Maritime Technology and Research

https://so04.tci-thaijo.org/index.php/MTR

Research Article

Competitive strategies and integration expanses in the large shipping container industry during an era of consecutive global crises

Labros Vasiliadis[1], Dimitris Gavalas[1,2,*] and Christos Tsitsakis[1]

[1]Department of Port Management and Shipping, School of Economics and Political Sciences, National and Kapodistrian University of Athens, Greece
[2]MSc Responsible Procurement and Supply Chain Management, Audencia Business School, Nantes, France

Article information

Received: June 26, 2023
1st Revision: August 18, 2023
Accepted: September 25, 2023

Keywords
Competitive strategies,
Large shipping container companies,
Global environment,
Global crises

Abstract

Purpose: This research aims to examine the competitive strategies and integration expanses of three of the largest shipping container companies worldwide, attempting to provide a helpful insight into the strategies adopted and implemented by the shipping container companies in question, in order to overcome the multiple significant obstacles resulting from the consecutive global crises of recent years (the post 2008 global financial crisis, pandemic, and war in Ukraine). **Design/approach:** The present paper (as a Case Study) examined three large shipping container companies that have played a crucial role in global trade over the years. These are three of the largest in 2023 (Hapag Lloyd, COSCO Shipping Lines, and Maersk). The criteria of these selected companies were mainly the authors' focus on the significance for the industry of the mentioned three large shipping container companies, as well as the volume of information that could gathered by secondary data sources. Secondary data was collected by reviewing the existing branding literature as discussed in academic and trade journals, books, information databases, professional magazines, government publications, and specialized internet sites (Emerald, Science Direct, Google Scholar, and Scirus). **Findings:** This research identified that large shipping container companies do not solely adopt Cost Leadership, Differentiation, or Focus Strategy when planning their competitive strategies. Consequently, the decision of competitive strategy choice by large shipping container companies is not a trichotomous one between complete Cost Leadership, Differentiation, or Focus Strategy, but is a matter of combination. Many macro- and micro-environmental and organizational factors have a bearing on such decisions. This study identified that the balance of combination is dependent upon a number of reasons and factors, such as (mainly) macro- and micro-environmental factors, company resources and capabilities, customers' willing to pay, barriers in the shipping liner industry, and revenue and cost approaches. **Research limitations/ implications:** The study contains several shortcomings. The theoretical view may contain conceptual elements which hinder more specific observations, e.g., the exhaustive examination of the industry's competition elements based on Porter's five forces rivalry view about competition between companies: (1) Rivalry between Existing Competitors, (2) Threat of New Entry, (3) Threat of Substitution, (4) Buyers' Bargaining Power, and (5) Suppliers' Bargaining Power. There is a recommendation for future research, which will be on how

[*]*Corresponding author: Department of Port Management and Shipping, School of Economics and Political Sciences, National and Kapodistrian University of Athens, Greece*
E-mail address: dgaval@pms.uoa.gr

Article information
Received: June 26, 2023
1st Revision: August 18, 2023
Accepted: September 25, 2023

Keywords
Competitive strategies,
Large shipping container companies,
Global environment,
Global crises

Abstract (continued)
other large shipping container companies have dealt mainly with the post global financial crisis, as well as the post pandemic era, in terms of a competitive strategies approach having been adopted. This could include qualitative or quantitative research, along with a larger number of case study approaches (and not only large shipping container companies, but medium- and small-sized shipping container firms), which would produce useful results and insights. However, despite limitations, the study contains some managerial implications. **Originality/value:** The paper reports on the findings of one of the first in its kind (competitive strategies in large shipping container companies during an era of consecutive global crises) of research study carried out in the sector- in general, there are few research papers about competitive strategies in the shipping industry. The findings that emerged attempt to set the foundation for helping the various stakeholders in the sector, contributing towards building their strong international presence.

1. Introduction

In terms of global trade, the main transport mode is ocean shipping- around 90 % of traded goods are carried by sea (OECD, 2023; Gavalas et al., 2022a) and, in terms of tons per kilometer travelled, shipping is the most efficient and cost-effective transport mode. For the European economy, transporting by sea concerns about 75 % of its external trade, and approximately 31 % of its internal trade (Bodewig, 2022).

Shipping firms, in general, interacting with other industry actors such as ports, governments, and other shipping companies, may assist each other to remain abreast of advancements in the sector and generate new prospects for expansion, establishing efficient supply chain networks and utilizing, at the same time, each other's capabilities. Furthermore, investing in technology and data analytics may help them to enhance operational efficiency. This involves utilizing data to improve routes and save costs, as well as incorporating new technology, such as automation and artificial intelligence (Lee & Wang, 2018). In order to remain competitive in a such rapidly changed market, shipping companies need to routinely assess and revise their business strategies, maximizing their strengths and minimizing their flaws (Talley, 2018; Yang & Notteboom, 2020; Tsatsaronis et al., 2022), at the same time encouraging their employees to 'think outside the box' and come up with fresh concepts on a regular basis (Alexandridis & Visvikis, 2019).

Shipping activity is a significant contributor to the phenomenon of globalization and is subject to a multitude of economic, political, social, technological, and other factors. The global environment in which maritime enterprises operate holds significant sway over their strategic decision-making and their adoption of competitive enhancement methodologies. Several variables that impact the competitiveness of shipping enterprises include international market freight rates and fuel prices, as well as fluctuations in exchange rates, the selection of flag states, and the proficiency of human resources. Furthermore, it is imperative for shipping enterprises to adopt a specific business approach that considers the prevailing market hazards and the essential elements required to attain a competitive edge in light of the anticipated global economic outlook.

Earlier, at the beginning of the 1960s, container shipping firms started 'containerization' (Haralambides, 2007) in order to radically change the direction of ocean transportation. Since then, the container shipping industry has seen steady growth, mainly fueled by container penetration- a shift from transporting cargo in bulk to containers. Nowadays, around 60 % of global ocean transportation is done by container shipping. Container shipping firms grew rapidly and were profitable until the 2008 global financial crisis, putting them under high pressure, while their customers attempted to reduce more and more their costs, demanding better services at lower cost. In response to this, mainly the largest container shipping companies, attempting to sustain a competitive advantage, made significant cost reductions (attempting to adopt and implement Cost Leadership strategy), whereas others created differentiation in some of their services (adopting differentiation

strategy) and/or captured a niche market (adopting Focus Strategy), with a few attempting to adopt, in some cases, a mix of these strategies simultaneously.

Nowadays, the shipping industry is facing increasing challenges, such as rapidly changing political, economic, social, and technological conditions- circumstances of their external macro-environment, high intensity competition of different shipping markets, various needs and demands of multinational customers (external micro-environment), and many other factors, which are leading the shipping industry to activate an optimal strategic perspective in order to overcome those challenges.

This paper examines, through an extended literature review and three cases, the perspectives of using effective competitive strategies in the maritime industry in order to overcome the extended difficulties of the global macro-environment, and a number of ways that could be adopted by shipping companies, aiming for the optimal reaction.

2. Literature review

2.1 Maritime strategic management

The concept of strategic management is used in almost all forms of organizational operations, including the shipping industry, a very fragile industry which is often vulnerable to changes which happen in the external macro-environment- for instance, when a global financial crisis or a serious political crisis (e.g., war, terrorism, etc.) are affecting the operation of the shipping businesses. Such an example is the case of Covid-19, where shipping firms (mainly passenger and liner shipping companies), on a global scale, almost stopped their operations for some "lockdown" periods of time (Gavalas et al., 2022b). The concepts 'Strategy' and 'Strategic management' are usually involved, leading to a misunderstanding. ***Strategy*** means a comprehensive plan that aims to achieve organizational goals and is the most popular term in management (Goulielmos, 2017), while ***strategic management*** means a continuous management process that aims to formulate the appropriate strategy to approach the right business opportunities that will lead the company to further profitability (Rothaermel, 2016).

Strategic management in the shipping industry concerns the process of formulating and putting into action long-term plans with the intention of achieving objectives and goals set out by the organization, examining a firm's advantages and disadvantages, in addition to the external environment forces that create opportunities and threats for the company, in order to design a strategy that will lead the company to gain competitiveness (Carbone & Martino, 2019). Strategic management, through a decision-making process- mainly regarding investments, routes, and alliances (Haralambides & Gouvernal, 2020)- lead maritime firms to achieve greater levels of success (Nguyen & Do, 2019). Strategic management helps shipping businesses understand their strengths and limitations, as well as to separate themselves from their competitors, by making decisions regarding investments, routes, and alliances (Haralambides & Gouvernal, 2020; Theotokas, 2018). Furthermore, it seems that the strategic aspects of the maritime industry's service excellence consist of operations and management efficiency which are pinpointed by the results of service efficiency and which are enabled by technology applications (e.g., digitalization of ships) for process efficiency (Gavalas et al., 2022). For a number of shipping firms today, drawing up the right strategy could be the difference between their survival and failure. A significant element seems to be the fact that, for many years, strategy has been the subject of analysis by large shipping firms. Strategy is used in any kind of firm- large, medium, small, multinational, or national (Thompson et al., 2012)- allowing a firm to combine its resources in order to gain competitive advantages (Ansoff et al., 2018).

The capacity of organizations to predict and adapt to changes in demand, pricing, and regulations is one of the effects that can be observed as a direct result of strategic management being used in the shipping sector. Companies are able to make educated decisions on investments, routes, and alliances that will assist them in achieving their goals if they have a comprehensive grasp of the market and the nature of its competitive landscape (Panayides & Wiedmer, 2021). For instance, Maersk Line's strategy of combining its shipping and logistics operations in order to deliver end-to-

end services to its clients is a current example of strategic management in the shipping sector and serves as an example of how strategic management may be used. Maersk Line has been able to distinguish itself from its rivals and gain more profitability as a direct result of implementing this approach. Another illustration of this can be seen in the decision made by a number of shipping firms to invest in LNG (liquefied natural gas) as a fuel for their vessels. This choice was made since LNG is better for the environment and has lower long-term costs (Lee et al., 2021).

In addition to this, the pandemic Covid-19 has brought attention to the critical role that strategic management plays in the transportation sector. Businesses who were able to swiftly change their strategy to the changing market conditions were better able to withstand the impact that the pandemic had on the industry. An example of this would be moving attention to trade routes that are more profitable. In the shipping sector as a whole, the main impact of strategic management seems to be the relative increased ability to negotiate complicated and ever-changing market circumstances, to maintain their position as competitive industry leaders, and to accomplish their long-term goals and objectives (Nguyen & Do, 2019), as well as to increase operational efficiency, downsizing costs and satisfying customers (Papagiannopoulos & Lyras, 2019).

However, there is a number of flaws of and limitations to, the maritime strategic management process (Ma, 2020):

- The possibility of investing in methods which could not provide the planning outcomes. Even though they appear to have a great chance of succeeding, even seemingly promising strategies and investments cannot end up providing the returns that were anticipated.
- The difficulty of implementation. Implementing strategic changes seems to be extremely difficult for maritime companies- they are frequently required to coordinate their efforts with a wide variety of stakeholders, including ports, governments, and other participants in the sector.

The potential for placing an excessive amount of data, and a lack of originality and intuition in the process of making strategic decisions might result from placing an excessive amount of reliance on data and analytics, despite these factors being essential for an effective decision-making process.

2.2 Levels of strategy and integration expanses

Until 1980, strategy was thought of on two levels: the corporate and the functional (Salavou, 2013). Corporate strategy concerns the long run and suggests a technique for attaining the long-term goals of a company as a whole. Functional strategy concerns the short run and refers to a technique serving the goals of each separate business function, such as marketing, sales, production, and finance, on an annual basis. In 1980, Michael Porter published 'Competitive Strategy', the most influential book on strategy of the time (González-Benito & Suárez-González, 2010). His book introduced the idea of competitive (or generic or business-level) strategies for ascribing particular attention to the intermediate level, the business, or the SBU level. After publication of the book, corporate strategy involved questions of in which businesses the corporation should be involved, and how the corporate level should manage its array of business units (Porter, 1987). Competitive strategy concerned the question of "*how to create competitive advantage in each of the business units in which a company competes*".

Business Strategy seems to be the most significant term in the management of ***maritime*** companies, appearing more frequently in the shipping industry after 2004 (Niamie, 2014). Strategy is of vital importance in the maritime sector, mainly improving the decision-making, identifying opportunities and minimizing threats, providing a framework for improving internal and external collaboration, and controlling business activities of the shipping business (Lun et al., 2010).

Maritime firms have a hierarchy of interrelated strategies, each formulated at a different level, which are classified as (1) ***Corporate*** strategy, (2) ***Competitive*** strategy, and (3) ***Operational*** strategy. The development of maritime business strategies involves the processes of strategic analysis,

formulating strategies, and implementation and control of strategies. The structural options for maritime firms include organic growth, acquisitions, joint ventures, alliances, and networks.

As mentioned above, there are three levels of strategy in business (Ansoff et al., 2018; Jackson, 2023).

1. ***Corporate*** strategy (1st level- Corporate): In this stage, a company focuses on its desired plan for the future, concentrating on the products/services that it has to promote, aiming to achieve the appropriate synergies between the available resources of the business unit and creating value for the company.

2. ***Competitive*** strategy (2nd level- Business Unit): In this stage, a company focuses on its competition, aiming to achieve the appropriate competitive advantage and the exploitation of business opportunities for the development of new products/services and the allocation of resources within the business unit.

3. ***Operational*** strategy (3rd level- Functional): In this stage, a company focuses on the way that the business unit or organization effectively implements the strategies selected at the previous two levels, combining the appropriate resources and procedures in order to achieve its business vision.

The corporate strategy concerns the entire business unit and aims to create efficient synergies that will benefit the business. The corporate strategy should aim at the optimal coordination of all actions so that the business unit achieves the highest possible performance. The aforementioned strategy is related to the effort made by the business unit to expand the resources it uses and its fundamental capabilities in order to achieve a competitive advantage that will make it unique compared to its competitors. This strategy defines the broader field in which the company operates and is determined by the management itself, which decides where it is appropriate to focus more so that the most efficient way of allocating resources creates the aforementioned synergies within the business unit.

Therefore, the corporate strategy should be taken into account and be in line with the individual strategies followed by the business unit so that all strategies as a whole benefit its corporate strategy and can support it at the business unit level. In terms of growth strategies, there are two generic ones:

Horizontal integration (*mainly through mergers and acquisitions in the same field of business action)*- Horizontal integration in liner shipping comes in three forms: mergers, acquisitions, and trade agreements (such as liner conferences, operating agreements/vessel sharing agreements, slot chartering agreements, consortia, and strategic alliances) The economic rationality for mergers and acquisitions is rooted in the objective to size, growth, economies of scale, market share, and market power. Other motives for mergers and acquisitions in liner shipping relate to gaining instant access to markets and distribution networks, obtaining access to new technologies, or diversifying. Acquisitions typically feature some pitfalls, certainly in the highly international maritime industry: cultural differences, overestimated synergies, and the expense of acquisition.

Vertical integration (*operating in other stages of production/service- another field of business action*)- Vertical integration in liner shipping comes mainly along the supply chain (the transport chain is viewed as a totally integrated system). The leading terminal operating companies have developed diverging strategies towards the control of larger parts of the supply chain (for instance, ECT of Rotterdam has operated a rail terminal in Venlo since 1982, and trimodal terminals in Willebroek TCT Belgium and Duisburg since 1999). The door-to-door philosophy has transformed a number of terminal operators into logistics organizations. The services offered include warehousing, distribution, and low-end value-added logistical services (for instance, customizing products for the local markets).

2.3 Competitive strategies

There is a wide range of recent papers on competitive capacity strategies for the container shipping market (Ghorbani et al., 2022; Li et al., 2023; Rau, & Spinler, 2016), focusing on a variety

(types) of strategies which differ in terms; for example, of how a container shipping firm considers the opponent's future capacity in its own strategy- e.g.: a proactive strategy, where the firm assumes that the opponent will respond using a certain strategy, or a reactive strategy, where the firm assumes that the opponent's future capacity remains unchanged (Li et al., 2023).

Focusing and based on Porter's Generic Strategies, there are two main types of competitive advantage with which a firm could increase its profits, either by reducing its operating costs or by increasing its total revenue: ***Cost Leadership*** or ***Differentiation***- *both found suitable for maritime firms* (Niamie, 2014). These two basic types lead to three generic strategies for achieving above average performance in an industry: *Cost Leadership*, *Differentiation*, and *Focus* Strategies (*the latter of which has two variants: Cost Focus and Differentiation Focus*) (**Figure 1**).

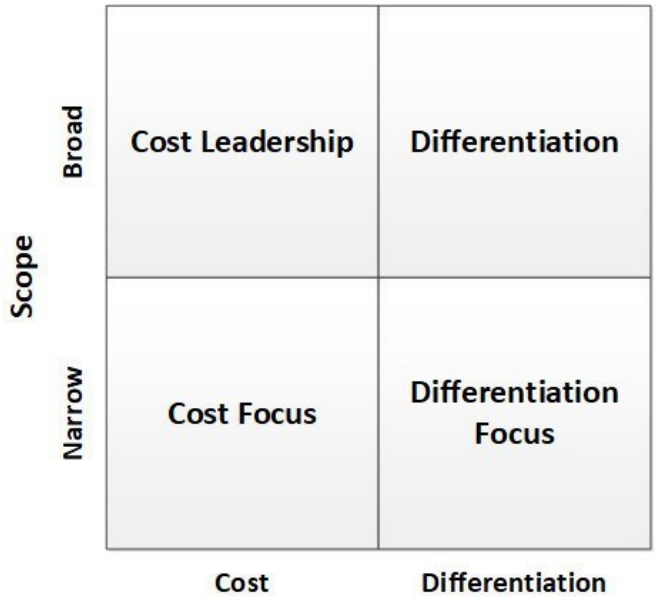

Figure 1 The three Generic Strategies.
Source: Hax and Nicholas (1996).

In each case, a company should choose a specific strategy to approach with competitive advantages that can ensure its viability (Gassmann et al., 2016; McKiernan, 2017).

In order to formulate the appropriate strategy, a ***maritime*** company firstly should answer the following basic question: "*What are the needs and desires of the customers (other companies, passengers, etc.)*?". A maritime company adopting either Differentiation strategy (by creating superior competitive quality and innovation), or Cost leadership strategy (by improving its cost efficiency) usually develops a sustainable competitive advantage. A synoptic theoretical implementation of the Generic Strategies in the maritime industry could be as follows:

1) ***Cost leadership strategy*** seems to apply to maritime companies that aim to gain a competitive advantage through the ***maintaining of their cost services at a lower level than the average market price (basic-substantial competitors)***. This has been applied in the 1986 and 2016 depressions (mainly in the dry cargo sector) through economies of scale, cutting-down a fleet's average age as well as total cost (Gulielmos, 2017). The concept of cost leadership in container shipping is primarily linked to the utilization of economies of scale. This is achieved through the operation of larger vessels that are fuel efficient, resulting in a reduction of the unit cost per TEU (Twenty-foot Equivalent Units). The construction costs of larger vessels confer economic advantages, as they are not directly proportional to the cargo capacity of the vessel (Baack & Boggs, 2008). Achieving cost leadership through economies of scale is a well-known strategy. However, an

alternative approach involves forming strategic alliances with competitor companies to share operational costs and maximize asset utilization by jointly utilizing terminals. Arnold et al. (2004) emphasized the significance of proficient financial planning for financial managers and decision-makers to evaluate the probable influence of future decisions on the financial performance and status of firms. When making financial decisions, it is essential to consider a variety of factors, such as cash flow fluctuations and current operational circumstances. The consolidation of various companies can yield significant benefits, in terms of enhanced vessel utilization, improved operational efficiency, and increased bargaining power vis-à-vis suppliers, owing to the wealth of knowledge that such a merger can bring. Organizations have the ability to transfer these advantages to their clientele by means of an enhanced value proposition. However, a *Cost Leadership* process could not ignore *differentiation* as, if the maritime company's service is considered equal to the (basic-substantial) competitors' service, its price should be much lower, in order to reveal its cost advantage.

2) ***Differentiation strategy*** seems to apply to maritime companies that aim to gain a competitive advantage through ***the uniqueness of a (or some) service/s***. This strategy is usually adopted by maritime companies that price their services higher than the average market price, due to the difference in quality compared to (basic-substantial) competitors. Container liners, for instance, have the potential to extend their services beyond the transportation of ocean freight and introduce novel approaches to provide supplementary benefits to their clientele, thereby enhancing their competitive edge. Differentiation opportunities may be identified in various areas, such as terminal operations, warehousing, network coverage, and customer responsiveness. According to Gadhia et al. (2011), there exist prospects with regards to the frequency of sailing, direct sailing, door-to-door services, logistics services, and information technology. According to Lorange (2010), innovation and service are crucial elements in the shipping industry, and it is not imperative for the shipping firm to exclusively rely on its internal resources, as it can establish a networked structure to access knowledge and leverage optimal services. The process of differentiation is initiated by the demands of the consumer, while innovation serves as a means to offer resolutions to those demands. According to Lorange and Fjeldstad (2010), firms that exhibit a willingness to experiment with novel and diverse approaches are more likely to achieve success. Organizations must seek innovative ideas beyond their internal boundaries. Doloreux and Melancon (2008) posit that the level of innovation exhibited by shipping companies is positively correlated with their engagement with customers, suppliers, and other stakeholders, as well as their ability to learn from one another.

3) ***Focus strategy*** seems to apply to maritime companies that choose elements from the *differentiation strategy* as well as from the *Cost Leadership strategy*, aiming at the same time for customer and market satisfaction- a *low-cost strategy* or a *diversification strategy* ***focusing on a (or some) specific market segment/s*** and meeting its needs better than (basic-substantial) competitors. The concept of focus pertains to the notion of providing superior maritime service to a specific demographic of customers, surpassing the efforts of competitors in this regard. As expounded in the scholarly discourse on Generic Strategies, the decision to pursue a Focus Strategy involves choosing a narrow scope in which the benefits derived from assets, resources, and competencies that are customized to cater to the distinct requirements of a specific customer segment led to either Cost Leadership or Differentiation (Ali & Anwar, 2021). The fundamental principle of a Focus Strategy is to cater to the requirements of a particular segment of buyers in a superior manner compared to all other rivals. It is imperative that the intended demographic is provided with either a cost or differentiation benefit that is tailored to their specific needs. It is imperative to ensure that the target demographic is segregated from alternative offerings, particularly those that fall within the same product category (Akan et al., 2006). The advantage must possess a substantial magnitude in order to impede retaliatory actions from rival firms. The determinants of focus encompass a range of factors, such as service attributes, consumer segmentation, distribution channel selection, geographic location, pre- and post-sales service levels, transaction volume, payment mechanisms, and product quality. The necessary competencies concern:

- Cost and/or differentiation competencies, which are integral to all forms of competitive advantage.
- Full understanding of the market's nature (its niches and customer purchasing behavior). The ability to create secure market positions through the utilization of patents and other forms of intellectual property rights (IPRs), and government actions such as regulation and taxation.

3. Case studies

Three of the largest shipping container companies in 2023[i] were chosen to be investigated in this research (Hapag Lloyd, COSCO Shipping Lines, and Maersk Line).

3.1 Hapag Lloyd's *Focus (Differentiation and Cost Leadership) Strategy*

Hapag-Lloyd AG transports containerized cargo through 235 containerships with a total capacity of 1.7 million TEU and 29 services, serving 600 ports and transporting 11.9 million TEU per year, employing 12,800 employees working in 398 branches in 128 countries (mainly in Latin America, the Middle East, trans-Atlantic, and trans-Pacific trades, among others) [ii]. The company operates through 121 line services and is ranked as the 5th largest container carrier company in the world in terms of ship capacity. The company is currently the largest member of the Transport High Efficiency vessel-slot sharing alliance ("The Alliance"), which was created in April 2017 and also includes Taiwan's Yang Ming Line, Korea's HMM and the Japanese carrier Ocean Network Express (ONE)[iii]. The company is a German international shipping and container transportation company and was formed in 1970 through a merger (*horizontal integration strategy*) of two German transportation/maritime companies, Hamburg-American Line (HAPAG, which dated from 1847), and Norddeutscher Lloyd (formed in 1857). In 2005, TUI AG agreed to acquire the Canadian business CP Ships Limited for €1.7 billion. The deal, which was approved by the boards of both CP Ships and TUI and the shareholders, made the combined fleet the 5th largest container shipping firm in the world in terms of capacity[iv] (*horizontal integration*).

A number of mergers and acquisitions (adopting *horizontal integration- in the same field of business action),* as well as vertical integration *(in another field of business action, e.g., earlier in 1972, the foundation of the charter airline "Hapag-Lloyd Flug" buying Boeing 727s to fly its cruise passengers from Germany to the cruises' ports of call*[v]), has taken place over the 5 last years (post 2008 global financial crisis, as well as post pandemic era)- the most significant of them as follows in **Table 1**.

Table 1 Hapag Lloyd's horizontal and vertical integration.

• In 2017, merged with 'United Arab Shipping Company' (UASC), which was ranked the 10th largest liner shipping company in the world (with a fleet of 56 ships and a market share of 2.7 %). As a result of that merger, Hapag-Lloyd strengthened its position as the 5th largest container transporter in terms of vessel capacity in the world[vi] (*horizontal integration*).
• In 2019, acquired a 10 % stake in Container Terminal 3 (TC3) of the Tangier Med 2 port in Morocco (*vertical integration*).
• In 2021, acquired Nile Dutch Investments B.V., a leading container service provider operating in West Africa[vii] (*horizontal integration*).
• In 2022, acquired 'Deutsche Afrika-Linien', a German container liner company, operating with liner services between Europe, South Africa, and the Indian Ocean[viii] (*horizontal integration*), as well as participated in 'JadeWeserPort Wilhelmshaven', Germany's largest harbor project, taking ownership of a 30 % stake in 'Container Terminal Wilhellmshaven', Germany's only deep-water container terminal (*vertical integration*), and a 50 % stake in 'Rail Terminal Wilhelmshaven', a German terminal offering to shipping companies a unique hub through a railway that runs right up to the container terminal[ix] (*vertical integration*).

Hapag-Lloyd has unveiled the specifics of its recently developed Strategy 2023[x], which pertains to the mid-term. After a phase of consolidation, the sector of liner shipping has undergone substantial transformations. In terms of transport capacity, Hapag-Lloyd has experienced an increase of over two-fold since 2014 (in the post 2008 global financial crisis era). Simultaneously, the declining incremental scale benefits make the prospect of additional consolidation among the major players in the industry less appealing. Consequently, the industry has reached a critical juncture. Hapag-Lloyd's generic strategic priorities entail enhancing customer satisfaction through substantial quality improvements, pursuing targeted worldwide expansion, and achieving profitability across all economic cycles (D'Agostini et al., 2019, Daleziou, 2022).

Hapag-Lloyd's 2023 strategy seems to be founded on a multitude of components. In terms of its business/competitive strategy approach, its primary cost-saving measures center on enhancing network optimization- adopting a ***Focus Cost Leadership Strategy*** (*for some operation services-internal organization niche*), establishing partnerships with terminals, and making additional enhancements to procurement and container management. In addition, an optimized revenue management strategy is expected to guarantee the prioritization of the most desirable cargo for shipment. Furthermore (and at the same time), attempting to provide to its customers differentiated and unique unparalleled levels of dependability and quality in a number of its services in the supply chain market adopts a ***Focus Differentiation Strategy*** (*for its segment/niche market*). Hapag-Lloyd is implementing modifications in its organizational framework, technological infrastructure, procedural protocols, and logistical activities, with the exclusive objective of providing its clientele with an enhanced and streamlined supply chain experience.

Simultaneously, further enhancements are being pursued with the objective of transforming Hapag-Lloyd into a more flexible, proactive, and data-focused entity. Increased investment in digitalization and automation is planned to maximize the potential of digital proficiency. An illustrative objective is to augment the proportion of Hapag-Lloyd's total volume attributed to the online business through the web channel to 15 percent by the year 2023. The financial objectives for the year 2023 will prioritize the creation of economic value through the attainment of a Return on Invested Capital (ROIC) that exceeds the Weighted Average Cost of Capital (WACC). This suggests an Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA) margin of roughly 12 %. A program focused on cost management has been initiated with the aim of achieving a savings run-rate target of $350 to $400 million. The objective of this program is to ensure that a competitive cost position is sustained even after the implementation of strategic initiatives. The targeted net debt-to-EBITDA ratio for leverage is set to be below 3.0x, while the equity ratio is expected to exceed 45 %. A liquidity reserve of approximately $1.1 billion will be upheld at an acceptable level.

3.2 COSCO Shipping Lines' *Cost Leadership Strategy*

COSCO Shipping Lines, headquartered in Shanghai (27 departments), is one of COSCO Shipping Group's core business segments and is mainly engaged in domestic and international container shipping services and related businesses. It has established domestic branches in 9 ports (Shanghai, Ningbo, Dalian, Xiamen, Tianjin, Qingdao, Wuhan, Hainan, and South China), and 9 overseas branches (West Asia, Southeast Asia, Korea, Japan, North America, Australia, South America, Africa, and Europe). The company was formed with the integrated container businesses of two former rivals: (1) COSCO (China Ocean Shipping Group) Container Lines Co. Ltd. and (2) China Shipping Container Lines CO. Ltd[xi]. That merger (*horizontal integration*), aiming to control one of the largest fleets of dry bulk vessels, container ships, and oil tankers globally, and which occurred during a downturn in the marine transportation industry, sought to achieve economies of scale. The new company, with U.S. $93.6 billion in assets[xii], commenced its operations on 1st March 2016, and became the 2nd largest shipping company by fleet worldwide, as well as the 1st largest shipping company in China (with its subsidiary COSCO Pacific)[xiii]. The parent company supports its subsidiaries through workshops, offering them competitive advantages that allow them to expand into

two main business activities, namely 'container leasing terminal', and 'management and sales'. The company operates in 395 domestic and international shipping routes (52 domestic, 259 international, and 84 feeder routes), and its fleet anchors at 578 ports located in 142 countries and regions worldwide[xiv]. Nowadays, COSCO Shipping Lines delivers record earnings (for 2022- during the end of the 2020 pandemic crisis and post global lockdowns year) a revenue of RMB 2,577.51 million ($0,34 million) in container shipping[xv]. By the end of July 2022, the company had a total of 224 corporate enterprises in China and overseas, with over 400 marketing and service outlets spread across the world. The company employs 17,000 personnel (staff) globally, including 5,339 overseas members. By the end of April 2023, the company (with 'Oriental Overseas International', a subsidiary of COSCO Shipping Holdings) owned and operated 477 container vessels, with a total capacity of 2.9 million TEU, leading the industry in terms of shipping capacity.

A large number *vertical integration* (*in another field of business action- e.g., the company was a shareholder in the Chinese real estate developer, Sino-Ocean Group- the stake was sold in 2010*[xvi]), as well as a number of mergers and acquisitions (adopting *horizontal integration- in the same field of business action*) took place mainly over the last seven years (the most important of them as follows in **Table 2**).

Table 2 COSCO Shipping Lines' vertical integration.

• In 2016 the company agreed to buy 51 % of Piraeus Port Authority (*vertical integration*), Greece's largest port, as a gateway to Europe, aiming (1) to become the largest container hub in Europe, and (2) to boost China's commercial activity to other countries in the region. Its subsidiary, 'Piraeus Container Terminal' (PCT), has been operating two piers at Piraeus Port since 2009[xvii]- earlier in 2015, the container throughput of Piraeus Port increased to 3.36 million TEU, from 880,000 TEU in 2010, while the global ranking of Piraeus Port significantly increased from 93rd to 39th in terms of container capacity. The initial agreement for the company was to pay $319.79 million to Greece's privatization fund (HRADF) for the initial acquisition of a 51 % stake, while it will pay approximately another $95 million within 5 years for another 16 %, provided it has implemented the agreed investments in the port.– Later, in November 2019, the company invested $660 million upgrading Piraeus container port[xviii].
• In 2017, the company acquired Kazakhstan's national railway company (*vertical integration*), as well as taking a 24 % stake in an inland port in the Khorgos Eastern Gate Special Economic Zone[xix] (*vertical integration*).
• In 2018, the company agreed a 35-year concession to operate and develop a newly built container terminal in Khalifa Port of Abu Dhabi[xx] (*vertical integration*).
• In 2020, the company signed a strategic cooperation agreement with China's e-commerce company 'Alibaba', and its affiliate 'Ant Group', in order to jointly promote the deployment of the strategic connection in shipping, ports, logistics, finance, and other fields using blockchain technology, aiming to strengthen cooperation between smart shipping, smart ports, and supply chain finance, and jointly promote the digitization of shipping operations and documents[xxi] (*vertical integration*).

Given the current economic climate (post pandemic and 2nd year of war in Ukraine era), the company, attempting to reduce occurring extra cost and minimize the impact of the event for the entire supply chain[xxii] seems to be compelled to exercise mainly cost control measures, in order to decrease its selling prices and become the leader in terms of lowest cost prices of its services (***Cost Leadership strategy***) for satisfying current industry demands for low pricing and facilitating economic growth to a limited extent. Hence, aiming to implement a low-cost operational approach, it is imperative to ensure that the conditions in place are capable of fulfilling the requisite application

demands, managing effectively its expenses and adopting *Cost Leadership strategy* as the primary option for its current strategic development.

The indiscriminate implementation of a particular strategy can have significant negative impacts on the functioning of a business, potentially resulting in financial difficulties stemming from a significant reduction in profit margins. Furthermore, the company is a significant shipping conglomerate that boasts a well-developed human resource system. This system enables the company to efficiently internally manage its human capital expenses and, subsequently, regulate its operational costs by leveraging its talent pool. By effectively managing those costs, the company could likely increase its production profits, thereby establishing a solid groundwork for future growth.

The problems of COSCO Shipping Lines mainly lie in two aspects (Hu, 2020). On the one hand, the environment of the company leads to its high operating cost over a long time, which is unfavorable to its operating conditions. On the other hand, there are problems in market operation, with fewer market customers and a lack of differentiated services *(lack of Differentiation strategy approach)*.

Earlier in 2018 (in the post 2008 global financial crisis era), the company, after the acquisition of shares from controlling shareholders in the offer 'OOCL', implemented 4 major strategic initiatives, including the optimization of the global and regional network, digital transformation, end-to-end services enhancement, and a dual brand model, to leverage the advantages of COSCO Shipping Lines' global network and scale and OOCL's digital transformation and logistics business capabilities to realize new growth. By leveraging the advantages of both brands across their global networks, digital capabilities and logistics footprint, the services that receive customers, aim to create more differentiated services ***(Differentiation strategy)***, more comprehensive global network support, and more digitalized customer experience.

3.3 Maersk Line's *Differentiation and Focus (Differentiation) Strategy*

The company, founded in 1928, is the world's largest container shipping company (in terms of cargo capacity and fleet size), operating over 708 vessels (total capacity of about 4.1 million TEU) and offering regular services to 374 ports in 116 countries. It is a Danish international container shipping company and the largest operating subsidiary of Maersk group (a Danish business conglomerate)[xxiii]. In 2019, it employed 83,625 personnel (65,227 are staff in offices and ports, while 18,398 are vessel crew). In fact, the company began to grow in 1946 by transporting goods between America and Europe before expanding services. Earlier, in 1967, the first merger (*horizontal integration*) took place- British carrier P&O was part of the first European initiative, a pooling of liner services by 4 companies, into the new company, Overseas Containers Limited (OCL). Both Sea-land and P&O would later be taken over by Maersk Line as it expanded operations between 1999 and 2005[xxiv]. 'Maersk Line' is a globally operating conglomerate with a significant international footprint, and its corporate headquarters are situated in Copenhagen, Denmark[xxv]. Following more than a century of advancement, the shipping, oil refining, natural gas operations, logistics, shipbuilding, information, and commerce department store industries have attained a high level of competitiveness. The company delivered record earnings for 2021 (in the midst of the 2020 pandemic crisis and the post global lockdowns year), which was an exceptional year with focus on mitigating supply chain risks for customers while strengthening the integrated logistics offering.

In 2021, revenue was up 55 %. to USD 61.8bn, EBITDA tripled to USD 24bn, and free cash flow was USD 16.5bn, allowing the company to make strategic long-term investments into decarburization and logistics growth, combined with strong cash distribution to shareholders. Maersk's market (customers) numbers more than 100,000 in 130 countries, while the company operates through 700 containerships in 65 terminals (36 countries) and employs 110,000 staff (personnel).

A large number of acquisitions (adopting *horizontal integration- in the same field of business action*) took place mainly over the last eight years (the most important of them as follows in **Table 3**).

Table 3 Maersk's vertical and horizontal integration.

• In 2017, the company acquired 'Hamburg Süd', a German container shipping company, founded in 1871 in Hamburg (holding a market leader position in North-South trade)[xxvi] *(horizontal integration.)*
• In 2021, the company acquired 'LF Logistics', a Hong Kong-based contract logistics company, with premium capabilities within omnichannel fulfilment services, e-commerce, and inland transport in the Asia-Pacific region, specialized in B2B (business-to-business) and business-to-consumer (B2C) distribution solutions within retail, wholesale, and e-commerce[xxvii] *(vertical integration).*
• In 2022, the company acquired 'Pilot Freight Services', a leading U.S.-based international and domestic supply chain provider with cross-border solutions into Canada and Mexico, offering customized international, domestic, and cross-border logistics to the company's North America landside logistics capabilities for B2B and B2C distribution models[xxviii] *(vertical integration).* • Also in 2022, the company acquired 'Senator International', a well-renowned global company in freight forwarding, with a strong organization and well-developed airfreight network comprising own controlled flights and long-term partnerships with best-in-class airlines, a well-established full container load (FCL), and less than container load (LCL) network ,and specialized services such packaging, warehousing, and distribution across five continents, enabling the company to offer an even wider range of products and the ability to provide flexible and integrated logistics solutions to their customers, allowing them to speed up or slow down cargo depending on their changing supply chain needs[xxix] *(vertical integration).*
• In 2023, the company acquired 'Martin Bencher Group', a Danish project logistics expert with capabilities within non-containerized project logistics and global operations, strengthening its ability to offer project logistics services to global clients while providing a more comprehensive offering to a wide array of industries[xxx] *(vertical integration).*

In 2022 (post pandemic era and 1st year of war in Ukraine), the company, adopting a ***Focus Differentiation Strategy*** (*for North America's market segment-niche*), initiated the implementation of new supply chain capabilities for the big and bulky sector with white glove home delivery service added, in order to accelerate solutions for customers that support their strategic business ambitions, extending its end-to-end offerings deeper into the North America supply chain of its customers, adding important supply chain infrastructure capacity and scale[xxxi]. The combined Pilot and Maersk scale will offer customers approximately 150 facilities in the U.S., including distribution centers, hubs, and stations.

Also in 2022, the pandemic led to production issues and widespread congestion that remained problematic two years down the line. Because of this, an increased amount of customers required alternative means of cargo transportation, leading the Company to adopt a ***Differentiation strategy*** through the acquisition of 'Senator International' (specialized services such packaging, warehousing, and distribution across all continents), increasing the company's ability to provide flexible logistic solutions, and to accelerate or slow cargo transportation in line with evolving supply chain needs, as well as to increased redundancy, aiming in the near future to carry about 1/3 of its annual air tonnage via its own controlled freight network (employing both owned and leased aircraft, in addition to strategic commercial carriers and charter flight operators).

In 2021, the company adopted a ***Focus Differentiation Strategy*** (*for Asia-Pacific's market segment-niche*) through the acquisition of 'LF Logistics', adding critical capabilities in Asia Pacific in order to support its customers' long-term growth in Asia Pacific, as well as capabilities and technology[xxxii].

Earlier on, in September 2011 (in the midst of the 2008 global financial crisis), the company, adopting a ***Focus Differentiation Strategy*** (*for Europe's market segment-niche*), initiated the implementation of a novel service named 'Daily Maersk'. The initial perception of this service for the ship proprietor was that their cargo could be loaded onto a Maersk vessel on a daily basis, destined for Europe, and simultaneously financed by banks, instilling a sense of confidence. The second aspect pertains to the timely delivery of goods entrusted to Maersk, ensuring that there are no delays. According to Zhang and Lam (2014), the reliability statistics within the industry in the midst of the 2008 global financial crisis were notably low, ranging from 50 - 60 %. This performance is significantly inferior when compared to other modes of transportation. The lack of predictability and certainty regarding the availability of containers has compelled customers to uphold surplus inventory within their supply chain, resulting in significant expenses. Maersk responded to the transportation requirements of its customers by devising a distinctive value proposition called 'Daily Maersk' aiming to attain a reliability rate of 95 %, and providing to its clientele a pledge of fixed transportation time, which encompasses the duration from the port gate cut-off date at the origin to the container available date at the destination. Furthermore, they can promptly dispatch their produced goods, thereby eliminating the need for storage at the point of origin. As a result of the frequent and dependable nature of the service, customers are not required to uphold inventory at the receiving location, reducing significantly a consumer's inventory by up to 500 USD per container. The introduction of "Daily Maersk" has had a significant impact on the highly competitive shipping industry.

4. Design/approach and findings- competitive strategies and integration expanses by the three cases

The present paper (as a case study) examined three of the largest shipping container companies that have played a crucial role in global trade over the years- three of the largest in 2023 were chosen to be investigated in this research (Hapag Lloyd, COSCO Shipping Lines, and Maersk). The criteria for the selected companies were mainly the authors' focus on the significance to the industry of the mentioned three large shipping container companies, as well as the volume of information that could be gathered by secondary data sources. Secondary data was collected by reviewing the existing branding literature as discussed in academic and trade journals, books, information databases, professional magazines, government publications, and specialized internet sites (Emerald, Science Direct, Google Scholar, and Scirus). The sources of relevant literature investigation derived from popular online bibliographic databases, such as Science Direct, Emerald, EBSCO host, and scientific search engines such as Google Scholar and Scirus. General search engines such as Google have also been examined. The types of bibliographic sources included in the research are articles published in scientific journals, books, conference proceedings, company papers and studies, white papers, online sites, and online journals. The selection criteria of those literature sources were based on the relevance to the topic of the paper, and this research is not exhaustive.

The secondary data were used in order to help the researchers develop a more comprehensive and holistic view of the role of competitive strategies based on Porter's Generic Strategies- two main types of competitive advantage with which a firm could increase its profits, either by reducing its operating costs or by increasing its total revenue: Cost Leadership or Differentiation, which have been found suitable for large shipping container companies. These two basic types lead to three generic strategies for achieving above average performance in an industry: Cost Leadership, Differentiation, and Focus Strategies (the latter of which has two variants: Cost Focus and Differentiation Focus) in facing global crises (post 2008 global financial crisis, pandemic, war in Ukraine). Through extensive

research on the current and past decade literature, it was hoped that it would be possible to identify existing recovery competitive strategies and make some further recommendations. The selection criteria of these literature sources were based on relevance to the paper's topic, and this research is not exhaustive. It is important to note that, since the existing literature in the field is limited, this research has used literature related to previous cases.

This research identified some possible key drivers towards adopting and implementing combined strategies of Cost Leadership, Differentiation, and Focus, as well as the probable success factors. Based on this literature review and the findings from three (cases) of the largest shipping container companies worldwide, a conceptual model is proposed, based on which three cases are analyzed as follows.

The findings demonstrated that the decision of adopting effective competitive strategy by the three (cases) large container shipping companies is not a trichotomous one between complete Cost Leadership, Differentiation, or Focus Strategies, but is a matter of the balance of combination, which is dependent upon a number of reasons and factors, such as (mainly) macro- and micro-environmental factors, company resources and capabilities, customers' willing to pay, barriers in the shipping liner industry, and revenue & cost approaches.

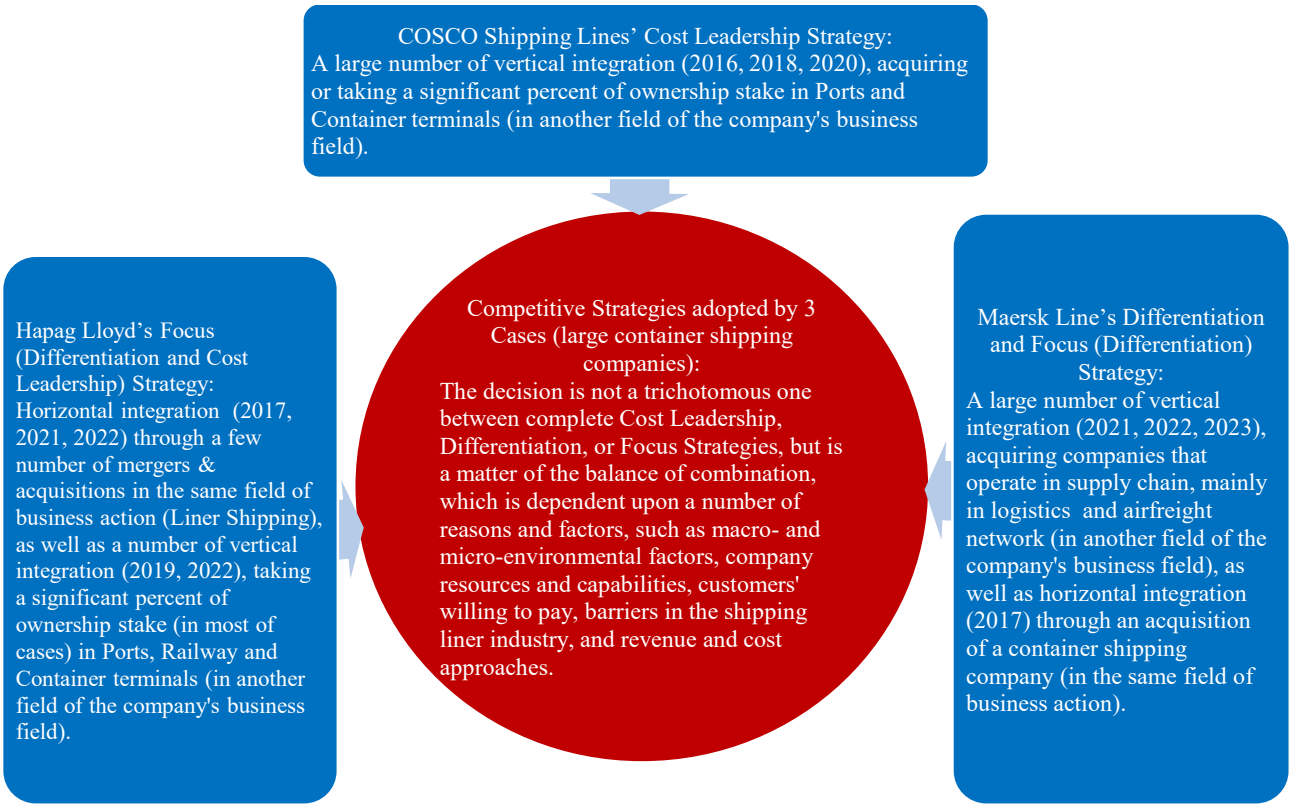

Figure 2 Competitive strategies and integration expanses adopted by the three cases (Hapag Lloyd's, COSCO Shipping Lines, Maersk Line).

In terms of correlation between competitive strategies and the integration expanses they adopt, each case seems to follow a different approach (also in **Figure 2** as follows):

- Hapag Lloyd's Focus (Differentiation and Cost Leadership) Strategy:

Horizontal integration (2017, 2021, 2022) through a few number of mergers and acquisitions in the same field of business action (Liner Shipping), as well as a number of vertical integration (2019, 2022), taking a significant percent of ownership stake (in most of cases) in Ports, Railway and Container terminals (in another field of the company's business field).

- COSCO Shipping Lines' Cost Leadership Strategy:

A large number of vertical integration (2016, 2018, 2020), acquiring or taking a significant percent of ownership stake in Ports and Container terminals (in another field of the company's business field).

- Maersk Line's Differentiation and Focus (Differentiation) Strategies:

A large number of vertical integration (2021, 2022, 2023), acquiring companies that operate in the supply chain, mainly in logistics and airfreight networks (in another field of the company's business field), as well as horizontal integration (2017) through an acquisition of a container shipping company (in the same field of business action).

5. Conclusions, implications and future research direction

Over the last two decades, a number of large shipping container liner companies seem to be attempting to create value for customers and revenue for them mainly through various forms of integration along the supply chain (broader logistics services, hinterland transportation, etc.). On the other hand, they build barriers to prevent competitors from entering their domains, in order to sustain their competitive advantages.

This study identified, mainly through in-depth examination of three of the largest shipping container companies worldwide, that the companies in question do not solely adopt *Cost Leadership, Differentiation, or Focus Strategies* when planning their competitive strategy. Consequently, the decision of the strategy choice by them is not a trichotomous one between complete *Cost Leadership, Differentiation, or Focus Strategies*, but is a matter of combination. Many macro- and micro-environmental factors (Political, Economic, Social, and Technological- i.e. 2008 global financial crisis, pandemic, war in Ukraine, green approach in sea pollution, rapid developments in the field of Artificial Intelligence implementation into the shipping industry, customers' willing to pay, barriers in the shipping liner industry, etc.) as well as organizational (internal) factors (such as company resources and capabilities, revenues and cost approaches, etc.) have bearing on such decisions.

There are specific directives and influential factors that shape the forthcoming advancements and patterns in the global shipping industry. When conducting a policy analysis, it is crucial to take into account the effects of significant shipping routes on diverse aspects, including economies of scale, monopolistic practices, customer service, innovation, supply chain management, and others. The transportation of goods is a crucial component of a customer's supply chain and, as such, dependability plays a vital role in facilitating effective planning and execution for customers. In such an internationalized sector as the shipping sector, adopting effective competitive strategies seems to be of vital importance for success, enabling maritime companies to predict and adjust to shifts in the market, maximizing at the same time their operations efficiency. The impact of liner companies on other entities within the industry seems to be extremely significant. The aforementioned attributes suggest a reduction in the significance of shipping's contribution to the value chain. Consequently, it is imperative to identify avenues for growth. This can be achieved through two integration approaches, namely 'horizontal' and 'vertical' expansion. The 'horizontal' dimension represents mainly the ascending magnitude of economies of scale. The 'vertical' expansion of growth for the shipping industry, particularly from shipping to logistics, represents a novel avenue for potential development.

There is a number of limitations of this study (despite efforts of being innovative):

- Data collection procedure is not-probabilistic, and the findings are not generalizable. This could include qualitative or quantitate research, along with a large number of case studies approach (and not only large container shipping companies, but medium- and small-sized firms), which could produce useful results and insights.
- Future work on competitive strategies in the shipping industry could benefit from a theoretical typology of all types of competitive strategies, which in turn facilitates a more complete specification of the link between competitive strategy and shipping firm performance- scholars need

to elaborate recent developments in the literature, suggesting that the effect of competitive strategies on shipping firm performance also depends on the alignment of strategy with contextual factors.

- Exhaustive examination of the industry's competition elements, based on Porter's five forces rivalry model about competition between companies: (1) Rivalry between Existing Competitors, (2) Threat of New Entry, (3) Threat of Substitution, (4) Buyers' Bargaining Power and (5) Suppliers' Bargaining Power is required.

This is a field where future research will have a significant impact. This is an ongoing phenomenon, and we still are not sure on which strategy could be the most effective. In light of this, this study opens up the possibility for future research in this field. In particular, future research should develop conceptual models that bring together different theoretical lenses, in order to better understand which factors and which strategies could determine success for shipping firms.

Acknowledgement

The authors would like to express their gratitude to undergraduate students of the Department of Port Management and Shipping, National and Kapodistrian University of Athens, for their support in research and data analysis.

References

Akan, O., Allen, R., Helms, M., & Spralls, S. (2006). Critical tactics for implementing Porter's generic strategies. *Journal of Business Strategy*, *27*(1), 43-53. https://doi.org/10.1108/02756660610640173

Alexandridis, G., & Visvikis, I. (2019). Shipping finance research: A review and future research directions. *Transportation Research Part E: Logistics and Transportation Review, 129*, 257-276.

Ali, B., & Anwar, K. (2021). Porter's Generic Competitive Strategies and its influence on the Competitive Advantage. *International Journal of Advanced Engineering, Management and Science, 7(*6), 42-51. https://doi.org/10.22161/ijaems.76.5

Ansoff, H. I. (1957). Strategies for Diversification. *Harvard Business Review*, *35*(5), 113-124.

Ansoff, H. I., Kipley, D., Lewis, A. O., Helm-Stevens, R., & Ansoff, R. (2019). *Implanting strategic management* (3rd eds.). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-99599-1

Arnold, T., Brooks, L., & Nixon, D. (2004). Understanding the impact of financial decisions on financial statements: A pedagogical note. *Advances in Financial Education*, *2*, 10-21.

Baack, D., & Boggs, D. (2008). The difficulties in using a cost leadership strategy in emerging markets. *International Journal of Emerging Markets*, *3*(2), 125-139. https://doi.org/10.1108/17468800810862605

Bodewig, K. (2022). *European maritime space*. Retrieved from https://transport.ec.europa.eu/system/files/2022-09/2022-mos-dip.pdf

Carbone, V., & Martino, M. (2019). Sustainable development in shipping: The role of ship recycling in the circular economy. *Transport and Environment: Transportation Research Part D*, *67*, 337-349.

Collis, D. (2016). Lean strategy: Start-ups need both agility and direction. *Harvard Business Review*, *94*(3), 62-69.

Daleziou, A. (2022). Comparative analysis of the major liner shipping companies. University of the Aegean theses depository.

D'Agostini, E., Nam, H., & Kang, S. (2019). Gaining competitive advantage at sea: An overview of shipping lines' strategic decisions. *International Journal of Transportation Engineering and Technology, 5*(4), 74. https://doi.org/10.11648/j.ijtet.20190504.12

Doloreux, D., & Melancon, Y. (2008). On the dynamics of innovation in Quebec's coastal maritime industry. *Technovation*, *28*, 231-243. https://doi.org/10.1016/j.technovation.2007.10.006

Gadhia, H., Kotzab, H., & Prockl, G. (2011). Levels of internationalization in the container shipping industry: An assessment of the port networks of the large container shipping companies. *Journal of Transport Geography*, *19*(6), 1431-1442. https://doi.org/10.1016/j.jtrangeo.2011.07.016

Gassmann, O., Frankenberger, K., & Sauer, R. (2016). *Leading business model research: The seven schools of thought* (pp. 7-46). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-41144-6_2

Gavalas, D., Syriopoulos, T., & Tsatsaronis, M. (2022a). Assessing key performance indicators in the shipbuilding industry; an MCDM approach. *Maritime Policy & Management*, 49(4), 463-491.

Gavalas, D., Syriopoulos, T., & Roumpis, E. (2022). Digital adoption and efficiency in the maritime industry. *Journal of Shipping and Trade, 7*(1), 11. https://doi.org/10.1186/s41072-022-00111-y

Gavalas, D., Syriopoulos, T., & Tsatsaronis, M. (2022b). COVID-19 impact on the shipping industry: An event study approach. *Transport Policy*, 116, 157-164. https://doi.org/10.1016/j.tranpol.2021.11.016

Ghorbani, M., Acciaro, M., Transchel, S., & Cariou, P. (2022). Strategic alliances in container shipping: A review of the literature and future research agenda. *Maritime Economics & Logistics, 24*(2), 439-465. https://doi.org/10.1057/s41278-021-00205-7

Goulielmos, A. (2017). Strategies in Shipping Business Management. *Modern Economy*, *8*(10), 1211-1229. https://doi.org/10.4236/me.2017.810083

Haralambides, H. (2007). *Structure and operations in the liner shipping* (pp. 607-621). In Button, K. J., & Hensher, D. A. (Eds.). Handbook of Transport Modelling (2nd eds.). Pergamon-Elsevier Science. https://doi.org/10.1108/9780857245670-040

Haralambides, H., & Gouvernal, E. (2020). The competitiveness of maritime clusters: Evidence from the Mediterranean. *Journal of Shipping and Trade*, *5*(1), 1-22.

Hax, A. C., & Nicholas, S. M. (1996). *The Strategy Concept and Process* (pp. 1-124). Prentice Hall.

Hu, H. (2020). *Research on the development strategy of COSCO shipping lines*. World Maritime University Dissertations. Retrieved from https://commons.wmu.se/cgi/viewcontent.cgi?article=2463&context=all_dissertations

Jackson, T. (2023). *Breaking down the three levels of strategy in any business*. *Clear Point Strategy*. Retrieved from https://www.clearpointstrategy.com/blog/levels-of-strategy

Lasserre, P. (2017). *Global strategic management*. Macmillan International Higher Education.

Lee, C. H., & Wang, J. J. (2018). The relationships among knowledge sharing, absorptive capacity, and innovation capability: An empirical study on Taiwan's shipping industry. *Sustainability*, *10*(5), 1605.

Lee, C. H., Wang, J. J., & Chen, Y. H. (2021). The influence of external network positions on innovation capability and financial performance in the global shipping industry. *Transportation Research Part E: Logistics and Transportation Review*, *146*, 102161. https://doi.org/10.1016/j.tre.2020.102152

Li, X., Zuidwijk, R., & de Koster, M. (2023). Optimal competitive capacity strategies: Evidence from the container shipping market. *Omega, 115*, 102790. https://doi.org/10.1016/j.omega.2022.102790

Lorange, P. (2010). Strategic re-thinking in shipping companies. *Maritime Policy & Management*, *28*(1), 23-32. https://doi.org/10.1080/030888301750050741

Lorange, P., & Fjeldstad, O. D. (2010). Redesigning organizations for the 21st century: Lessons from the global shipping industry. *Organizational Dynamics*, *39*(2), 184-193. https://doi.org/10.1016/j.orgdyn.2010.01.007

Lun, Y. H. V., Lai, K. H., Cheng, T. C. E., & Young, D. (2010). *Business strategy in shipping* (pp. 61-75). London: Springer.

Ma, S. (2020). *Economics of maritime business*. London: Routledge. https://doi.org/10.4324/9781315658124

McKiernan, P. (2017). *Historical evolution of strategic management, Volumes I and II*. London: Routledge. https://doi.org/10.4324/9781315253336

Menguc, B. S., & Shih, E. (2007). Transformational leadership and market orientation: Implications for the implementation of competitive strategies and business unit performance. *Journal of business research*, *60*(4), 314-321. https://doi.org/10.1016/j.jbusres.2006.12.008

Nguyen, H. O., & Do, T. H. (2019). The relationship between logistics service quality and customer loyalty: The case of Vietnamese shipping companies. *Maritime Economics & Logistics*, *21*(4): 534-551.

Niamie, O. (2014). *Strategies in shipping industry: A review of strategic management papers in academic journals*. Research Project, ESG UQAM.

Notteboom, T. (2004). Container shipping and ports: An overview. *Review of Network Economics, 3*(2), 86-106. https://doi.org/10.2202/1446-9022.1045

OECD. (2023). *Ocean shipping and shipbuilding. The Ocean*. Retrieved from https://www.oecd.org/ocean/topics/ocean-shipping

Panayides, P. M., & Wiedmer, R. (2021). Digitalization, innovation and strategic transformation in the shipping industry. *Journal of Business Research*, *133*, 657-665.

Papagiannopoulos, A., & Lyras, D. (2019). Evaluating the impact of the sulphur emission control areas on the dry bulk market: A stakeholder analysis. *Maritime Policy & Management*, *46*(4), 429-443.

Porter, M. E. (1985). *Competitive Advantage* (pp. 11-15.). The Free Press: New York.

Porter, M. E. (1996). *What is a strategy?* (pp. 61-78). Harvard Business Review (November-December).

Rau, P., & Spinler, S. (2016). Investment into container shipping capacity: A real options approach in oligopolistic competition. *Transportation Research Part E: Logistics and Transportation Review, 93*, 130-147. https://doi.org/10.1016/j.tre.2016.05.012

Rothaermel, F. T. (2016). *Strategic management: Concepts* (Vol. 2). McGraw-Hill Education.

Salavou, H. (2013). Competitive strategies and their shift to the future. *European Business Review*, *27*(1), 80-99. https://doi.org/10.1108/EBR-04-2013-0073

Talley, W. K. (2018). *Environmental sustainability in the maritime industry. In Environmental sustainability from the Himalayas to the oceans* (pp. 259-283). Springer, Singapore.

Theotokas, I. (2018). *Management of Shipping Companies*. London: Routledge. https://doi.org/10.4324/9781315641294

Thompson, A., Peteraf, M.., Gamble, J., & Strickland, A. (2012). *Crafting and executing strategy - Concepts and cases*. International Edition, McGraw Hill.

Tsatsaronis, M., Syriopoulos, T., Gavalas, D., Boura, G., Trakadas, P., & Gkorila, M. (2022). The impact of Corporate Social Responsibility on corporate financial performance: an empirical study on shipping. *Maritime Policy & Management*, 1-14.

Yang, Z., & Notteboom, T. (2020). Corporate social responsibility and firm performance in the shipping industry: Evidence from China. *Journal of Business Research*, *116*, 1-12.

Zang, A., & Lam, G. (2014). Impacts of schedule reliability and sailing frequency on the liner shipping and port industry: A study of daily Maersk. *Transportation Journal*, *53*(2), 235-253. https://doi.org/10.5325/transportationj.53.2.0235

Case studies' references

[i] Available at: https://www.container-xchange.com/blog/shipping-container-companies/
[ii] Available at: https://www.hapag-lloyd.com/en/company/about-us/facts---figures.html#anchor_171183
[iii] Available at: https://lloydslist.maritimeintelligence.informa.com/LL022183/Hapag-Lloyd-and-Asian-lines-form-six-member-alliance
[iv] Available at: https://money.cnn.com/2005/08/22/news/international/news_snap.dj/index.htm
[v] Available at: https://web.archive.org/web/20051014032923/http://www.hapagfly.com/westsite/content/unternehmen/eng_001029.html
[vi] Available at: https://container-mag.com/2016/07/01/uasc-and-hapag-lloyds-merger-progresses/
[vii] Available at: https://www.hapag-lloyd.com/en/company/press/releases/2021/07/07.html
[viii] Available at: https://www.hapag-lloyd.com/en/company/press/releases/2022/06/hapag-lloyd-acquires-container-liner-business-of-africa-speciali.html
[ix] Available at: https://www.hapag-lloyd.com/en/company/about-us/newsletter/2023/04/hapag-lloyd-s-terminal-investment-in-wilhelmshaven-and-it-s-adva.html
[x] Available at: https://www.shiphub.co/hapag-lloyd/
[xi] Knowler, G. (2015). China committed to reforming its state-dominated shipping sector, *Journal of Commerce*. Available at: https://www.joc.com/article/china-committed-reforming-its-state-dominated-shipping-sector_20150616.html
[xii] Dupin, C. (2016). Merged China COSCO Shipping Corporation Limited launched. *Freightwaves.* Available at: https://www.freightwaves.com/news/merged-china-cosco-shipping-corporation-limited-launched
[xiii] Available at: https://lines.COSCOshipping.com
[xiv] Available at: https://lines.coscoshipping.com/home
[xv] Available at: https://lines.coscoshipping.com/home/About/about/FactFigures
[xvi] *Apple Daily* (17 August 2010). COSCO International will sell Yuandi and plans to make a profit of 660 million within one year. Available at: https://web.archive.org/web/20210621191402/https://hk.appledaily.com/finance/20100817/4DIFXFZ5K636HNIKJ7BSM5U7GI/
[xvii] *Xihua* (11 April 2016). Greek president hopes for more investments following Piraeus Port Authority deal. Available at: https://www.chinadaily.com.cn/business/2016-04/11/content_24433018.htm
[xviii] Reuters Staff (2017). China, Greece agree to push ahead with COSCO's Piraeus Port investment". *Reuters*. Available at: https://www.reuters.com/article/us-greece-china/china-greece-agree-to-push-ahead-with-coscos-piraeus-port-investment-idUSKBN1XL1KC
[xix] Reuters Staff (2017). China's COSCO to invest in Kazakhstan border project as part of Silk Road drive. *Reuters*. Available at: https://www.reuters.com/article/china-silkroad-cosco-idUSL8N1IG0EJ
[xx] Gilchrist, K. (2018). China's Cosco and Abu Dhabi Ports develop Khalifa to support Belt and Road initiative. *CNBC*. Available at: https://www.cnbc.com/2018/12/10/belt-and-road-abu-dhabi-ports-sees-huge-trade-boost-from-cosco-deal.html
[xxi] The Maritime Executive (8 July 2020). Cosco joins Alibaba to promote shipping blockchain. Available at: https://maritime-executive.com/article/cosco-shipping-and-alibaba-latest-efforts-using-blockchain-in-shipping
[xxii] Available at: https://lines.coscoshipping.com/home/News/detail/16463830445162910913/50000000000000231?id=50000000000000231
[xxiii] https://alphaliner.axsmarine.com/PublicTop100/
[xxiv] Northam, J. (2014). Hitching A Ride On The World's Biggest Cargo Ship. *NPR*, Available at: https://www.npr.org/sections/parallels/2014/03/13/289073488/hitching-a-ride-on-the-worlds-biggest-cargo-ship
[xxv] Available at: https://www.maersk.com/about
[xxvi] Available at: https://www.hamburgsud.com/group/en/corporatehome/press_media/releases/details/press_detail_page_1008248.html

[xxvii] Finn, R. (2021). Maersk to acquire LF Logistics. *Logistics Management*, Available at: https://logistics-manager.com/a-p-moller-maersk-to-acquire-lf-logistics-a-premium-omnichannel-fulfilment-company/
[xxviii] Available at: https://www.maersk.com/news/articles/2022/05/02/maersk-completes-acquisition-of-pilot-freight-services
[xxix] Dailey, E. (2022). Maersk completes acquisition of Senator International. *Project Cargo Journal*, Available at: https://www.projectcargojournal.com/airfreight/2022/06/08/maersk-completes-acquisition-of-senator-international/?gdpr=deny
[xxx] Available at: https://www.maritimegateway.com/maersk-completes-acquisition-of-danish-project-logistics-specialist/
[xxxi] Berman, J. (2023). Maersk's acquisition of Pilot Freight Services is a done deal. *Logistics Management*, Available at: https://www.logisticsmgmt.com/article/maersks_acquisition_of_pilot_freight_services_is_a_done_deal
[xxxii] Available at: https://www.transportandlogisticsme.com/smart-logistics/maersk-completes-acquisition-of-lf-logistics