific trades. Furthermore, alliances provide access to a wider feeder network and extend the shipping lines geographic coverage. These benefits can be considered as perquisites in the highly competitive environment of the liner shipping business.

However, strategic partnerships between shipping lines and companies from different segments could be a source of relational rent, which leads to supernormal profits and could generate competitive advantages for the carriers. Considering strategic partnerships within the container chain, by utilizing the freight forwarders networks, volumes and versatile service portfolio, shipping lines could gain access to an extended customer segment simultaneously differentiating themselves from their competitors. Cooperation with port operators could lead to reduced administration cost, better transparency, process streamlining and reduced lead times. These synergistic benefits could have positive impact on the members of the container chain, which would leave the entire industry better off in terms efficiencies, cost savings and profitability.

Recently the leading carriers formed close collaborations with major IT companies in order to achieve significant cost saving and better customer experience through integrated IT solution. In March 2017 IBM announced a close collaboration with Maersk to develop and implement a blockchain solution, which *"will help manage and track the paper trail of tens of millions of shipping containers across the world by digitizing the supply chain process from end-to-end to enhance transparency and the highly secure sharing of information among trading partners. When adopted at scale, the solution has the potential to save the industry billions of dollars"* (IBM, 2017). Another recent development is Alibaba's, a Chinese e-commerce platform, collaborative partnership with Maersk Line and CMA CGM to allow customers to book container space easily online (CMA CGM, 2017; Maersk, 2017; World Maritime News, 2017).

Through this partnership, the carriers could reduce the cost of their sales activities and significantly reduce the complexity of the booking process. This collaboration could further enhance transparency and process efficiency and could bring the customer even closer to the shipping lines eliminating the need for intermediary companies.

By investing in relationship-specific assets, unique resources can be developed through knowledge sharing, at the same time making the characteristics of the strategic partnership inimitable by other firms. These jointly created resources could help to improve the shipping lines service level and capacity utilization, to promote customer satisfaction leading to higher profit and significant cost savings. An important enabler of the strategic partnership is trust, which promotes knowledge sharing and fosters integration between the partners.

In the current business environment, shipping lines should keep on focusing more on developing strategic partnerships with companies from different industries as these relationships could create unique synergies between parties helping the carriers to differentiate themselves from their competitors and to offer the customer unique, cutting-edge solutions. Through these partnerships, the shipping industry could become more heterogeneous in regard to the service they offer, and could potentially increase freight rates by adding value to the service they provide.

7.4 Future Market Outlook

The future market outlook for container lines seems promising for several reasons. Firstly, by the major horizontal M&A-s expected to be completed by the end of 2017, substantially decrease in the price competition can be anticipated. Secondly, the low bunker prices will allow carriers to reduce operating costs, constituting a high share of the total costs (Glave et al., 2014; UNCTAD, 2016). Furthermore, economic growth in Japan, the Euro-zone, South Korea, Taiwan, Brazil and Russia are expected to raise global GDP, thereby capital expenditure, the level of international trade, and the demand for containerized cargo transported by sea (The Economist, 2017b). However, the demand for seaborne trade could be negatively impacted by shippers' decision to nearshore manufacturing sites closer to consumption (Brett, 2013). This could be a new strategy for companies to circumvent the increasing costs of producing in China and improve supply chain responsiveness (ibid). Additionally, the increasing impact of protectionist policies by governments to restrain international trade, mainly Trump's "America First", will lead to a decline in growth of the demand for container shipping and a rise of demand

for other modes of transport (The Economist, 2017b). However, these expected negative impacts are unlikely to exert a severely detrimental effect on demand.

8. Conclusion

This research aimed at constructing a comprehensive overview of the liner shipping segment and to provide a thorough understanding of the strategic reasoning behind the recent wave of consolidation in the industry. Furthermore, the paper identified that there is a need for updating the existing literature on M&A-s and shipping alliances, and to analyze the consolidation approaches from a strategic perspective. The application of RBV has provided valuable insight into realizing the strategic resource capabilities of the static and dynamic consolidation and justified the common application of these strategies in respect to the current market environment.

The analysis of the industry and the competitive landscape identified the major challenges of the liner shipping segment in the form of staggering overcapacity, trade imbalances and increasing operating cost, and rationalized the impact of the competitive forces affecting the global carries. Porter's five forces model was used to assess the suppliers' and buyers' power, threat of new entrants and substitutes, and the degree of rivalry among existing competitors. Suppliers' power in the container shipping segment was deemed low except for the bargaining power of the bunker fuel suppliers. On the contrary, the buyers' have considerable power in terms of price negotiation, carrier selection and available supply. The high initial investment and the saturated market makes the threat of new entrants low and there is a limited threat of substituting services due to high volume capabilities, relatively low price of the service and exploitability of economies of scale. The impact of rivalry is high due to the high market concertation, high exit barriers and fierce price competition.

Regarding the static consolidation approach, this paper pinpointed that only M&A-s driven by network synergy gain could lead to sustained competitive advantage for the focal firm. While the asset, service and system driven consolidation could entail certain benefits in terms of scale and scope economies and potential cost savings, these strategies do not generate heterogenous, rare resources, therefore, they cannot lead to lasting favorable competitive position of the firm.

The research revealed that strategic alliances by themselves do not lead to sustained competitive advantages due to two main reasons: firstly, the perceived benefits of the collaborative

partnerships are rather homogenous and obtainable by competing firms; secondly, while the combined strategic resources and capabilities of the alliance members could create advantages for the alliance itself, these benefits are shared among the alliance members preventing the individual firm from achieving sustained competitive advantage. The benefits of the shipping alliances were identified as a prerequisite under the current environmental conditions in order for shipping lines to achieve better capacity utilization, to gain efficiencies and to lower operating cost.

Based on the findings of the analysis, the research proposed that companies should focus on merging and acquiring companies, which own subsidiaries operating in other segments of the container chain. By acquiring these firms, the combined entity could generate unique, strategic resources, which could enable them to reach sustained competitive advantage. Considering strategic alliance networks, liner shipping companies should be focusing on developing strategic partnerships with companies from other industry in order to create relational rents and potentially favorable competitive position. Looking at the recent developments in the industry, the major shipping lines have already started collaborations with giant IT firms with the purpose of the gaining access to a wider customer base and generating additional cost savings through digitalization, accessibility and user friendly interfaces. Strategic partnerships could enable numerous benefits and unique inter-industry synergies and the prospects for achieving service differentiation in this highly-commoditized segment could possibly be realized.

9. Suggestion for Further Research

While the research provided an in-depth and detailed overview of the market and competitive environment, suggestions for further topics are considered as follows. Through a case-based approach, company specific and novel resources and capabilities could be identified in specific merger-pairs or strategic alliance setups. Its challenges, however, are that strategic resources generating SCA are not generally published, hence primary data collection is needed. For the primary data collection, executive involvement would be essential which could be difficult due to the accessibility of the relevant source. Lastly, analysis on valuable cross-functional partnerships with port authorities/operators, freight forwarding companies, and IT firms facilitating innovative ways to cut costs or digitalize processes is highly relevant, paving the way for the future of the container shipping industry.

Bibliography

A.P. Moller - Maersk, 2016. *Maersk - The New Direction*, Corporate Presentation

A.P. Moller-Maersk (2017) Annual Report 2016 [online] available at: http://www.maersk.com/en/the-maersk-group/press-room/press-release-archive/2017/2/annual-report-2016 [Accessed: 09. February 2017]

Alexandrou, G., Gounopoulos, D. & Thomas, H.M., 2014. Mergers and acquisitions in shipping. , 61, pp.212–234. Available at: http://dx.doi.org/10.1016/j.tre.2013.11.007.

AlixPartners, 2016. Container Shipping Outlook 2016. Available at: http://legacy.alixpartners.com/en/Publications/AllArticles/tabid/635/articleType/ArticleView/articleId/1927/Container-Shipping-Outlook-2016.aspx#sthash.Q9752Cqe.HXyNR8jA.dpbs.

Alizadeh, A. H. & Nomikos, N. K. (2009) Shipping Derivatives and Risk Management, Palgrave Macmillan, United States

Alphaliner, 2017. *Alphaliner - TOP 100 Operated fleets as per 09 March 2017*, Available at: https://www.alphaliner.com/top100/.

Andersen, O., 2016. Maersk Line and APM Terminals in exclusive deals. Available at: http://shippingwatch.com/Ports/article8568451.ece.

APL, 2016. Trans-Pacific businesses of ANL and US Lines to be consolidated with APL. Available at: https://www.apl.com/wps/portal/apl/apl-home/news-media/customer-advisories/apl.news and media.customeradvisories.customeradvisories_detailedpage_2016/trans-pacific+businesses+of+anl+and+us+lines+to+be+consolidated+with+apl.

Armstrong & Associates, 2015. Top 25 Global Freight Forwarders List [online] available at: http://www.3plogistics.com/3pl-market-info-resources/3pl-market-information/aas-top-25-global-freight-forwarders-list/ [Accessed, 09. February, 2017

Armstrong & Associates, 2016. A&A's Top 50 Global Third-Party Logistics Providers (3PLs) List. Available at: http://www.3plogistics.com/3pl-market-info-resources/3pl-market-information/aas-top-50-global-third-party-logistics-providers-3pls-list/.

Barnard, B., 2016. Hapag-Lloyd, UASC sign merger deal. *Journal of Commerce*. Available at: http://www.joc.com/maritime-news/container-lines/united-arab-shipping/hapag-lloyd-uasc-sign-merger-deal_20160718.html.

Barney, J. (1991) Firm Resources and Sustained Competitive Advantage. *Journal of Management,* 99-120.

Barney, J. (1995) Looking Inside for Competitive Advantage. *Academy of Management Executive,* 49-61.

Bloor, M., Dahlgren, K., Wadsworth, E. & James, P. (2013) Room for Maneuver? Regulatory Compliance in the Global Shipping Industry, *Social & Legal Studies,* Vol. 22 (2), pp. 171-189
Bovermann, J. (2016) Overview of the Shipping Industry *(Presentation)*, AT Kearney

Brealey, R.A., Myers, S.C. & Marcus, A.J., 2012. *Fundamentals of Corporate Finance* Seventh ed..

Brett, D., 2013. The nearsourcing debate. *Lloyd's List*. Available at: https://www.lloydslist.com/ll/sector/containers/article434402.ece?service=print.

Bureau van Dijk, 2017. *Orbis*.

Buxbaum, P., 2016. Three Japanese Ship Lines to Merge Container Operations. *Global Trade*. Available at: http://www.globaltrademag.com/global-logistics/breaking-news-three-japanese-ship-lines-merge-container-operations.

China COSCO Shipping, 2016. Group Profile. Available at: http://en.coscocs.com/col/col6918/index.html.

Churchill, J., 2017. Maersk and IBM target one of trade's biggest barriers. Available at: http://www.maersk.com/en/markets/2017/03/maersk-and-ibm-target-one-of-trades-biggest-barriers.

CMA CGM (2017) Signature of a digital cooperation between CMA CGM and Alibaba OneTouch List [online] available at: https://www.cma-cgm.com/news/1496/signature-of-a-digital-cooperation-between-cma-cgm-and-alibaba-onetouch[Accessed, 09. February, 2017]

CMA CGM, 2017a. History. Available at: https://www.cma-cgm.com/the-group/about-us/history.

CMA CGM, 2017b. OCEAN ALLIANCE | An unmatched service offering. Available at: http://www.cma-cgm.com/products-services/ocean-alliance.

DBRS, 2016. *Rating Container Terminal Operators*.

Damco, 2017. Our history. Available at: http://www.damco.com/en/about-damco/our-history.

Das, T.K. & Teng, B.-S., 2000. A Resource-Based Theory of Strategic Alliances. *Journal of Management*, 26(1), pp.31–62.

DiMaggio, P. J., & Powell, W. W. (1983) The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, pp. 147-160.

Drewry, 2016a. Consolidation in the liner industry. , (March).

Drewry, 2016b. Container ports industry entering new phase as M&A deals change the landscape. , (August). Available at: http://www.cargobusinessnews.com/news_releases/Releases/Drewry-Container-ports-industry-entering-new-phase-as-MandA-deals-change-the-landscape.pdf.

Dyer, J. & Singh, H. (1998) The relational view: Cooperative strategy and sources of interorganizational competitive advantage, *Academy of Management Review*, pp. 660-679.

Dyer, J. H. & Nobeoka, K. (2000) Creating and managing a high-performance knowledge-sharing network: The Toyota case, *Strategic Management Journal,* Vol. 21, pp. 345-367

Fusillo, M., 2009. Structural Factors Underlying Mergers and Acquisitions in Liner Shipping. *Maritime Economics & Logistics*, 11(2), pp.209–226. Available at: http://openurl.ac.uk/ukfed:city.ac.uk/?ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&rfr_id=info:sid/ProQ%253Aabiglobal&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&rft.genre=article&rft.jtitle=Maritime+Economics+%2526+Logistics&rft.atitle=Structural+Factors.

Gammelgaard, B. (2004) Schools in logistics research? - A methodological framework for analysis of the discipline. *International Journal of Physical Distribution & Logistics Management,* Vol. 34 No 6, pp. 479-491

Gao, N., Peng, N. & Strong, N., 2015. Market power in horizontal mergers : Evidence from wealth transfers between merging firms and their customers. , (March), pp.1–40.
Glave, T., Joerss, M. & Saxon, S., 2014. *The hidden opportunity in container shipping*, Available at: http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-hidden-opportunity-in-container-shipping.

Goh, B., 2017. Maersk, Alibaba team up to offer online booking of ship places. *Reuters*. Available at: http://www.reuters.com/article/us-alibaba-maersk-idUSKBN14O0S7.

Granovetter, M. S. (1983) The Strength of Weak Ties: A Network Theory Revisited, *Sociological Theory,* Vol. 1, pp. 201-233

Grant, R. (1996) Toward a knowledge-based theory of the firm, *Strategic Management Journal,* Special Winter Issue, Vol 17, 109-122

Grant, R.M., 2010. *Contemporary Strategy Analysis* 7th edition.,

Hamburg Süd Group, 2016. Hamburg Süd Group. Available at: http://www.hamburgsud.com/group/en/corporatehome/aboutus/hamburgsudgroup_2/hamburgsudgroup.html.

Hapag – Lloyd (2017) Annual Report 2016 [online] available at: https://www.hapag-lloyd.com/content/dam/website/downloads/pdf/HLAG_Group_Annual_Report_2016.pdf [Accessed: 04. April 2017]

Hapag-Lloyd AG, 2016. THE Alliance Announces Planned Service Offering. Available at: https://www.hapag-lloyd.com/en/news-insights/news/2016/11/the-alliance-announces-planned-service-offering.html.

Hatch, M. J., & Cunliffe, A. L. (2013) Organisation – environment relations, *In Organization Theory* (pp. 63-100) Oxford: Oxford University Press.

Holcomb, T.R., Michael Holmes, R. & Hitt, M.A., 2006. Diversification to Achieve Scale and Scope: The Strategic Implications of Resource Management for Value Creation. *Advances in Strategic Management*, 23(6), pp.549–587.

Håkansson, H., & Ford, D. (2002) How should companies interact in business networks? *Journal of Business Research, pp.* 133-139.

IBM, 2017. Maersk and IBM Unveil First Industry-Wide Cross-Border Supply Chain Solution on Blockchain. Available at: http://www-03.ibm.com/press/us/en/pressrelease/51712.wss.

iContainers (2017) Shipping Alliances: New Mergers [online] available at: http://www.icontainers.com/us/2016/08/11/new-alliances-shipping-line-mergers [Accessed: 18. February 2017]

IHS Global Insight, 2009. Valuation of the Liner Shipping Industry. , (December), pp.1–32. Available at: http://www.worldshipping.org/pdf/Liner_Industry_Valuation_Study.pdf.

Jung-a, S. & Wells, P., 2016. S Korea's Hanjin looks to sell European business. *Financial Times*. Available at: https://www.ft.com/content/54833bcc-99b7-11e6-8f9b-70e3cabccfae.

Kagkarakis, N. D., Merikas, A. G., Merika, A. (2016) Modelling and forecasting the demolitoon market in shipping, *Maritime Policy & Management,* pp. 1-15

Kemp, J., 2015. Megaships are worsening overcapacity in the container market. Available at: http://www.reuters.com/article/us-shipping-megaships-kemp-idUSKCN0RM2AS20150923.

Khandelwal, R., 2000. Mergers in liner shipping: strategic options available to Indian shipping.

Khanna, T., Gulati, R. & Nohria, N. (1998) The Dynamics of Learning Alliances: Competition, Cooperation and Relative Scope, *Strategic Management Journal*, Vol. 19, pp. 193-210

Knowler, G., 2016. HMM to pay heavy price for 2M deal, analyst says. Available at: http://www.joc.com/maritime-news/container-lines/2m/hmm-pay-heavy-price-2m-deal-analyst-says_20161213.html.

Kuo, Y. & Luo, M. (2016) Strategic capacity competition and overcapacity in shipping, *Maritime Policy and Management,* Vol. 43, No: 4, pp. 389-406

Lauriat, G., 2016. Global terminal operators 2016: Who will buy and why? *American Journal of Transportation*, (637). Available at: https://www.ajot.com/premium/ajot-global-terminal-operators-2016-who-will-buy-and-why.

Laursen, W. (2015) MOL Orders World's Biggest Container Ships [online] available at: http://www.maritime-executive.com/article/mol-orders-biggest-mega-container-ships [Accessed: 23. March 2017]

Leach, P.T., 2011. Yusen, NYK Logistics Merge in Americas. *Journal of Commerce*. Available at: http://www.joc.com/economy-watch/yusen-nyk-logistics-merge-americas_20110401.html.

Levinson, M., 2006. Container Shipping and the Economy. *TR News*, p.10.

Lewis, L. & Wright, R., 2016. NYK, MOL and K Line to combine container shipping units. Available at: https://www.ft.com/content/dbdf7318-9f5e-11e6-86d5-4e36b35c3550.

Lilienfeld, R. (1978) The Rise of Systems Theory. An Ideological Analysis, John Wiley & Sons, New York, NY.

Lindstad, H., Asbjørnslett, B. E., Strømman A. H. (2016) Opportunities for increased profit and reduced cost and emissions by service differentiation within container liner shipping, *Maritime Policy and Management,* Vol. 43, No: 3, pp. 280-294

Lloyd's List, 2016. Container shipping's Top 30 – 2016 [online] available at: https://www.lloydslist.com/ll/sector/containers/article513504.ece [Accessed: 09. February 2017]

Lloyd's List, 2017a. Box ports top 10. Available at: https://www.lloydslist.com/ll/news/top100/ports-and-logistics/.

Lloyd's List, 2017b. TRADE LANE: Northern Europe and Mediterranean – North America. *Lloyd's List*. Available at:

https://www.lloydslist.com/ll/static/classified/article554802.ece/BINARY/TradeStat1_N_Eur Med-N_America.pdf.
Lun, V., Lai, K. H. & Cheng, E. (2009) A Descreptive Framework for the Development and Operation of Liner Shipping Network, *Transport Reviews,* Vol. 29:4, pp. 439-457

Maersk Line (2013) Performing in Rough Seas, Corporate Presentation

Maloni, M., Paul, J.A. & M.Gligor, D., 2013. Slow steaming impacts on ocean carriers and shippers. *Maritime Economics & Logistics*, 15, pp.151–171.

Maritime Executive, 2017. World's Largest Container Ship Delivered. Available at: http://www.maritime-executive.com/article/worlds-largest-container-ship-delivered.

Matsuda, K. et al., 2016. Hapag-Lloyd, Five Asian Liners Form New Shipping Alliance. Available at: https://www.bloomberg.com/news/articles/2016-05-13/hapag-lloyd-5-asian-shipping-lines-said-to-form-new-alliance-io59xpeo.

Mckinstry, J., 2004. Container Shipping Strategy: Chaning a Course for Future Profitability. , (August).

Midoro, R. & Pitto, A., 2000. A critical evaluation of strategic alliances in liner shipping. *Maritime Policy & Management*, 27(1), pp.31–40. Available at: http://10.0.4.56/030888300286662%5Cnhttp://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=3825200&site=ehost-live.

Motis, J., 2007. Mergers and Acquisitions Motives.

Nippon Yusen Kabushiki Kaisha – NYK (2017) Business to Society – Society's Choice in Transportation, *NYK Report – Financial, Social and Environmental Performance*

Notteboom, T., 2004. Container Shipping And Ports: An Overview. *Review of Network Economics*, 3(2), pp.86–106.

OECD, 2015. Competition Issues in Liner Shipping.

OECD, 2016. The OECD Council Working Party on Shipbuilding. Available at: http://www.oecd.org/sti/ind/shipbuilding-working-party.htm.

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review* , 145-179.

Panayides, P.M. & Cullinane, K., 2002. Competitive Advantage in Liner Shipping: A Review and Research Agenda. *International Journal of Maritime Economics*, 4(3), pp.189–209. Available at: http://www.palgrave-journals.com/mel/archive/index.html%5Cnhttp://search.ebscohost.com/login.aspx?direct=true&db=eoh&AN=0626842&site=ehost-live.

Panayides, P.M. & Wiedmer, R., 2011. Strategic alliances in container liner shipping. *Research in Transportation Economics*, 32(1), pp.25–38.

Porter, J. (2016) Four Weddings and a Funeral. Containerization International, November 2016

Porter, M. E. (1980) Competitive Strategy, Techniques for analyzing industries and competitors, New York: The Free Press

Porter, M.E., 2008. The Five Competitive Forces That Shape Strategy. *Harvard Business Review*, 86(January), pp.78–94.

Poulsen, R. T., Ponte, S., Lister, J. (2016) Buyer-driven Greening? Cargo-owners and environmental upgrading in maritime shipping, *Geoforum,* Vol. 68, pp. 57-68

Prahalad, C.K. & Hamel, G. (1990) The Core Competences of the Corporation, *Harvard Business Review,* May-June 1990, pp. 79-91

Reuters, 2016a. Hanjin Shipping's Assets Are About to Go on Sale. Available at: http://fortune.com/2016/10/12/hanjin-shipping-sells-operations/.

Reuters, 2016b. Maersk to buy German shipping line Hamburg Sud. Available at: http://www.cnbc.com/2016/12/01/maersk-to-buy-german-shipping-line-hamburg-sud.html.

Rojon, I. & Dieperink, C. (2014) Blowin' in the wind? Drivers and barriers for the uptake of wind propulsion in international shipping, *Energy Policy,* Vol. 67, pp. 394-402

Rumelt, R. P. (1984) Towards a strategic theory of the firm, In R. B. Lamb (Ed.), *Competitive Strategic Management,* pp. 556-571, Prentice Hall

Salisbury, M., 2016. JOC's Top 100 US importers ride M&A wave to growth. *Journal of Commerce*.
Saunders, M., Lewis, P., & Thornhill, A. (2009) Research methods for business students, New York: Prentice Hall

SeaIntel, 2017. *SeaIntel Sunday Spotlight.*

Shah, S., Lino, M. & Padmanabhan, V., 2014. IT in M&A: Increasing the Odds of a Successful Integration. *Bain & Company*. Available at: http://www.bain.com/publications/articles/it-in-ma-increasing-the-odds-of-a-successful-integration.aspx.

Song, D.-W. & Panayides, P.M., 2002. A conceptual application of cooperative game theory to liner shipping strategic alliances. *Maritime Policy & Management*, 29(3), pp.285–301.

Song, D.W., Panayides, P. M. (2015). Maritime Logistics: A guide to contemporary shipping and port management, 2nd ed. Kogan Page, United Kingdom

Statista, 2016. Leading import countries worldwide in 2016 (in billion U.S. dollars). Available at: https://www.statista.com/statistics/268184/leading-import-countries-worldwide/.

Stigler, G.J., 1964. A Theory of Oligopoly. *The Journal of Political Economy*, 72(1), pp.44–61.

Stopford, M. (2009) Maritime Economics, 3rd ed., Routledge

Svitzer, 2017. About us. Available at: http://svitzer.com/about-us.

Sys, C., 2017. A smaller alternative to large box lines? Available at: https://www.lloydslist.com/ll/sector/containers/article550513.ece.

Tan, B.S.Y. & Thai, V. V, 2014. Knowledge-Sharing within Strategic Alliance Networks and its impact on Firm Performance in the Liner Shipping Industry. *International Journal of Shipping and Transport Logistics*, pp.3–5.

The Economist, 2017a. Economies of scale and scope. Available at: http://www.economist.com/node/12446567.

The Economist, 2017b. On the rise. *The Economist*, 422(9032).

Tirschwell, P., 2017a. MSC's Aponte sees signs of green shoots for container lines. *JoC*.

Tirschwell, P., 2017b. What can digital deliver? *The Journal of Commerce*, 18(9), p.54.

UNCTAD, 2016. *Review of Maritime Transport.*

United Arab Shipping Company (S.A.G.), 2014. Company Profile. Available at: http://www.uasc.net/en/company-profile.

United Nations ESCAP, 2007. *Study on Regional Shipping and Port Development: Container Traffic Forecast 2007 Update*,

Venus Lun, Y.H., Lai, K. & Cheng, T.C.E., 2009. A Descriptive Framework for the Development and Operation of Liner Shipping Networks. *Transport Reviews*, 29(4), pp.439–457.

Wackett, M., 2017. Good news at last for shipowners in the container charter market. Available at: https://theloadstar.co.uk/good-news-last-shipowners-container-charter-market/.

Wit, B. de & Meyer, R., 2010. *Strategy: Process, Content, Context* 4th editio.,

World Maritime News (2015) 2M Alliance Officially Launched [online] available at: http://worldmaritimenews.com/archives/149314/2m-alliance-officially-launched/ [Accessed: 09. February 2017]

World Maritime News, 2015 Maersk Partners Up with Alibaba on E-Commerce Solution [online] available at: http://worldmaritimenews.com/archives/209761/maersk-partners-up-with-alibaba-on-e-commerce-solution/ [Accessed, 09. February, 2017]

World Maritime News, 2015 Maersk, MSC Establish Ten-Year VSA [online] available at: http://worldmaritimenews.com/archives/130052/maersk-msc-establish-ten-year-vsa/ [Accessed: 09. February 2017]

World Shipping Council, 2017a. About the Industry. Available at: http://www.worldshipping.org/about-the-industry.

World Shipping Council, 2017b. Ports. Available at: http://www.worldshipping.org/about-the-industry/global-trade/ports.

Appendix

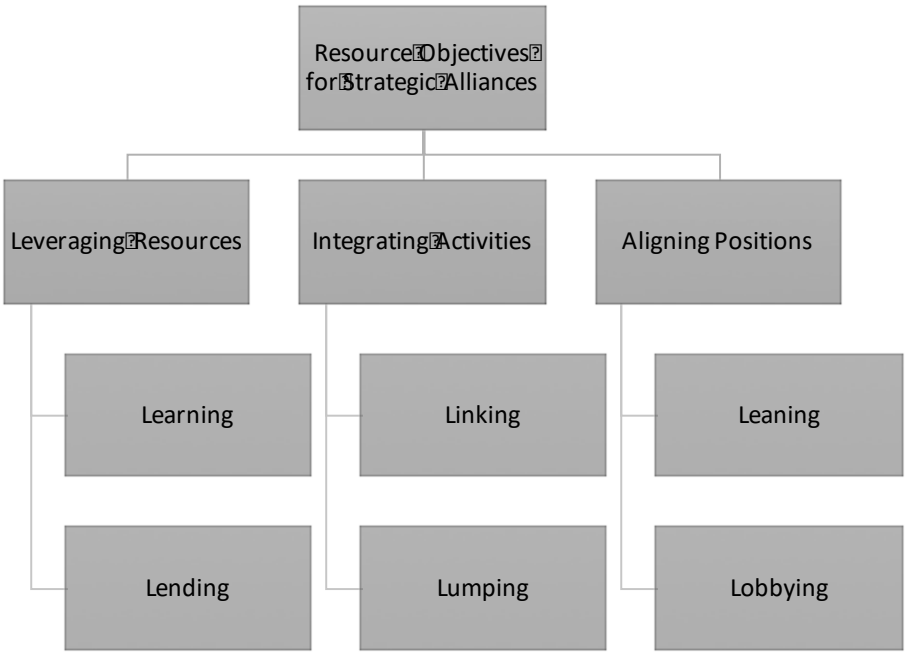


Figure 11 - Resource objectives for strategic alliances (Wit & Meyer, 2010)

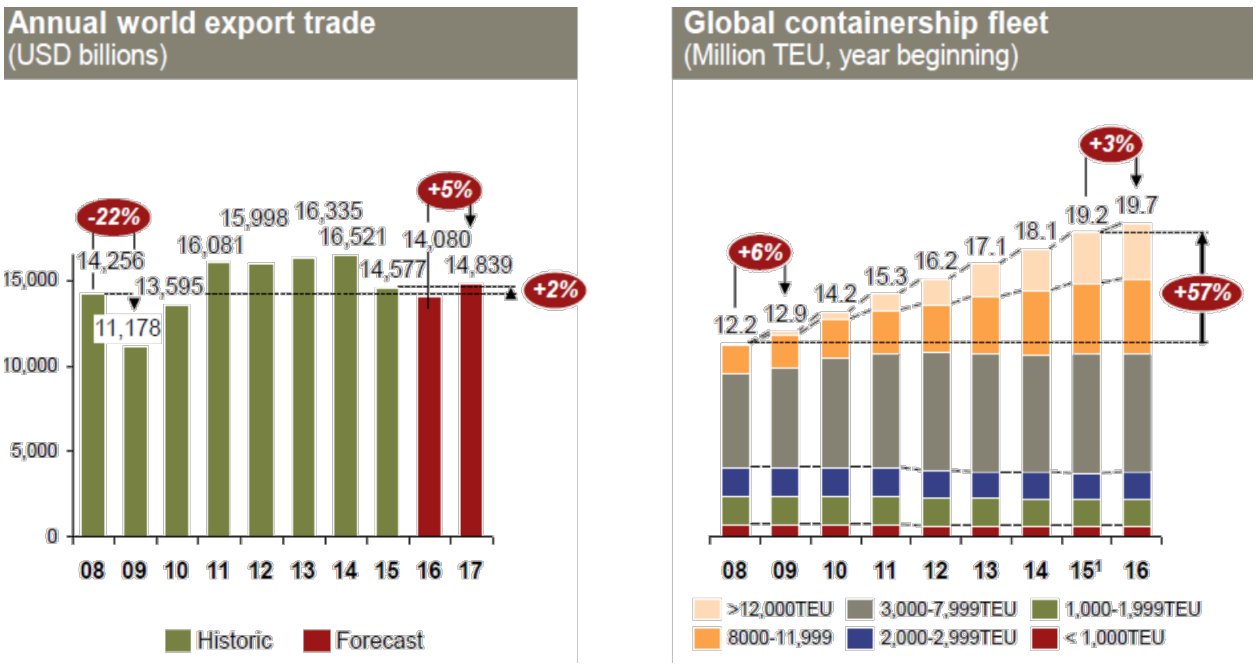


Figure 12 - Annual World export trade and the global containership fleet (Bovermann cited in ATKearney, 2016)

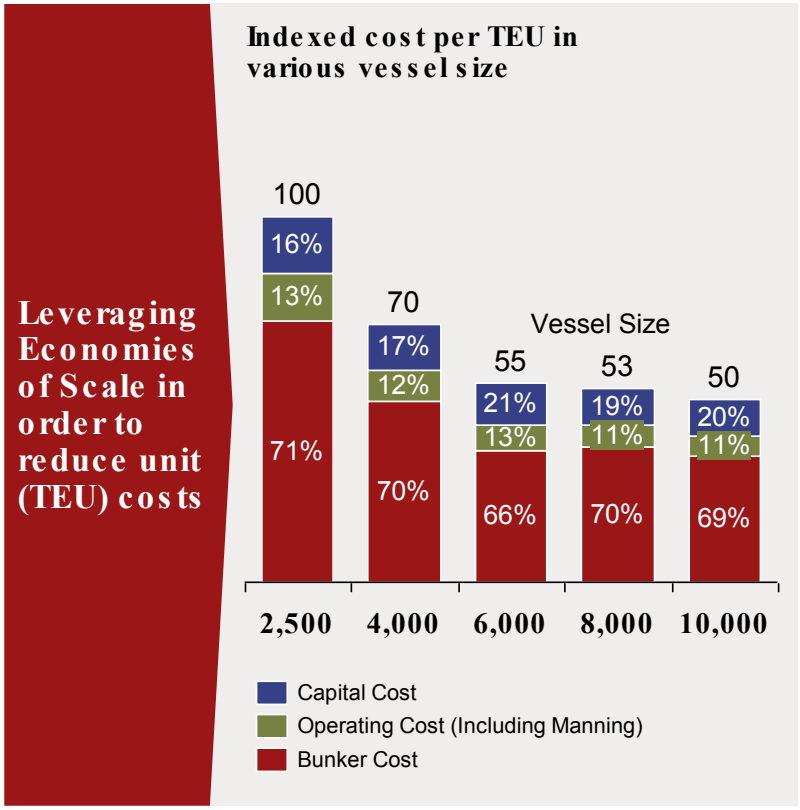


Figure 13 - Leveraging economies of scale from larger capacity vessels (AT Kearney, 2016)

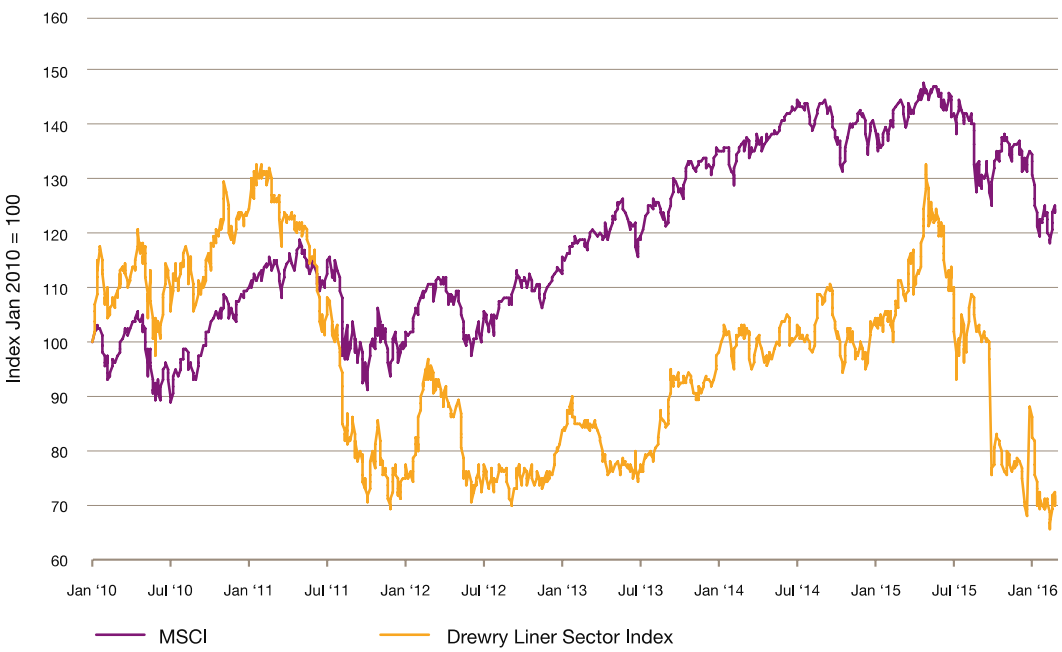


Figure 14 - Drewry Maritime Equity Research Container Shipping Index vs MSCI (Drewry, 2016)