Logistics integration strategies in container shipping: a multiple case-study on Maersk Line, MSC and CMA CGM

Hubert Paridaens[1] and Theo Notteboom[2]*

Full reference: Paridaens, H., Notteboom, T., 2022, Logistics integration strategies in container shipping: a multiple case-study on Maersk Line, MSC and CMA CGM, Research in Transportation Business & Management, 45 (part C), December 2022 https://doi.org/10.1016/j.rtbm.2022.100868

Abstract

Shipping lines have recently been reshaping their operations to include more logistics integration, which could indicate a change in business strategy. This paper analyses recent developments in the strategic paths of Maersk Line, CMA CGM and MSC in the context of logistics integration and presents empirical findings on their strategic positions and associated drivers. By applying a conceptual framework highlighting and exploring various key strategic, tactical, and operational issues, the study provides an in-depth overview of logistics integration in liner shipping. First, we perform a literature review to figure out how the literature on logistics integration has changed over time in response to economic cycles and corporate interests. Second, we present a conceptual research framework exploring the ways in which logistics integration takes place among Maersk Line, CMA CGM and MSC. Third, we empirically demonstrate that different facets, building blocks and attributes shape the strategic path of these three shipping lines. A summary reading grid facilitates the concluding analysis of logistics integration developments at work within the three container carriers. The multi-case study provides empirical findings on intra- and inter-carrier differences in the temporal paths of logistics integration, the spatial coverage when implementing integration initiatives and the implementation methods.

Keywords

Corporate strategy, intermodal, liner shipping, logistics, supply chain integration, vertical integration

1. Introduction

Containerization has had a significant impact on the maritime shipping industry's organization as well as the relationships among the players of the maritime supply chain (MarSC) (Soppé et al., 2009). Container shipping has changed the scale and scope of global freight distribution, making the transition from a transactional to a relational market easier (Frémont, 2010). The MarSC has traditionally been considered as a set of distinct but well-defined operations in which each member is accountable for a specific aspect of the process (Lam and Van De Voorde, 2011). However, globalization and outsourcing opened new windows of opportunities for market players (Notteboom, 2006). Numerous intermediate processes in the MarSC have been eliminated because of increased functional integration, allowing

[1] Faculty of Sciences, Antwerp Maritime Academy, 2030 Antwerp, Belgium; hubert.paridaens@hzs.be

[2] Faculty of Sciences, Antwerp Maritime Academy, 2030 Antwerp, Belgium; Maritime Institute, Faculty of Law and Criminology, Ghent University, 9000 Ghent, Belgium; and, Faculty of Business and Economics, University of Antwerp, 2000 Antwerp, Belgium; theo.notteboom@ugent.be

* Correspondence: theo.notteboom@ugent.be

global logistics integrators to manage many aspects of the MarSC (Rodrigue, 2006). A number of shipping lines (SLs) have responded by providing new value-added services in an integrated package, through integration of logistics activities (Notteboom and Rodrigue, 2017). They saw the promise of creating value along the entire end-to-end MarSC journey, promoting the container not as individual components but as a single offering (JOC, 2021)[3], thereby presenting themselves on the market as integrated logistics service providers (Leggate et al., 2004).

In recent years, many SLs seem to have developed a much greater interest and involvement in other segments of the MarSC, especially in logistics. SLs have been redesigning the scope of their activities towards more logistics integration which may imply a shift in corporate strategy (Notteboom, 2021; Parola et al., 2015). Logistics integration (LI), also termed vertical integration or freight integration, pushes SLs to deploy global networks by relying on mergers and acquisitions, although there are variants in the way this process has taken place among companies and among regions. SLs can gain control over a major section of the MarSC and exert growing control as global logistics service providers by managing inland transportation, offering door-to-door delivery, and providing value-added logistics services (Van Baalen et al., 2008).

This paper analyses recent developments in the strategic paths of SLs in the context of LI and presents empirical findings on their strategic positions and associated drivers. The multiple case-study focusing on Maersk Line, CMA CGM and MSC provides empirical findings on intra- and inter-carrier differences in the temporal paths of LI, the spatial coverage when rolling out LI initiatives and the implementation means. We examine both the dependency of selected SLs on LI as well as their overall long-term commitment. By following a multiple case-study approach grounded on a conceptual research framework, the study provides answers to three research questions related to the corporate strategy of the three above mentioned SLs in light of LI:

RQ1. To what extent are the chosen SLs strategically committed to and dependent on LI?

RQ2. How do SLs adopt the LI implementation design and transformation planning?

RQ3. What enablers and impediments are guiding LI decision-making by SLs?

The paper is organized as follows. In section 2, we will conduct a literature review to analyze how the extent literature on LI has evolved with economic cycles and corporate priorities of SLs. Section 3 presents a conceptual research framework to answer the stated research questions by exploring the ways in which the LI process takes place among the selected SLs of our case study. In the next sections (4 to 11), we will empirically demonstrate that different facets, building blocks and attributes shape the strategic path of SLs towards becoming global logistics integrators. Finally, we will provide a summary reading grid to facilitate the concluding analysis of LI developments at work within the three container carriers.

2. Literature review

Integration strategy is a frequently examined topic in the MarSC literature. However, the academic interest for this subject seems to be strongly dependent on the market conditions which favor or not such integration moves. The following literature review makes a distinction between three periods with their related contextual high-level integration strategy. To do so, we will first examine how SLs have considered these high-level strategic options in the past and how these vary from scale, scope, and intent (*see* periods 1 and 2 mentioned below). Then the focus will be directed on the option of interest (*see* period 3) by explaining what happened over the last five years in containerized transport chains.

[3]https://www.joc.com/maritime-news/container-lines/maersk-upping-ante-integrator-strategy_20210514.html?destination=node/3675586

- (1) the period following the global financial crisis of 2008-2009 and its related weak integration strategy. This period was characterized by fleet overcapacity, low freight rates, poor carrier profitability and corporate reorganizations aimed at carrier survival;

Context: the 2008-2009 financial crisis caused a severe deterioration in the financial health of liner shipping companies. Following the global financial crisis, the freight rates collapsed and the industry's troubles were further aggravated by an oversupply of ships (Ha and Seo, 2017). As a result, managerial attention focused on asset divestment (Pawlik et al., 2011), vessel deployment, network configuration, route, and service restructuring (Brooks et al., 2014) and economies of scale by deploying bigger ships to transport cargos.
High-level strategy: given the industry's weak financial position, carriers primarily focused on the survival of their core business of container liner activities. Integration strategies in general were seen as a non-essential draining of funds away from the core business (Frémont, 2009; Notteboom et al., 2010).

- (2) the period 2014-2017 and its related cooperative integration. This period was characterized by a horizontal integration wave and various cooperation schemes in liner shipping against a backdrop of continued poor market conditions;

Context: during the period 2014-2017, SLs were forming strategic alliances to extend service coverage and better compete with powerful competitors (Tran, 2022). Integration moves could also take the form of a SL acquiring another SL (Göçer et al., 2019). The academic research examining this period investigated the consolidation at work and the potential impact of alliances on the industry's prospects, especially on terminal and port authorities (e.g., El Kalla et al., 2017; Notteboom et al., 2017; Yap and Zahraei, 2018; *for a complete overview, see* Ghorbani et al., 2022).
High-level strategy: SLs showed inclination for horizontal integration via strategic alliances and mergers and acquisitions (M&As) of global and regional carriers (Crotti et al., 2019; Notteboom, 2021) to tap into specific geographic footprints or complementary segments. By reaching a more optimal size (Álvarez-SanJaime et al., 2013), SLs can chase economies of scale and exercise overall cost control through horizontal integration.

The contemporary period is totally singular. The recent exceptional market conditions as well as the repeated large-scale logistics moves in the market provide evidence that the liner industry is at a pivotal moment.

- (3) the ongoing period (2017-now) and its related vertical integration. This period is characterized by major disruptions such as trade disputes, the COVID-19 pandemic, eventually emanating in a high market volatility, a global supply chain crisis and record profitability for SLs.

Context: since the summer of 2020, container freight rates have increased significantly to reach record-high levels in late 2021, and with it also record operating margins of SLs (Notteboom et al. 2021). The underlying causes of this surge include stronger demand than expected coupled with capacity constraints by carriers and significant operation challenges such as bottlenecks, port congestion, pandemic-related delays in intermodal connections, and severe shortage of containers, logistics and port staff (Kent and Haralambides, 2022; Notteboom and Pallis, 2021; UNCTAD/RMT/2021).
High-level strategy: LI has been seen as a strategic path to make SLs more resilient to the disturbances of the sea-leg segment. The recent blockage of the Suez Canal has shown how SLs have mitigated the global MarSC disruption by offering alternative modes of transport such as air freight. Several container lines use their regained financial strength to intensify their focus on LI (Notteboom et al. 2021).

Although integration strategy in general has gained much prominence and research attention in the past 15 years, vertical integration has specifically received limited exposure so far. In the aftermath of 2008-2009, the focus has been very much on other strategic priorities such as company survival. During the period 2014-2017, strong horizontal integration moves overshadowed the few attempts to vertically

integrate. At that time, the dominant business strategy became saving costs, chasing economies of scale via larger ships and industry consolidation through an increase of market share (ITF, 2022). Logically, this dominant strategy has led to a 'commoditization' of the container liner business. Commoditization occurs as carriers offer increasingly homogenous liner shipping services to price-sensitive customers who incur relatively low costs in changing suppliers (Maloni et al., 2016; Reimann et al., 2010). Because of that, the advantages of horizontal integration (i.e., cost control) have gradually been exhausted while these of vertical integration (i.e., differentiation) are becoming more and more prominent. SLs have thus progressively thought about alternative business strategies considering the commoditized and consolidated market that they themselves contributed to create. Whereas vertical integration has for a long time been seen as a complementary strategy to support horizontal integration (Cariou, 2008), the strong financial performance of the SLs combined with a higher customer demand for truly integrated MarSC seems to create a new momentum to expand their business towards more LI. However, at the time of writing, the LI developments since late 2020 have only been commented by specialized trade press and occasional reports. As mentioned in one of these reports (ITF, 2022), "*[even if]* the *[LI]* ambitions were articulated and operationalized well in advanced of the COVID-19 *[and MarSC]* crisis, the high profits recorded in 2020 and 2021 provide an even greater impetus for *[such an]* expansion". These different contextual elements justify to (re)open and (re)assess the subject of LI in an academic context.

This research complements existing literature in several ways. First, even when considering the recent renewed attention of SLs to LI, it remains unclear whether SLs are now more strategically committed to LI than in the past or whether we are witnessing a pendulum circumstances-driven process. Second, there is room to more explicitly analyze if LI is a fundamental strategic path disruption or rather a temporary evolution of an existing corporate strategy. Finally, extant literature provides little understanding on how SLs develop a novel corporate strategy to integrate logistics activities. The above-mentioned extant literature has addressed the issue of integration strategy, but previous studies generally don't explore the impact of a portfolio restructuring process.

3. Methodology and data collection

This paper uses a case-study approach following a conceptual stepwise research framework empirically supported by key data.

3.1. Research framework

The research framework on LI by container SLs is captured by a diamond shape made up of four facets, see **fig.1**. Each facet is subdivided into two building blocks with their related questions. The dotted black arrows refer to the various questions that are explored in each building block of the facets:

- (1) the inheritance facet explores the drivers as well as the corporate endowment via respectively the questions "why?" and "from whence?";
- (2) the architecture facet analyzes the strategies and the tactics via the questions "how?" and "which?";
- (3) the spatiotemporal facet studies the temporality and the spatial dimension via the questions "when?" and "where?";
- (4) the operations facet focuses on the products and services as well as the outcomes via the questions "what?" and "how far?".

<Insert figure 1 about here > / color should be used for any figures in print

Figure 1: The Strategic 'Diamond' Research Framework on LI in Container Shipping

As depicted in **fig.1** by the unbroken black arrows, the framework provides a multi-faceted approach to answer research question 1 (RQ1) on the SL's strategic commitment to and dependency on LI, while the green and red arrows refer to the identification of enablers and impediments in LI decision-making by

SLs (RQ3). Through the combination of its facets, the framework can also provide essential insights in view of answering research question 2 (RQ2) on the implementation design and transformation planning.

The first facet [inheritance] focuses on the drivers that have pushed SLs to consider LI as a valuable functional domain (why?). By mobilizing the notion of corporate endowment (what SLs start with), we illustrate that different starting points have influenced the way LI has taken place among SLs (from whence?). In the second facet [architecture], we first analyze the corporate strategies of the selected SLs by looking at their communication planning and self-presentation to the market (how?). Although Mergers, Acquisitions and Divestitures (M&A&D) have been extensively used by SLs as a vehicle to pivot their portfolios towards logistics growth and add capabilities rapidly, we study the importance SLs should place when selecting the vertical control forms for their newly acquired logistics firms as these forms might act as a strategic differentiator (which?). In the third facet [spatiotemporal scene], we make a distinction between past and current staging processes towards LI. We provide evidence that in the past SLs had a propensity to rely either on long-term commitment or opportunity grasping. This dichotomy does no longer seem to match the current staging processes. By introducing the notion of "active waiting", we demonstrate that there is a current convergence that reconciles the two staging approaches (when?). We investigate the geographical embeddedness of LI strategies, and we demonstrate that recent logistics acquisitions are partly shuffling the cards even if these acquisitions are often motivated by their geographical complementarity with the existing SL's footprint (where?). In the fourth facet [operations], we demonstrate that the concept of "adjacency expansion from the core" is at the heart of SL's growth strategy. We argue that moves to penetrate segments located far from the core are a sign of a strong strategic commitment towards LI even if it induces managerial constraints due to the weak relatedness with the core business (What?). Finally, we leave this topic deliberately open for further discussion, especially about how far SLs will be able to scale their logistics product into their wider ocean client base. For that purpose, we discuss several impediments and enablers as depicted by red and green arrows in **fig. 1** (How far?).

3.2. Case study selection and data collection

The paper employs a multiple case-study research methodology to achieve a holistic, empirically focused, and in-depth investigation (Stake, 2006; Tellis, 1997; Yin, 2014; *for a complete overview, see* Harrisson et al., 2017). The multiple case design is based on a cross-case analysis to assess LI in a variety of corporate SL's situations. This approach allows for an overview of the interrelated aspects and complexities of LI strategies among SLs. The methodology captures not only the numerical information on the strategies employed, but also the reasons for employing them and how they are used in relation to other strategies (Zainal, 2007). As highlighted by Yin (1981a), the use of three cases has been found sufficient for a case-based research design.

The case study analysis focuses on the LI developments of three selected SLs, namely Maersk, CMA CGM and MSC. The three SLs have been selected for the following reasons:

- (1) their position in the top tier of twenty-foot equivalent unit (TEU) fleet capacity rankings. The presented analysis intends to particularly study the LI maneuvers initiated by the leaders in the field based on their total TEU fleet capacity. Leading firms in an industry generally act as catalyzers and foreshadow global further trends and developments in the industry.
- (2) it concerns three European private companies with a strong historical focus on container shipping. The origins of quite a few other top-tier container carriers differ in terms of their ownership status (e.g., Cosco from China is a state-owned company), broader company profile or historical market focus. For example, Japanese carriers traditionally are part of *Keiretsu* such as Mitsui which are sets of companies with interlocking business relationships and shareholdings. South Korean carriers, such as HMM and bankrupt Hanjin, were controlled by large industrial conglomerates with a focus on a broad range of economic activities and run by an individual or family, also known as *Chaebol*.

- (3) their operation of port terminals via dedicated subsidiaries. According to a process described as the terminalization of MarSC (Rodrigue and Notteboom, 2009; Slack, 2017), port terminals are considered as real gateways to inland logistics. Conforming to the terminology commonly used in this field (*see* Bichou and Bell, 2017; Notteboom and Rodrigue, 2012), we decide to limit our research to Terminal Operating Shipping Lines (TOSLs) exclusively, i.e., SLs which operate terminals on a dedicated or common-user basis. Logistics from terminalized cargo flows is of strategic importance for SLs.
- (4) their strategic profiling compared to directly competing SLs that don't seem to be interested in LI (yet). In contrast with Maersk, MSC and CMA CGM that are keenly focused on expansion into the logistics sector and that are applying significant investment capital to pursue such expansion through acquisitions, there is currently no explicit indication from ONE, Evergreen or even Hapag-Lloyd of a large investment ramp-up in logistics companies. Hapag-Lloyd, Evergreen, and ONE have not followed competitors' strategic forays into logistics, container terminals, or air freight business (Shipping Watch, 2021). This can be partly explained by the presence of a logistics company in the shareholding of these SLs (e.g., the Kühne family as one of the main shareholders of Hapag-Lloyd while also being active in global 3PL company Kühne & Nagel) or by the fact that these SLs belong to larger conglomerates somewhat already active in the logistics sector (e.g. the Japanese NYK Group as active shareholder of carrier ONE while also having its own logistics division Yusen Logistics).

As demonstrated in the literature review, high-level strategies are always embedded in a particular economic context and can be influenced by particular ownership and governance structures. High-level strategies are neither fixed in time nor immutable, as contemporary disruptions affect SLs with varying intensities. While some SLs seem to be opting for a continued focus on the core business, other top tier SLs now also seem to be moving towards more LI. For example, Hyundai Merchant Marine (HMM) recently released a new five-year strategy calling for $11.4 billion in investments to lay the foundations for future growth prospects as well as to respond to the major disruptions and challenges of today's ever-changing economic environment (Press release 14/07/2022). In this new strategic roadmap, the South Korean SL (separated from the Hyundai Motor Group conglomerate in 2016) formalizes its intention to invest “in a range of initiatives, including securing core assets such as ships, terminals, [*but also*] logistics facilities”. In the near future, it is therefore not excluded that other SLs in the top tier may also deserve special academic attention in the context of LI as things are evolving rapidly.

The Strategic ‘Diamond’ Research Framework is used to analyze and compare the LI strategies of the three selected SLs. We do not carry out three separate studies of the LI processes at work among the SLs. Rather, we use the case-based inputs to illustrate the different facets of LI processes and to underline the associated mechanisms and related theoretical concepts with ultimate aim to answer the central research questions. In following the case-study approach, we derive data that show corporate model change towards LI, including an extensive and detailed examination of information on the past and current involvement of SLs in the logistics functional domain.

To feed the case-based analysis and avoid personal and strategic biases, we collected a large amount of primary and secondary sources, including press releases, annual reports, as well as specialized trade news and consulting reports related to the container industry. We also surveyed and reviewed academic publications related to theoretical concepts of LI strategies.

4. WHY? Drivers [inheritance facet]

A combination of drivers contributes to corporate commitment to LI. The key drivers examined in this building block include efficiency gains, transaction cost minimization via access to know-how, differentiated positioning, and new market entry barriers. SLs may respond to these drivers differently, based upon their view of the relationship between their core business and their logistics forays along with the combination of drivers they confront. Each SL's response, ranging from the action-reaction to the first-mover leadership, reflects varying levels of commitment towards LI.

The most systematic and long-standing efficiency improvement strategy pursued in the past by the SLs was to acquire shares in, or full ownership of some key terminal facilities. In so doing, SLs secure dedicated terminal capacity and achieve efficiency gains in fleet operations (Haralambides et al., 2002). Terminals also serve as sources of new revenue streams for SLs, offering higher operating margins than container shipping in the period 2009-2019 (Notteboom et al., 2021). Specific vehicles within the corporate groups of the SLs have been established to focus on terminal operations: APM Terminals as a full subsidiary of the Maersk Group; TiL and Terminal Link with MSC and CMA CGM as majority shareholders respectively. However, SLs have new commercial incentives to go beyond this initial strategy focused on terminals. Indeed, end users and multinational corporations now want faster and more predictable delivery, as well as a broader and more sophisticated choice of logistics services. This has raised the need to provide customers with one-stop shipping experiences and the necessity to rely on LI to increase efficiency. Therefore, SLs move towards LI because it results in efficiency gains and provides customers with highly valued service reliability (Begazo Gomez et al., 2018). In this context, LI may help carriers to satisfy shipper's needs for efficiency and reliability. SLs give more and more consideration to a business scope enlargement strategy towards logistics, by analyzing the logistics segments they are likely to tap into and expanding capabilities in those segments accordingly. As an illustration, exploring the e-commerce sector has been identified as centrally important by some SLs, especially Maersk and CMA CGM. To take advantage of the e-commerce trade potential, SLs need to adapt, harness effective integration for better efficiency gains, and build e-commerce-friendly integrated MarSC solutions (Wan, 2021). Indeed, ever-changing challenges make it critical for SLs to adapt and plan for change to remain a relevant market player. In this respect, SLs are redesigning their corporate strategy to account for these trends, to ensure efficiency gains and to capture market share. As an illustration, Maersk's global integrator strategy aims to reduce costs, increase reliability, improve responsiveness, and forge a better link with customers (Maersk Annual Report, 2018). This strategy seems to have been followed afterwards by CMA CGM with the CEVA Logistics' takeover in 2019 which serves as a vehicle to explore other segments of the logistics industry and expand its capabilities. To a lesser extent, MSC seems to be moving towards the same strategic intent, although we note that the focus is more on multimodality rather than exploring new logistics forays such as the e-commerce market.

Another well-recognized benefit of LI is that SLs may create a more cost-efficient organization. Given the asymmetry of information and lack of transparency that characterize the MarSC, the interaction of information management and operational "know-how" may help to lower transaction costs. Integration across the logistics opens new possibilities for innovative business models that take use of data and information gaps and asymmetries that exist in the current logistics set up. A major objective of LI is then to eliminate, or at least greatly reduce, transaction costs, the main source of which are the costs involved when separate companies own two segments of the MarSC (Buzzell, 1993). SLs have been steadily acquiring the missing MarSC segments they need to provide full control of customer's cargo beyond just the ocean leg (JOC, 2021)[4]. By aligning the incentives of firms operating in different segments of the MarSC, logistics mergers may also reduce the double-marginalization problem, which describes a situation where every firm in the MarSC wants to maximize its profits (Pilsbury et al., 2010). LI allows SLs to control this problem by internalizing the profits made at other levels of the MarSC. Thus,

[4]https://www.joc.com/maritime-news/container-lines/acquisitions-extend-maersk%E2%80%99s-reach-e-commerce-delivery_20210806.html

integrated SLs offer their own logistics services to reduce service-specific transaction costs and to eliminate double markups.

Offering their own end-to-end service is of strategic importance for SLs as demand for transport and logistics services is heterogeneous. The ocean business is characterized by an increasing level of commoditization of container services leaving little room for differentiation between carriers when only focusing on liner services. LI provides SLs with a path towards focused differentiation combined with a high degree of specialization and increasing market power for the provision of certain services. Integrated SLs want to stimulate demand by offering seamless logistics solution packages with less duplication and more premium services. After spending the second decade of this century making little or no money due to a highly commoditized market, LI puts SLs in a better position to differentiate their offering and scale their logistics portfolio to an even broader customer base. In this sense, SLs are showing a growing interest in omnichannel as a new marketing lexicon used to describe continuity of experience for customers across brands, formats, and devices (Lloyds List, 2021)[5]. As an illustration, Maersk's CEO Soren Skou emphasizes that "the omnichannel capabilities would be the foundation for future organic growth" (TradeWinds, 2021)[6].

As far as growth prospects are concerned, one of the main strategies carried by SLs is indeed to create and increase the 'share of wallet'; in other words, sharing activities by cross-selling the container line and logistics products (Haddad, 2008). As an illustration, the Chairman and Maersk's CEO have recently stated that "[Maersk] has acquired […] business to super charge logistics growth through cross-selling to our […] ocean customers" (Message from the Chairman and the CEO, 09/02/2022). For CMA CGM, the acquisition of CEVA Logistics was motivated by "cross-selling with CMA CGM and […] increasing share of wallet while diversifying to medium and small size customers" (Press release, 26/11/2018). Established SLs are using integration to increase their share of existing customers' wallets in order to consolidate market share (Pompa et al., 2000). Therefore, LI may reduce the number of players in the field. Established SLs may combine their logistics operations as a way of raising the stakes and discouraging potential new entrants (Buzzell, 1993), thus building further competitive barriers to entry. Because service providing requires sector-specific knowledge, new players may face higher entry requirements. In the long run, LI may thereby benefit incumbents while raising entry barriers for new competitors (Begazo Gomez et al., 2018).

As a conclusion, SL's interest in logistics activities is a result of associated drivers. We observe a convergence – fueled and explained by the drivers – which pushes SLs to undertake LI. Although SLs share the same diagnosis over the integration of logistics activities as a valuable functional domain, the process of implementing this strategy direction strongly varies from one SL to another, as will be discussed in the next building block.

5. (FROM) WHENCE? Corporate endowment [inheritance facet]

Most SL's strategies are based on what has been done in the past. In this section we show that each SL is embedded in its specific corporate endowment. Thus, the notion of corporate endowment can provide a starting point for explaining the difference over how LI has taken place among SLs. The case of Maersk is used as a starting point for the discussion. In a second step, we extend the discussion to corporate endowments of other SLs, especially by examining how historical legacy comes to weigh heavily on the present. We argue that endowments have affected the way the LI path is viewed by SLs.

[5]https://lloydslist.maritimeintelligence.informa.com/LL1139367/Why-Maersk-is-paying-a-premium-to-expand-into-land-based-logistics-in-Asia

[6]https://www.tradewindsnews.com/containerships/maersk-throws-down-the-gauntlet-to-amazon-with-3-76bn-acquisition/2-1-1134733

Maersk was able to accelerate the pace of transformation from a conglomerate with diversified business interests to a global integrator in container logistics, not by forcing the issue, but by leveraging what Hensmans et al. (2013) call "happy accidents" to gain a large platform of support. Unexpected situations or events that lead to transformation are known as happy accidents (Johnson et al., 2012). Since 1962, the Danish company had an energy (oil and gas) division within a diversified conglomerate group. As highlighted by Vazão (2018), a natural hedge was formed by the group's composition. When the price of oil rises, the major cost of operating container ships rises as well, but the energy business keeps the company afloat by increasing its margins. When the price of oil falls, however, the shipping division becomes more profitable. Maersk encountered low freight rates and huge drops in oil prices in 2015 and 2016, so the hedging no longer paid off, and the company lost money in 2016. Executives considered alternatives to question which path the company should follow. They agreed in late 2016 on divesting the energy division, claiming there was a conglomerate discount to unwind while focusing on the logistics to keep its leadership within the container shipping industry. Diversity in divisional investment prospects has been blamed for conglomerate discounts, with the hypothesis that such diversity exacerbates agency difficulties, distorts investment allocation, and results in a loss of company value (Burch and Nanda, 2003). Executives decided then to transform A.P. Moller-Maersk from being a conglomerate with diversified business interests in oil, oil services, shipping, and logistics to a global integrator in container logistics (Maersk, Message from the Chairman and the CEO, 20/02/2020). In this sense, the simultaneous drop in oil prices and freight rates acted (in retrospect) as a happy accident because it forced Maersk to take a strategic turn towards LI as a functional domain for future value creation.

As seen before, Maersk was a diversified conglomerate. Conversely, MSC has opted for a clear strategic choice consisting of a portfolio built by two distinct and separate branches, cruises and container transport. Between the two, we find CMA CGM which initially benefited from a more coherent portfolio. Maersk's endowment in the energy activities cascaded into a major restructuring process to achieve the transformation towards LI. The past endowment in energy activities has therefore impacted the starting point on which Maersk originally set out on its road towards LI. Conversely, the more coherent portfolio of CMA CGM at the beginning of its LI journey involves a M&A&D program with a lower magnitude. However, it also means that if divestiture is to take place, it will involve strategic assets or at least assets with a high potential for synergies, as opposed to a highly diversified portfolio from which it is relatively easy to divest one business unit.

As a conclusion, the SL's business portfolio restructuring processes towards logistics are not homogeneous among SLs. Corporate endowment implies different starting points influencing the way LI has taken place among SLs. LI processes are path dependent because these processes exhibit memory effects. It is difficult to disentangle corporate endowment and path dependence effects in part because the features that first brought SL to consider LI as a valuable functional domain are not only persistent over time but also embedded in the SL's historic legacy. As examined in this building block, strategic change towards LI can either be done by partially ignoring the past corporate endowment (like Maersk) or by capitalizing on it (like MSC and CMA CGM).

6. HOW? Strategies [Architecture facet]

Based on our analysis of Maersk's, CMA CGM's and MSC's strategic documents between 2015 and 2021, we identified three defining mechanisms or steps in their approach to mission statement reformulation in the context of LI (**Fig. 2**):

- *(1) critical juncture.* A critical juncture is a moment or specific window in time where there is a significant possibility of a decisive transition from one state to another (Nkomo et al., 2019). LI can be thought of as a significant path disrupter, one possibly capable of undermining SL's traditions and trajectories as well as bringing forward new business paradigms and practices in the container liner industry.

- *(2) institutionalization.* Institutionalization is the process by which a set of activities (i.e., logistics activities) becomes an integral and sustainable part of a formal system (i.e., liner shipping) (Zida et al., 2018). It can be viewed as a series of events that lead to the adoption of new practices (Yin, 1981b).
- *(3) path confirmation.* It can be a deliberate strategic act or an event that confirms the strategic path and reduces the possibility of going backwards or moving towards path disruption. The confirmed sequence leads to a confirmed strategy profile.

<Insert figure 2 about here > / color should be used for any figures in print

Figure 2: Critical juncture, institutionalization, and path confirmation of the strategic reformulation processes of the selected SLs between 2016 and 2022

The critical juncture for Maersk can be semantically observed in its transition from being a "worldwide conglomerate" to an "integrated transport and logistics company". This transition took place in 2016-2017. While the focus in 2016 was still on Maersk Line as “one of the world’s largest container shipping companies”, the group in 2017 preferred to present itself as a “global leader in shipping and ports”. The institutionalization mechanism happened in 2017-2018. Before this period, Maersk’s emphasis was on its “wide range of activities in the shipping, logistics and the oil and gas industry”. During the institutionalization step, Maersk rather referred to its “multiple brands” on the one hand and its “stand-alone Energy division” on the other hand. We argue that preferring the terms "brands" or “division” rather than "activities" is the semantic evidence of the institutionalization mechanism. The use of the word "brands" rather than "activities" semantically reinforces the integration perception by regrouping these different brands under one umbrella rather than being confronted with a cluster of different scattered and disconnected activities. Moreover, it is easier to get rid of a “brand” rather than a business “activity”. The mission statement highlighted the “stand-alone” nature of the energy branch which can be interpreted as a premise for its planned divestiture. The path confirmation mechanism occurred in the period 2019-2021. Maersk no longer describes itself as an "integrated transport and logistics company" but as "integrated container logistics company" and thus abandons the term "transport" to refocus on “container logistics” only. In addition, Maersk is emerging as a facilitator in the MarSC by “connecting, simplifying, enabling (global) trade" and “its customer’s supply chains” and by profiling itself as a "global leader in shipping services". Three strategic pillars support its transformation to an integrated container logistics company: (1) End-to-end digitally enabled transport and logistics services by integrating land-based logistics and ocean business to capture consumer synergies; (2) Financial & operational synergies between ocean business and terminals business for lower cost, productivity, and asset utilization; and (3) Building new digital platforms, which enable integrated offerings, standardization & automation (Maersk investor and analyst presentation, 2020).

For CMA CGM, the critical juncture took place in 2017, a pivotal year for the CMA CGM Group, with the appointment of Rodolphe Saadé as Chief Executive Officer. In a succession situation, a strategic shift is more likely to occur. CEO successions are a key mechanism for realigning with the corporate or environmental context, and they are frequently a catalyst for breaking through organizational rigidity and resistance (Datta et al., 2005). Rodolphe Saadé became CEO with a new strategic ambition called "Shipping the future" made up of 4 corporate priorities. Among these, we found the “maritime dimension” but also the “inland and logistic development”. The campaign’s visual identity, consisting of a ship sailing in an ocean of stars with the Earth as its stern, implicitly revealed the group's desire to move towards other sectors than shipping. Moreover, a unique typography was used for rebranding all CMA CGM’s subsidiaries at the same time, bringing greater visual connection and integration between the group’s regional lines. The acquisition of CEVA Logistics by CMA CGM was the culmination of the institutionalization mechanism. Since then, the group no longer describes itself in a vague but foreshadowing way such as a "customer-centered group" (cf. "Shipping the future" strategy) but fully embraces its logistics turn by presenting itself as a “leading worldwide transport and logistics group”. The confirmation mechanism took place in 2021 with the presentation of the new group strategy and

brand image named "better ways". This new identity aims to be the visual support for the new logistics ambition, while at the same time emphasizing the importance given to sustainability.

Concerning MSC, family dynamics play a major role as well. The appointment in 2014 of Diego Aponte to replace his father Gianluigi as CEO of the container shipping business provided a new strategic momentum. As early as 2016, Diego Aponte publicly mentioned that "MSC believes in vertical integration". He added that "MSC cannot be satisfied with the maritime side only, especially in the current highly competitive environment" (Jeune Afrique, 2016)[7]. Although LI seems to have been considered at the highest level as early as 2016, the critical juncture seems to have manifested itself in the mission statement during 2018-2019. At that point, MSC no longer described itself as a "world leader in global container shipping" but rather as a "global business engaged in the shipping and logistics sector". The institutionalization mechanism extends between 2019 and 2021. During this step, MSC intends to mark its difference in a context where its direct competitors are also integrating logistically. In this sense, MSC is institutionalizing the shift to LI by trying to find where its competitive advantage lies. MSC's competitive advantage can be semantically found in the mission statement by its willingness to provide LI solutions, especially in "the emerging markets across all continents". It should be noted that the three mechanisms have already been completed by Maersk and CMA CGM. MSC still seems to be between the second and third mechanism. Our categorization of MSC is less clear-cut. This is due to the low level of disclosure within the MSC Group which makes strategic diagnosis via mission statements more complicated. However, recent business events and in particular the acquisition of Bolloré Africa Logistics foreshadow the completion of the third step by MSC as well. As mentioned before, MSC is characterized by a very strong family embeddedness. Therefore, a showdown with MSC's strongly embedded patriarchal hierarchy is probably inevitable following the appointment of Søren Toft (ex-Maersk) as the new CEO of the group in December 2020 (Shipping Watch, 2020)[8].

The above analysis of the reformulation processes of the mission statements carried by the selected SLs demonstrates how SLs have been committed to LI and how this message has been communicated to the outside world. The findings confirm that LI is considered as a key strategic goal and top priority for the different SLs. To achieve LI, SLs might have to divest some activities, acquire promising competing firms, and merge these business units to exploit operational and financial synergies. In this context, SLs should undertake a programmatic approach towards mergers, acquisitions, and divestures (M&A&D). This is the subject of the next building block.

7. WHICH? Tactics [Architecture facet]

In a competitive world, gaining a competitive advantage is the result of differentiators. In a context of LI, acquiring unique resources and distinctive capabilities (also known as core competencies) through M&A&D as well as determining the appropriate forms of vertical control, appear to be among the main differentiators used by SLs.

Concerning the first identified differentiator, divestiture and resource redeployment via M&A&D have gained relevance as the main reconfiguration strategy that can create economic value for SLs. Indeed, M&A&D have been extensively used by SLs to pivot their portfolios towards logistics growth and add capabilities rapidly. However, M&A&D strategies have been used differently by the selected SLs.
During the first years after the release of its strategic intent to become a global integrator, Maersk has embarked on a M&A&D strategic path which can be described as "growing by divesting". Maersk has divested and spun off some parts of its business while acquiring other businesses to expand its end-to-end logistics offerings. In 2017, Maersk sold its energy subsidiary Maersk Oil to Total for over USD 7.5 billion. This was followed by the sale of Maersk drilling, tankers, and supply service. These divestments in the energy sector freed up the necessary funds to invest in transport and logistics. Although "growing by divesting" may seem contradictory, the Maersk case shows that it can be a feasible strategic path for

[7] https://www.jeuneafrique.com/mag/373115/economie/diego-aponte-lafrique-cest-lhistoire-de-famille/
[8] https://shippingwatch.com/carriers/Container/article12599094.ece

improving SLs' long-term performance through prudent business deletion and resource reallocation decisions (Varadarajan et al., 2001). The Maersk's case shows that the most logical candidates for divestiture are the strategic business units with the least potential to leverage the SL's core competencies. As stated by Pawlik et al. (2011), if the assets involved are non-core or just offer assets to operating units on a lease basis, a divestiture has no impact on operational activities.

A different picture arises when divesting business areas directly tied to shipping activities (such as transport terminals) to fund a logistics entrance strategy. As an illustration, CMA CGM raised about USD 1 billion to support the takeover of CEVA Logistics by selling stakes in 10 port terminals held by fully-owned CMA Terminals to Terminal Link, a joint venture between CMA CGM and China Merchants Holding. CMA CGM was to some extent compelled to sell some of its strategic and synergy generating assets because its corporate endowment was less diversified than its competitors.

After pursuing the "growing by divesting" strategy, Maersk then switched to a more programmatic approach to M&A&D, focusing on regular acquisitions of mid-cap logistics companies. Because expanding into a new business field like logistics is typically a difficult experimental process, Maersk uses programmatic M&A&D to systematize growth and capitalize on learning-curve benefits.

Unlike Maersk's strategy, which favors a long series of multiple benefits over time, CMA CGM saw the take-over of CEVA Logistics as a window of opportunity to benefit from the magnitude of a single advantage. Conversely, MSC has long favored the development of structural or ad-hoc coordination mechanisms with independent providers, selective investment decisions and subcontracts with logistic partnering firms. However, the recent USD 6.43 billion acquisition of Bolloré Africa Logistics by MSC sheds new light on its LI strategy. Like CMA CGM with CEVA Logistics, MSC seems to have opted for a one-off strategic move of great magnitude. However, there are major differences between these two cases. CMA CGM's acquisition of CEVA Logistics strategically paved the way for other acquisitions in the logistics sector. By mobilizing the financial resources generated by its liner shipping branch, the French SL was able to make complementary and smaller acquisitions to fill certain gaps in the portfolio of CEVA Logistics and to strengthen its global network. Whereas CEVA Logistics offered a worldwide network with a global reach for the acquiring SL, MSC seems to follow a more regional approach by, among others, acquiring the African logistics activities of the Bolloré Group in 2021 and the Brazilian company Log-In Logistica in the same year. Thus, time will tell whether these acquisitions were solely motivated by strengthening the existing regional embeddedness or whether it sets the stage for a sequence of responsive and complementary acquisitions in the logistics sector.

Concerning the second differentiator, CMA CGM and Maersk have often been mentioned in the same breath of carriers pursuing a broader logistics vision, but it seems that this generalization does not capture the essential tactical differences between the two SLs. Instead of the previous arms' length carrier-terminal operator relationship between Maersk Line and APM Terminals, Maersk's key hub ports now function as "a one-company operation," like how UPS and FedEx manage their global distribution hubs (The Loadstar, 2016)[9]. Furthermore, Maersk is fully integrating supply chain management operations like as origin logistics and customs brokerage into its core transportation business, a significant milestone in liner shipping that has largely gone unnoticed. CMA CGM, on the other hand, is keeping the CEVA business, which includes forwarding, apart from the rest of the group. CMA CGM will achieve its goal of providing end-to-end solutions by bringing together the expertise of several service providers inside a tightly knit, family-owned organization (JOC, 2019)[10]. CMA CGM's strategy is to increase commercial synergies by recommending CEVA solutions to CMA CGM customers and vice versa, as well as integrating CMA CGM's logistics operations with CEVA. This will expand the logistics provider's footprint in ocean freight forwarding and provide for cost savings through pooled activities such as purchasing and shared services. Even though CMA CGM and CEVA will retain different names,

[9] https://theloadstar.com/cross-selling-co-operation-key-maersks-new-direction/

[10] https://www.joc.com/maritime-news/container-lines/cma-cgm/cma-cgm-expands-cost-cutting-effort-amid-higher-debt_20190529.html

CEVA will be operated on an arm's-length basis, with its inland distribution integrated into the SL's own port-to-port operations (JOC, 2019)[11].

Maersk and CMA CGM complement relatively rigid vertical control forms for their big logistics firms with looser vertical control forms via incubators or accelerators for their small logistics firms. Both SLs provide connections, financial resources, and operational expertise while allowing the fostered start-ups to operate autonomously. As illustration, Maersk has effectively developed e-forwarder *Twill Logistics* by forming a separate company and enabling it to compete with the existing business (Hausman et al., 2020). The use of flexible forms of vertical control, via incubators and accelerators, addresses the recurring criticism that SLs are often too rigid to bring about drastic changes.

Achieving a competitive advantage does not necessarily mean that the SL must be at the extreme of one vertical control form but should rather have the best combination of vertical control forms. Our findings in this section show that SL's divestment and resource redeployment decisions via M&A&D are inextricably linked over time, with divestiture decisions influencing resource redeployment decisions and vice versa (Procher and Engel, 2018). The importance of temporal and spatial considerations in this strategic assessment will be further discussed in the next building block.

8. WHEN? Temporality [Spatiotemporal scene facet]

Researchers have conceptualized strategy as a sequence of competitive actions carried out across time which impact firm performance (Shi and Prescott, 2011). The strategic process of a SL's portfolio restructuring can be described as a sequence of events resulting in a key change in the business orientation of the firm. It should be remarked that strategies do not always call for equal and balanced initiatives on all fronts. Instead, usually some initiatives must come first, followed by others, and then still others (Hambrick and Frederickson, 2005). Different combinations of interactions between precipitating and enabling dynamics are needed (Greenwood and Hinings, 1996). Therefore, we will examine the extent to which staging considerations shape the SL's strategies. To do this, we will make a distinction between past and current staging processes towards LI.

For the past staging process of Maersk, the initial burst was akin to a long-term commitment. Given the magnitude of the transformation, Maersk has proceeded as follows: divestiture first but redeployment of resources in logistics and transport activities after. Starting in 2016 and continuously since then, Maersk embarked on the journey to become an integrated logistics company in line with its vision to become a global integrator of container logistics. Maersk completed a program of radical business portfolio reorientation characterized by initial burst of change and followed by relatively continuous progress toward the desired endpoint.

In the case of CMA CGM, the past strategy was characterized by bundling and unbundling pendulum moments with the implementation and subsequent commercial failures of *Rail Link Europe, Veolia Cargo Link* and *Greenmodal Transport.* During this bundling/unbundling period, CMA CGM faced a steady stream of small and medium-sized opportunities. This stream was interspersed with the possibility to acquire CEVA Logistics. This acquisition represented a real chance to create significant value. Confined to a mundane strategy characterized by an unsuccessful bundling and unbundling strategy in the past, CMA CGM suddenly faced a brief window of opportunity, requiring that it should be pursued in an assertive way. CMA CGM has taken advantage of this window of opportunity and shaped a new logistics narrative around it.

Geneva-based MSC seemed to follow an ad-hoc and focused LI strategy targeted on the development of specific port-hinterland corridors (mainly through *Medlog* and related *Medway*), and overall opportunity grasping. As an illustration, the liberalization of the Portuguese rail freight sector in 2015

[11] https://www.joc.com/international-logistics/logistics-providers/ceva-logistics/cma-cgm-no-special-forwarding-favors-ceva_20190213.html

appeared to be a window of opportunity for MSC. The carrier decided to acquire the cargo division of the Portuguese railways. The sudden appearance of this window of opportunity has somehow disrupted the development model of the group which consisted of strategic partnerships and cooperation agreements with railways providers. A window of opportunity can only have a disruptive impact if the related investment can fit into the corporate's strategic thinking because of its intrinsic relevance and strategic potential. In that context, the most significant benefit for MSC was independence, in fact the ability to control an additional segment of the MarSC.

As shown above, SLs have in the past either followed an opportunity grasping, a long-term commitment or a bundling/unbundling strategy to achieve LI. These three staging processes allowed opportunities for trust to be established and enabled SLs to reach a certain threshold in the logistics segment of the MarSC to be taken seriously by investors and other market players. Once this level of credibility is reached, SLs can switch to an 'active waiting' strategy, which consists of anticipating, preparing for, and seizing opportunities and dealing with threats as they arise. As described by Sull (2015), the active waiting theory has certain characteristics.

First, SLs should develop a fuzzy vision guiding their journey towards LI. A fuzzy vision describes a SL's domain, geographic scope, and aspiration in broad terms. By way of illustration, the strategic vision of CMA CGM known as "better ways", states that "as a leader in transport and logistics, [the Group] will develop fair and more balanced economic exchanges respectful of every human being and of the planet" (CMA CGM, Mission Book Better Ways, 2021). A fuzzy vision is effective because it gives general direction, establishes goals, and sets aspirations.

Second, exploratory forays into potential new markets, such as investments in promising start-ups and small-scale market experiments, should be made by SLs. SLs have invested in logistics start-ups with the goal of integrating technology know-how and gaining access to new data. As shown in the tactics building block, joining forces with a logistics start-up has proven to be a more flexible solution than developing a solution involving in-house R&D capacities (ITF, OECD, 2018). As an illustration, CMA CGM has developed an investment fund called "CMA CGM Ventures" to support 10 to 20 start-ups per year. In parallel, CMA CGM has launched "ZEBOX", a start-up incubator and accelerator, dedicated to the development of vertical technologies mainly in transport and logistics. Conversely, "Maersk Growth" is the corporate venture arm of A.P. Moller-Maersk and provides funding for start-ups working in smart logistics and sustainable MarSC.

Third, executives are advised to preserve a war chest of cash. In an uncertain market environment, cash has the overwhelming advantage of fungibility since it can be used for a variety of purposes. Nowadays, we see that SLs maintain financial reserves to cover their obligations and investment opportunities. As an illustration, Maersk argues in its 2019 Annual Report that "it is of great importance to maintain a financial reserve to cover the group's obligations and investment opportunities and to provide the capital necessary to offset changes in the group's liquidity due to changes in the cash flow from operating activities. The flexibility of the financial reserve is subject to ongoing prioritization and optimization", for example when the appearance of a window of opportunity requires rapid deployment.

Finally, during periods of active waiting, SLs must focus on routine operational improvements. Operational improvements keep companies in the game. Continuous improvement is a must for organizations as it facilitates innovation and helps organizations to transform and become more efficient. Maersk, CMA CGM and MSC have a strong pipeline of continuous improvement projects and initiatives. As an illustration, Maersk has continuously developed several operational improvement projects in terms of demand forecasting and increased customer focus in order to improve the quality of its service delivery (Karenga, 2021).

As a conclusion, Maersk had in the past a propensity to rely on long-term commitment while MSC preferred to grasp ad hoc opportunities. As for CMA CGM, the French SL followed a median strategy characterized by a succession of bundling/unbundling suddenly accelerated by a window of opportunity (i.e., the take-over of CEVA Logistics). However, this dichotomy seems to not match the current staging

processes. There is a current convergence, known as the active waiting strategy, that reconciles the two temporal approaches. Indeed, SLs are nowadays temporally embedded in long periods of evolutionary or incremental change (long-term commitment) interspersed with short, sharp revolutionary transitions facilitated by openings of windows of opportunity (opportunity grasping) (Amis et al., 2004). In addition to this temporal discussion, LI strategies are also shaped by geographical considerations. For example, some acquisitions include a spatial component and are motivated by the desire to obtain access to input and market resources or to engage in multipoint competition (Chakrabarti and Mitchell, 2013). This is the subject of the next building block.

9. WHERE? Geography [Spatiotemporal scene facet]

As multinational corporations, SLs face the tension between local-regional responsiveness and global integration (Brauer and Heitmann, 2013). SLs gather information from various sources and select amongst geographically scattered alternatives when making decisions about expansion, innovation, operational changes, and divestiture (Chakrabarti and Mitchell, 2013). This building block focuses on the spatial aspects of historical embeddedness and the expansion that results from the LI.

Historically, the Danish A.P. Moller-Maersk Group has a strong focus on Northern Europe and the Scandinavian peninsula. The CMA CGM Group presents a more hybrid geographic expansion model taking advantage of the dual France's maritime openings to the Atlantic and the Mediterranean. MSC, although based in Geneva, remains a company in the hands of the Italian Aponte family which intends to maintain a strong anchoring in the Mediterranean basin and in Africa. MSC is strongly present in the Iberian Peninsula and in Italy, especially in Genoa, Livorno, La Spezia, and Trieste. In these regions, Medlog (its logistics subsidiary) and Medway (its own railway company) move containerized goods from and to inland terminals which execute an extended gate function for the container facilities controlled by terminal operating division TiL. In Africa, MSC benefits from a considerable footprint in West Africa where the group has the strongest feeder network covering all ports. Despite these differences, Maersk, MSC, and CMA CGM are nowadays truly global service providers, with networks spanning all major regions and many smaller ports (Gadhia et al., 2011).

LI is reshuffling the strategic card as there are numerous acquisition opportunities around the world. Therefore, SLs can adjust their global geographic strategies in the light of these opportunities. In this context, SLs are committed to a "think global, act local" logistics growth strategy by adding the local operational know-how of the acquired logistics firms to the SL's leading global network. SLs aim to become efficient global logistics organizations while tailoring their services to specific market needs in the countries where they operate. The activities of SLs are managed to provide economies of scale through a worldwide organization, while they simultaneously try to handle varying market situations in different parts of the world and differentiate their services to meet local needs (Sornn-Friese, 2019). Compared to the past fairly *ad hoc* approach to regional opportunities, the "think global, act local" strategy seems to be a more deliberate strategic choice for the SLs as they acquire logistics companies that either bolster their existing global network or fill in the local and regional gaps of their portfolio.
As an illustration, the acquisitions of MSC essentially target emerging markets, particularly in South America with the take-over of Log-In Logistica (2021) and in Africa with the control over the African logistics activities of the Bolloré Group (2021). In this latter case, the Italian-Swiss shipowner gets hold of sixteen large container port terminals (Congo, Guinea, Togo...), three rail concessions (Benin, Cameroon...) and a multitude of warehouses spread over the entire continent. This acquisition will allow MSC to benefit from a global coverage in the African continent.
Although MSC is the SL in our case study that most assumes its "appetite for growth in Africa" by profiling itself as the "big believer in Africa" (Soren Toft, 2022 Abidjan Forum), it is worth noting that CMA CGM has recently acquired freight forwarder businesses both in Morocco (ASTI Group, 2021) and in East Africa (Spedag Interfreight, 2022). Nevertheless, CMA CGM and Maersk seem to focus on consolidating their footprints in high demand areas to support cargo growth by acquiring new capacity in Asia, North America, and Europe. Maersk made acquisitions in logistics to close capability gaps and

strengthen its geographical presence. Maersk's acquisitions of Vandergrift (2019), Visible Supply Chain Management (2021), Pilot Freight Services (2022) and Performance Team (2020) bring strong logistics capabilities to A.P. Moller - Maersk in North America. Some facilities are indeed strategically located near air and ocean gateways with Container Freight Stations (CFS) capabilities. In Europe, the acquisition of B2C Europe (2021) and HUUB (2021) serve as a good base for future geographic expansion. Moreover, Maersk acquired LF Logistics (2021), a significant contract logistics player with a vast footprint across the Asian-Pacific region. The acquisitions of CMA CGM are mainly motivated by complementarity benefits with the existing CEVA Logistics geographic backbone, such as through the takeovers of Oxatis (2020), Ingram Micro (2021) and Colis Privé (2022). These should significantly strengthen the position of CEVA Logistics in the U.S. and European markets, enhancing its ability to capitalize on the e-commerce boom's potential (CSCMP's Supply Chain Quarterly, 2021)[12].

Thus, SLs show variation in the spatial distribution of potential sources for new resources. The extent of geographic dispersion of logistics activities is likely to vary from SL to SL, dependent on their resources, capabilities, and business realities. The spatial dispersion of logistics activities is not only geographical but also operational, in the sense that SLs offer a very diverse range of logistics products and services. Through M&As, SLs make strategic inroads into a wide variety of MarSC segments, sometimes far removed from their core business. This is discussed in the next building block.

10. WHAT? Products & services [Operations facet]

Some segments of the MarSC might be identified as centrally important, while others are deemed secondary or peripheral (Hambrick and Frederickson, 2005). New client expectations and an increase in logistics technology that amounts to a digital revolution are transforming the logistics sector environment, both for asset and non-asset firms. SLs should identify current and potential gaps in their portfolio in relation to the firm's overall business plan to integrate logistics activities. Subsequently, SLs try to strike a balance between strengthening the firm's current strategic position in the shipping business and exploring the logistics market to build a portfolio with the highest potential financial value (Terwiesch and Ulrich, 2008).

From a logistics service range perspective, LI works in concentric circles outwards bolstering core container shipping capabilities in an increasingly expansion of the perimeter of the liner's activities. **Fig. 3** focuses on the acquisitions operated between 2015 and 2022 by the selected shipping companies. The acquisitions can be classified in three levels of adjacency depending on their relatedness to the liner shipping core business in terms of shared customers, costs, channels, capabilities, and competition:

- (1) the close adjacencies include port terminals, liner-owned shipping agencies and competing SLs. These are sectors in which relatedness with the core business is known to be high.
- (2) the midrange adjacencies cover moves into activities such as inland terminal operations and warehousing. These are sectors in which relatedness with the core business is known to be medium.
- (3) the distant adjacencies include air freight business, last-mile logistics and e-commerce, and other activities showing a low relatedness with the core business.

<Insert figure 3 about here > / color should be used for any figures in print

Figure 3: Strategic radar chart on the adjacencies moves of the selected SLs

LI has been the driving force behind the development of multimodal and intermodal transportation in recent years, ensuring the continued operation through an ever-complex MarSC network. Some modal

[12]https://www.supplychainquarterly.com/articles/5921-cma-cgm-lays-out-30-billion-to-acquire-e-commerce-3pl-ingram-micro-commerce-and-lifecycle-services

integration is more common than others, such as sea-road (e.g., Einride & Maersk's partnership for electric trucks), while others, such as sea-rail (e.g., CP Carga and Medway) are less common. However, as depicted in the radar chart above, an integration of sea and air transport (e.g., Senator International, Maersk Air Cargo, ITA Airways, CMA CGM Air Cargo, and Air France-KLM) as well as investments in last-mile logistics (Colis Privé) and e-commerce capabilities (Oxatis, Ingram Micro Commerce, Performance Team, LF Logistics, Visible Supply Chain Management, B2C Europe and HUUB) are currently emerging. The radar chart illustrates how SLs re-engineer transportation networks to satisfy the needs of shippers who work on a JIT basis.

We believe that moves to penetrate segments located far from the core are a sign of a strong strategic commitment towards LI even if it induces managerial constraints due to the weak relatedness with the core business. Maersk and CMA CGM aim to integrate box shipping with the broader logistics chain. They are taking a high-tech approach with an important strategic commitment to innovate and invest in their new roles as global logistics integrators. MSC wants to keep its focus on the core ocean-going business the group already runs (Lloyd's List, 2019)[13]. MSC does not venture too much into distant adjacencies. The only exception is its joint bid with Lufthansa in early 2022 to acquire ITA Airways. Such a move potentially creates value added for its freight and MSC cruise businesses, given that commercial planes can carry passengers to its cruise home ports in the Med while at the same time transporting goods in its cargo holds. Combining passengers transport and cargo in the holds can be viewed as a strategic buffer. As many new passenger aircraft will be entering service shortly, additional and cheaper capacity compared to that on a cargo aircraft will be freed up. Therefore, it's unclear whether purely dedicated air cargo business units such as CMA CGM Air Cargo and Maersk Air Cargo would be profitable in the future, especially if the market returns to the conditions of 2017-2019 characterized by plenty of capacity and little money to earn.

The above raises the question whether SLs should buy assets close to their core business or expand their radius of operation. Providing a definitive answer to this question is difficult given the very recent nature of the moves of SLs in activities somewhat disconnected from their ocean business. We believe there must be a sweet spot in terms of radius where SLs are close enough to their primary business to realize competitive advantage benefits. In that context, it seems that extracting additional value close to home, rather than moving too far away, is the optimal course of action for SLs; assets already in hand but peripheral to the core offer the richest new cores (Zook, 2007). This does not mean that SLs cannot develop hybrid approaches by executing a series of different types of adjacencies moves. Indeed, LI requires very deliberate two-speed approach where legacy core assets (ocean) are managed for cash while new adjacencies business (logistics) are nurtured for growth. However, combining the liner shipping core business with the exploitation of new logistics forays can be facilitated or hindered by a series of enablers and impediments. This is the subject of the next building block.

11. HOW FAR? Outcomes [Operations facet]

Impediments to LI refer to factors that hinder the implementation of LI. Identifying these impediments will help executives to formulate a robust LI strategy to mitigate future challenges. A comprehensive understanding of the enablers to an effective LI strategy is the key to overcome perceived impediments. We argue that LI strategy should be examined systematically covering all enablers and impediments described in this building block as well as their interdependencies.

The framework in **Fig. 4** (original figure layout has been designed by and first used in Salim et al., 2019) shows how enablers can function as an interconnected system that will overcome the underlying impediments to achieve the LI objective. This framework compiles and synthesizes the enablers and impediments to integrated MarSC in an effort to create a transitional framework from the current status

[13]https://lloydslist.maritimeintelligence.informa.com/LL1129479/Cosco-Shipping-woos-forwarders-as-it-clarifies-end-to-end-strategy

quo towards either logistics disintegration or integration. Three situations can arise from the observed balance between impediments and enablers:

- (1) the status quo when the relative weights of impediments and enablers cancel each other out
- (2) a strong pull towards LI of the MarSC when enablers outweigh impediments
- (3) a strong pressure towards logistics disintegration when impediments overtake enablers.

<Insert figure 4 about here > / color should be used for any figures in print

Figure 4: Enablers and impediments: status quo, integration, and disintegration

Regarding the actors (who?), SLs are not the only ones who are looking at LI and there is no guarantee that they will be the most competitive logistics integrators in the MarSC. Existing E-commerce giants, large 3PLs (third-party logistics service providers) and SLs are increasingly vying for the same e-commerce clients by providing a similar all-in-one solution for transporting products from a factory loading dock to a customer's doorstep. Moreover, when adopting forwarding and logistics services, SLs broaden their commercial range by entering the core business of freight forwarders and 3PLs. By redesigning their website to allow companies to reserve space on their ships or planes directly, SLs cut out the middleman and provide freight forwarding services to their customers directly (Quartz, 2022)[14]. As SLs enter in direct competition with freight forwarders, the close relationships with these ocean business clients might be compromised. LI might also deteriorate the relationships with the different alliance members and investors.

Regarding the drivers (why?), LI strategies are not new, but they have traditionally been driven by the acquiring company's margin concerns rather than the development of value-added customer solutions that can be priced at more predictable premiums (Freightwaves, 2020)[15]. Moreover, the current super-profits have also put carriers in the political spotlight as a substantial part of these super-profits has been used to fund acquisitions in the freight forwarding and logistics business (ITF, 2022). Some regulatory authorities have expressed concerns about possible competition distortions, dominant positions, and unfair behavior of certain SLs. While many jurisdictions have put regulations in place that support alliances and consortia in the maritime segment of the supply chain, it is highly unlikely that SLs will benefit from the same antitrust immunity in the landside activities. Competition regulators seem to be looking closely at the ongoing LI developments, as evidenced by the U.S. bipartisan Ocean Shipping Reform Act of 2022 that gives the Federal Maritime Commission (FMC) an updated toolbox to protect exporters, importers, and consumers from allegedly unfair practices of SLs. A big case from a regulator against one SL could put a damper on LI. The resulting regulatory constraints and associated uncertainty could discourage other SLs to further integrate.

Regarding the corporate endowment (from whence?), SLs will kill their new business but also potentially their legacy business if SLs fail to logistically integrate. While LI creates value from synergies, this should not come at the cost of disruption to the endowed business. In this context, strategic and personal biases may alter the perception of market reality.

Regarding the strategies (How?), the delivery promise introduced as part of the LI strategy is key to build customer trust and thereby retaining strong brand reputation. In that context, SLs should not neglect their mission statements.

Regarding the tactics (which?), SLs that have grown by heavily relying on acquisitions will come to rely on additional acquisitions for continued growth. While relying on acquisitions may provide the kind of growth desired by management, it may also limit the company's future growth options. As SLs become more reliant on acquisitions, they may lose confidence in their capacity to develop organically, leading

[14] https://qz.com/2124261/amazon-and-maersk-are-battling-to-control-global-supply-chains/

[15] https://www.freightwaves.com/news/flexport-coo-maersk-integration-strategy-no-threat-to-business-with-video

them to rely on acquisitions for future expansion (Kim et al., 2011). In that context, SL should also pay careful attention to the selection of the appropriate vertical control forms for their newly acquired company as a more separated corporate structure between the SL and its new logistics venture tends to reassure the shippers more.

Regarding the temporality (when?), a short-term disposal strategy aimed at boosting liquidity is unlikely to be more appealing than a long-term investment strategy centered on cargo terminal facilities that provide control over critical tactical segments of the MarSC. In that context, it should be noted that some carriers have divested deep-sea terminals to finance their logistics ambitions. As underlined by Pawlick et al. (2011), even if terminal asset divestiture could provide a way to raise capital to address short-term financial shortages, analysts and investors should not anticipate a terminal divestment strategy to be a straightforward mitigant.

Regarding the geographical footprint (where?), globalization and the rise in containerized world trade has led to substantial growth in the spatial scope of activities performed by carriers (Midoro et al., 2005). As worldwide groups with a global reach, SLs are also exposed to geopolitical tensions. Prolonged geopolitics tensions might drag on global economic growth and container demand and potentially expedite container supply chain recovery, leading to a return to lower freight rates and profits.

Regarding the products and services (what?), transforming into a global integrator of container logistics requires an additional focus on building land-based products and becoming a customer led organization. This may present some challenges in terms of expanding the product offering and customer flexibility while maintaining a cost-effective strategy.

The above discussion on impediments and enablers is not exhaustive. The key is rather to know if the SLs will be able to scale their logistics product into their wider ocean client base. The following years and future financial figures will provide evidence whether this scaling is happening successfully or not. In the near future, SLs must also stabilize earnings in the ocean business by continuing to strengthen the business and ensuring a seamless landing from present elevated high freight rates.

12. Discussion and conclusions

The presented research introduces a framework for examining the LI strategies of three global container SLs. The study explores the process of implementation of an LI strategy by providing an in-depth understanding of the ins and outs of such a strategy. The paper underlines and examines several key strategic, tactical, and operational issues. More precisely, the research shows that LI involves a complex system of embedded facets and strategic biases by demonstrating that their potential interactions may have an impact on corporate strategy. The findings, which provide several significant contributions to scholarly knowledge and managerial implications, are discussed below.

12.1. Contributions to scholarly knowledge

This research presented a multi-faceted analysis of SL's strategic paths in the context of LI. Using a multiple case-study focusing on Maersk Line, CMA CGM and MSC, the framework was empirically applied to answer three research questions related to the corporate strategy of SLs in light of LI.

Table 1 summarizes the attributes for each building block, along with the research questions to facilitate the concluding analysis of LI strategies among SLs. This table functions as a concluding reading grid showing the qualitative assessments of the authors based on the extensive discussions presented in the paper. It uses therefore the following color code:

- filled colored circles refer to present attributes observed in the LI strategy of the SL
- light colored circles refer to partially present attributes for which a clear-cut answer cannot (yet) be given
- empty circles refer to strategic attributes absent or not found during our case study.

Table 1: Summarizing reading grid on the facets, building blocks, attributes of LI within the selected SLs and their link to the related research questions

<Insert Table 1 about here > / color should be used for any tables in print

The container liner industry shows differences and similarities in the mode in which the LI is approached by SLs and strategies are continuously tailored depending on a process embedded in market condition changes, competitor's moves, corporate specific considerations, and financial capabilities. These differences and similarities in the LI strategies of the three container carriers can be assessed by referring to this table. This grid summarizes the strategic ambitions of SLs in terms of LI. It can be read vertically (SL by SL) or horizontally (attribute by attribute). As a result, the table provides answers about the differences and similarities in LI both within and across SLs. We argue that the combination of decisive comparative attributes (e.g., a large-scale business transformation combined with adjacency moves away from the core business) contributes to the measure of the strategic commitment of SLs to LI.

Concerning RQ1 (To what extent are the chosen SLs strategically committed to and dependent on LI?), it can be concluded that Maersk and CMA CGM show a clear strategic commitment to LI. Conversely, MSC seems to be in a more intermediate position as it keeps multiple strategic options deliberately open. MSC prefers not to venture too far towards LI because it would limit the options for a strategic retreat if economic market conditions dictated it. Although MSC is investing in LI because there are powerful generic drivers that lead to consider integration as a viable functional domain, the group concomitantly secures its core business (based on Alphaliner data, MSC's order book now corresponds to the entire fleet capacity of the fifth-largest container carrier Hapag-Lloyd) and makes complementary investments with high synergy potential. Maersk and CMA CGM see the current market conditions as an opportunity to position themselves on future growth vectors that, while promising, are nevertheless located far from the core business (e.g., e-commerce, last mile logistics and air freight business).
While the findings of RQ1 highlight the shared strategic commitment of Maersk and CMA CGM as well as the more cautious position of MSC, the outcomes of RQ2 (How do SLs adopt the LI implementation design and transformation planning?) point to intra- and inter-carrier differences in the temporal paths of LI, the spatial coverage when rolling out LI initiatives and the implementation means of LI. By using innovative concepts never used to our knowledge in the maritime economic literature such as *active waiting* or *happy accident*, we demonstrate that convergences and points of differentiation shape the LI strategies (*see* Table 1 for more details).
Concerning RQ3 (What enablers and impediments are guiding LI decision-making by SLs?), the balance between enablers and impediments can lead to one of three outcomes: status quo, disintegration, or full LI. Given the multifaceted nature of LI, we show how the insights gained in RQ2 can be integrated into the discussion of enablers and impediments in RQ3.

12.2. Managerial implications

The research contributes to a more general discussion on managerial implications in an LI context. This paper provides a detailed strategic insight into LI in container shipping. This insight can help practitioners such as carriers, ports authorities, traders, and other relevant stakeholders in the MarSC to formulate proactive and reactive initiatives to position themselves within an increasingly competitive market. Among these, strategists and executives are advised to pay attention to the following:

- *Developing a holistic strategic approach:* executives are advised to consider that their strategic actions on one facet can sometimes have an unintended consequence on the other facets, just as these actions can exacerbate or diminish related impediments and enablers. Strategists are therefore advised to pursue LI strategic plans that are holistic, coherent, and consistent over time.

- *Adopting a clear roadmap for effective LI:* SLs that continually chase down the next "new logistics thing" may run the risk of pursuing initiatives in the wrong order or duplicating efforts and investments. Executives are advised to re-evaluate all other investments and activities in terms of how well they support the LI strategy. A clear strategic roadmap with a prioritization process can help to mitigate this phenomenon.
- *Promoting an adaptative corporate culture:* executives should pay more careful attention to strategic adaptation because as pointed out by Kraatz and Zajac (2001), adapting too quickly to environmental changes may harm the organization's well-being by depleting the very resources that it has previously relied on for success. An adaptive corporate culture can mitigate this phenomenon.
- *Operationalizing well-constructed mission statements:* executives should communicate not only on which functional domains the SL will be active, but also on how much emphasis will be placed on each (Hambrick and Frederickson, 2005). These mission statements make it clear that the changes being made will be significant (Kunisch et al., 2017) and, therefore, carry a symbolic message to internal and external stakeholders, indicating that the transition to LI will be extensive and wide-ranging. Management of SLs should also engage with their clients to determine whether these mission statements operationally result in effective customized solutions and integrated services.
- *Seizing mutually reinforcing synergies:* a careful balance is needed to avoid failures in managing the expanded spectrum as the services and the customer base become more diverse. Not being able to deliver this strategy in day-to-day operations can weaken the foundation of the new global logistics integrators. In selecting functional domains in which they will be active, strategists should give explicit preference to logistics segments that are mutually reinforcing, consistent with the SL's resources and capabilities, and highly relevant in the arenas the SL has targeted.

12.2 Limitations and recommendations for upcoming research

This research also presents some limitations that pave avenues for further research. Further research could deal with the following:

- *Expanding the case-study:* the case-study selection was limited to three SLs only that might be the more advanced in terms of LI. Further research could be pursued on why other SLs have not taken steps towards LI taking into account differences in economic settings, ownership and governance structures and historical development paths. Further investigation into alternative SLs may also provide insights as to whether the case-study selection has affected the study's findings.
- *Testing the generality of the proposed approach and methodology in other industries:* future research could test the applicability of the proposed framework to other industries undergoing major strategic changes and overall disruptions.
- *Translating the strategic model into quantitative data:* as LI is still ongoing, this paper does not provide final conclusions on the reach of LI steps, especially their impacts on market structure and performance. This limitation may require additional research to analyze if LI cascades into strong financial figures in the logistics divisions of container SLs.
- *Confirming the reliability of the research framework over time:* the research scope cannot anticipate far-reaching changes in external conditions such as regulatory intervention or changing market conditions that could lead to a reorientation or even path disruption in LI strategies. Just as high freight rates and growing consumer demand for integrated services have justified to re-open the LI discussion, new external developments in the industry may change the cards as well. Future research may involve adding more predictive variables to the model to make it more resilient to industry changes.
- *Investigating how others supply chain actors respond to the LI:* potential impact of LI steps of other parties such as e-commerce firms, retailers and 3PLs have not been assessed in detail, in particular their impact on the strategic behavior of SLs and alliance stability. Further research could be pursued to analyze whether SLs will have incentives to return to a defensive approach favoring

disintegration to safeguard their core ocean business, if other supply chain actors launch logistics counterattacks.

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

References

ÁLVAREZ-SANJAIME, Ó., CANTOS-SANCHEZ, P., MONER-COLONQUES, R., and SEMPERE-MONERRIS, J. J., 2013. Competition and horizontal integration in maritime freight transport. Transportation Research Part E: Logistics and Transportation Review, 51, 67-81.

AMIS, J., SLACK, T., and HININGS, C. R., 2004. The pace, sequence, and linearity of radical change. Academy of management journal, 47(1), 15-39.

BEGAZO GOMEZ, T. P., GOODWIN, T. K., and GRAMEGNA MESA, S. F., 2018. Promoting Open and Competitive Markets in Road Freight and Logistics Services: The World Bank Group's Markets and Competition Policy Assessment Tool Applied in Peru, The Philippines and Vietnam.

BICHOU, K., and BELL, M. G., 2007. Internationalisation and consolidation of the container port industry: assessment of channel structure and relationships. Maritime Economics & Logistics, 9(1), 35-51.

BRAUER, M., and HEITMANN M., 2013. Antecedents and temporal dynamics of strategic divergence in multinational corporations: Evidence from Europe. Journal of World Business, 48(1), 110-121.

BROOKS, M. R., PALLIS, T., and PERKINS, S., 2014. Port investment and container shipping markets: roundtable summary and conclusions.

BURCH, T. R., and NANDA, V., 2003. Divisional diversity and the conglomerate discount: evidence from spinoffs. Journal of Financial Economics, 70(1), 69-98.

BUZZELL, R. D., 1983. Is vertical integration profitable. Harv. Bus. Rev.;(United States), 61(1).

CARIOU, P., 2008. Liner shipping strategies: an overview. International Journal of Ocean Systems Management, 1(1), 2-13.

CHAKRABARTI, A., and MITCHELL, W., 2013. The persistent effect of geographic distance in acquisition target selection. Organization Science, 24(6), 1805-1826.

CROTTI, D., FERRARI, C., and TEI, A., 2020. Merger waves and alliance stability in container shipping. Maritime Economics & Logistics, 22(3), 446-472.

DATTA, D. K., RAJAGOPALAN, N., and ZHANG, Y., 2003. New CEO openness to change and strategic persistence: The moderating role of industry characteristics. British Journal of Management, 14(2), 101-114.

EL KALLA, M., ZEC, D., and JUGOVIC, A., 2017. Container ports competition in light of contemporary liner shipping market dynamics. Pomorstvo, 31(2), 128-136.

FREMONT, A., 2009. Shipping lines and logistics. Transport Reviews, 29(4), 537-554.

FREMONT, A., 2010. Empirical evidence for integration and disintegration of maritime shipping, port and logistics activities.

GADHIA, H. K., KOTZAB, H., and 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.

GHORBANI, M., ACCIARO, M., TRANSCHEL, S., and CARIOU, P., 2022. Strategic alliances in container shipping: A review of the literature and future research agenda. Maritime Economics & Logistics, 1-27.

GOCER, A., VURAL, C. A., and DEVECI, D. A., 2019. Drivers of and barriers against market orientation: a study of Turkish container ports. Maritime Economics & Logistics, 21(2), 278-305.

GREENWOOD, R., and HININGS, C. R., 1996. Understanding radical organizational change: Bringing together the old and the new institutionalism. Academy of management review, 21(4), 1022-1054.

HA, Y. S., and SEO, J. S., 2017. An analysis of the competitiveness of major liner shipping companies. The Asian Journal of Shipping and Logistics, 33(2), 53-60.

HADDAD, S. S., 2008. Marketing in liner shipping: current practices and suggestions for introducing new marketing tools to the industry.

HAMBRICK, D. C., and FREDRICKSON, J. W., 2005. Are you sure you have a strategy?. Academy of Management Perspectives, 19(4), 51-62

HARALAMBIDES, H. E., CARIOU, P., and BENACCHIO, M., 2002. Costs, benefits and pricing of dedicated container terminals. International Journal of Maritime Economics, 4(1), 21-34.

HARRISON, H., BIRKS, M., FRANKLIN, R., and MILLS, J., 2017. Case study research: Foundations and methodological orientations. In Forum qualitative Sozialforschung/Forum: qualitative social research (Vol. 18, No. 1, pp. 1-17).

HAUSMANN, L., WOLFEL, T., STOFFELS, J., and FLECK, O., 2020. Start-up funding in logistics. New money for an old industry. McKinsey & Company, Munich/Dusseldorf.

HENSMANS, M., JOHNSON, G., and YIP, G., 2013. The Three Successful Strategic Transformers: Developments. In Strategic Transformation (pp. 76-96). Palgrave Macmillan, London.

INTERNATIONAL TRANSPORT FORUM., 2018. Information Sharing for Efficient Maritime Logistics. OECD Publishing.

INTERNATIONAL TRANSPORTATION FORUM., 2022. Performance of Maritime Logistics. International Transport Forum Policy Papers. No. 106. OECD Publishing.

JOHNSON, G., YIP, G. S., and HENSMANS, M., 2012. Achieving successful strategic transformation. MIT Sloan Management Review, 53(3), 25.

KARENGA, E., 2021. Effect of Supply Chain Strategies on the Operational Performance of Shipping Companies in Kenya A Case of Maersk (Doctoral dissertation, Daystar University, School of Business and Economics).

KENT, P., and HARALAMBIDES, H., 2022. A perfect storm or an imperfect supply chain? The US supply chain crisis. Maritime Economics & Logistics, 1-8.

KIM, J. Y., HALEBLIAN, J., and FINKELSTEIN, S., 2011. When firms are desperate to grow via acquisition: The effect of growth patterns and acquisition experience on acquisition premiums. Administrative science quarterly, 56(1), 26-60.

KRAATZ, M. S., and ZAJAC, E. J., 2001. How organizational resources affect strategic change and performance in turbulent environments: Theory and evidence. Organization science, 12(5), 632-657.

KUNISCH, S., BARTUNEK, J. M., MUELLER, J., and HUY, Q. N., 2017. Time in strategic change research. Academy of Management Annals, 11(2), 1005-1064.

LAM, J. S. L., and VAN DE VOORDE, E., 2011. Patterns of maritime supply chains: slot capacity analysis. Journal of Transport Geography, 19(2), 366-374.

LEGGATE, H., McCONVILLE, J., and MORVILLO, A. (Eds.), 2004. International maritime transport: perspectives. Routledge.

MALONI, M. J., GLIGOR, D. M., and LAGOUDIS, I. N., 2016. Linking ocean container carrier capabilities to shipper–carrier relationships: a case study. Maritime Policy & Management, 43(8), 959-975.

MIDORO, R., MUSSO, E., and PAROLA, F., 2005. Maritime liner shipping and the stevedoring industry: market structure and competition strategies. Maritime Policy & Management, 32(2), 89-106.

NKOMO, S. M., BELL, M. P., ROBERTS, L. M., JOSHI, A., and THATCHER, S. M., 2019. Diversity at a critical juncture: New theories for a complex phenomenon. Academy of Management Review, 44(3), 498-517.

NOTTEBOOM, T., 2006. Strategic challenges to container ports in a changing market environment. Research in Transportation Economics, 17, 29-52.

NOTTEBOOM, T., RODRIGUE, J. P., and DE MONIE, G., 2010. The organizational and geographical ramifications of the 2008-09 financial crisis on the maritime shipping and port industries. Integrating seaports and trade corridors, 31-46.

NOTTEBOOM, T., and RODRIGUE, J. P., 2012. The corporate geography of global container terminal operators. Maritime Policy & Management, 39(3), 249-279

NOTTEBOOM, T. E., PAROLA, F., SATTA, G., and PALLIS, A. A., 2017. The relationship between port choice and terminal involvement of alliance members in container shipping. Journal of Transport Geography, 64, 158-173.

NOTTEBOOM, T., and RODRIGUE, J. P., 2017. Re-assessing port-hinterland relationships in the context of global commodity chains. In Ports, cities, and global supply chains (pp. 67-82). Routledge.

NOTTEBOOM, T., 2021. Container (Liner) Shipping. In International Encyclopedia of Transportation (Vol. 3, pp. 247-256). Elsevier

NOTTEBOOM, T., and PALLIS, T., 2021. IAPH-WPSP Port Economic Impact Barometer One Year Report: A survey-based analysis of the impact of COVID-19 on world ports in the period April 2020 to April 2021

NOTTEBOOM, T., PALLIS, T., and RORDIGUE, J. P., 2021. Disruptions and resilience in global container shipping and ports: the COVID-19 pandemic versus the 2008–2009 financial crisis. Maritime Economics & Logistics, 23(2), 179-210.

PAROLA, F., SATTA, G., and PANAYIDES, P. M., 2015. Corporate strategies and profitability of maritime logistics firms. Maritime Economics & Logistics, 17(1), 52-78

PAWLIK, T., STEMMLER, L., BAIRD, A. J., and HELCH, M., 2011. The value of container terminal investment to ocean carrier strategy. Maritime Economics & Logistics, 13(3), 319-341.

PILSBURY, S., MEANEY, A., and MULLER, S., 2010. Are horizontal mergers and vertical integration a problem?

POMPA, N., BERRY, J., REID, J., and WEBBER, R., 2000. Adopting share of wallet as a basis for communications and customer relationship management. Interactive Marketing, 2(1), 29-40.

PROCHER, V. D., and ENGEL, D., 2018. The investment-divestment relationship: Resource shifts and intersubsidiary competition within MNEs. International Business Review, 27(3), 528-542.

REIMANN, M., SCHILKE, O., and THOMAS, J. S., 2010. Toward an understanding of industry commoditization: Its nature and role in evolving marketing competition. International Journal of Research in Marketing, 27(2), 188-197.

RODRIGUE, J. P., 2006. Challenging the derived transport-demand thesis: geographical issues in freight distribution. Environment and Planning A, 38(8), 1449-1462.

RODRIGUE, J. P., and NOTTEBOOM, T., 2009. The terminalization of supply chains: reassessing the role of terminals in port/hinterland logistical relationships. Maritime Policy & Management, 36(2), 165-183.

SALIM, H. K., STEWART, R. A., SAHIN, O., and DUDLEY, M., 2019. Drivers, barriers and enablers to end-of-life management of solar photovoltaic and battery energy storage systems: A systematic literature review. Journal of cleaner production, 211, 537-554.

SHI, W., and PRESCOTT, J. E., 2011. Sequence patterns of firms' acquisition and alliance behaviour and their performance implications. Journal of Management Studies, 48(5), 1044-1070.

SLACK, B., 2017. The terminalisation of seaports. In Ports, cities, and global supply chains (pp. 57-66). Routledge.

SOPPE, M., PAROLA, F., and FREMONT, A., 2009. Emerging inter-industry partnerships between shipping lines and stevedores: from rivalry to cooperation?. Journal of Transport Geography, 17(1), 10-20. Lam, J. S. L. (2011). Patterns of maritime supply chains: slot capacity analysis. Journal of Transport Geography, 19(2), 366-374.

SORNN-FRIESE, H., 2019. 'Containerization in globalization': a case study of how maersk line became a transnational company. In Shipping and Globalization in the Post-War Era (pp. 103-131). Palgrave Macmillan, Cham.

STAKE, R. E., 2006. Multiple case study analysis. New York, NY: Guilford.

SULL, D. N., 2005. Strategy as active waiting. Harvard business review, 83(9), 120.

TELLIS, W., 1997. Application of a case study methodology. The qualitative report, 3(3), 1-19.

TERWIESCH, C., and ULRICH, K., 2008. Managing the opportunity portfolio. Research-Technology Management, 51(5), 27-38.

TRAN, N. K., 2022. Market structure and horizontal growth strategies–A case study of the container shipping industry. German Economic Review.

VAN BAALEN, P., ZUIDWIJK, R., and VAN NUNEN, J., 2008. Port inter-organizational information systems: Capabilities to Service Global Supply Chains. Foundations and Trends in Technology, Information and Operations Management, 2(2-3), 81-241.

VARADARAJAN, P. R., JAYACHANDRAN, S., and WHITE, J. C., 2001. Strategic interdependence in organizations: deconglomeration and marketing strategy. Journal of Marketing, 65(1), 15-28

VAZAO, J. V., 2018. AP moeller-maersk A/S: the shakeup of a leader? (Doctoral dissertation, Universidade Nova de Lisboa).

WAN, Y., 2021. Improving the information flows and business process in global maritime logistics chains considering digitization and digitalization aspects (Doctoral dissertation, Universität Bremen).

YAP, W. Y., and ZAHRAEI, S. M., 2018. Liner shipping alliances and their impact on shipping connectivity in Southeast Asia. Maritime Business Review.

YIN, R. K., 1981a. The case study as a serious research strategy. Knowledge, 3(1), 97-114.

YIN, R. K., 1981b. Life histories of innovations: How new practices become routinized. Public Administration Review, 21-28.

YIN, R. K., 2014. Case study research: Design and methods. Los Angeles, CA: Sage.

ZAINAL, Z., 2007. Case study as a research method. Journal kemanusiaan, 5(1).

ZIDA, A., LAVIS, J. N., SEWANKAMBO, N. K., KOUYATE, B., & OUEDRAOGO, S., 2018. Evaluating the process and extent of institutionalization: a case study of a rapid response unit for health policy in Burkina Faso. International journal of health policy and management, 7(1), 15.

ZOOK, C., 2007. Finding your next core business. Harvard business review, 85(4), 66-75.

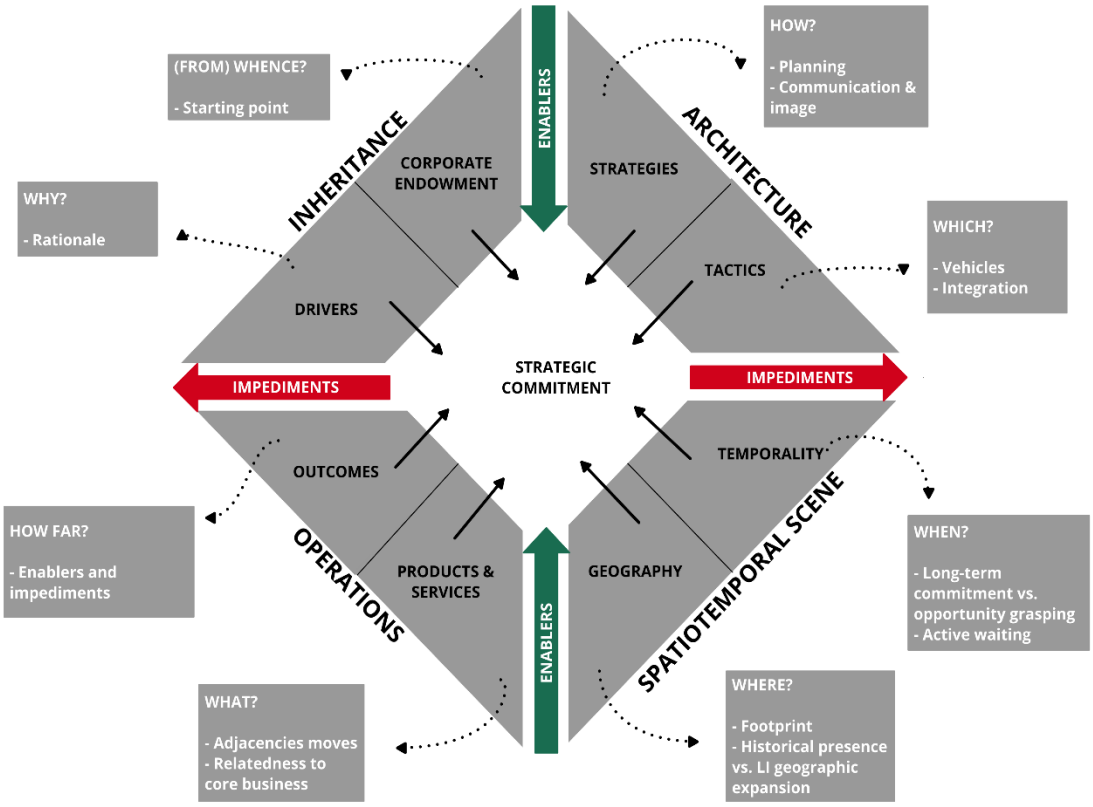

Figure 1: The Strategic 'Diamond' Research Framework on LI in Container Shipping

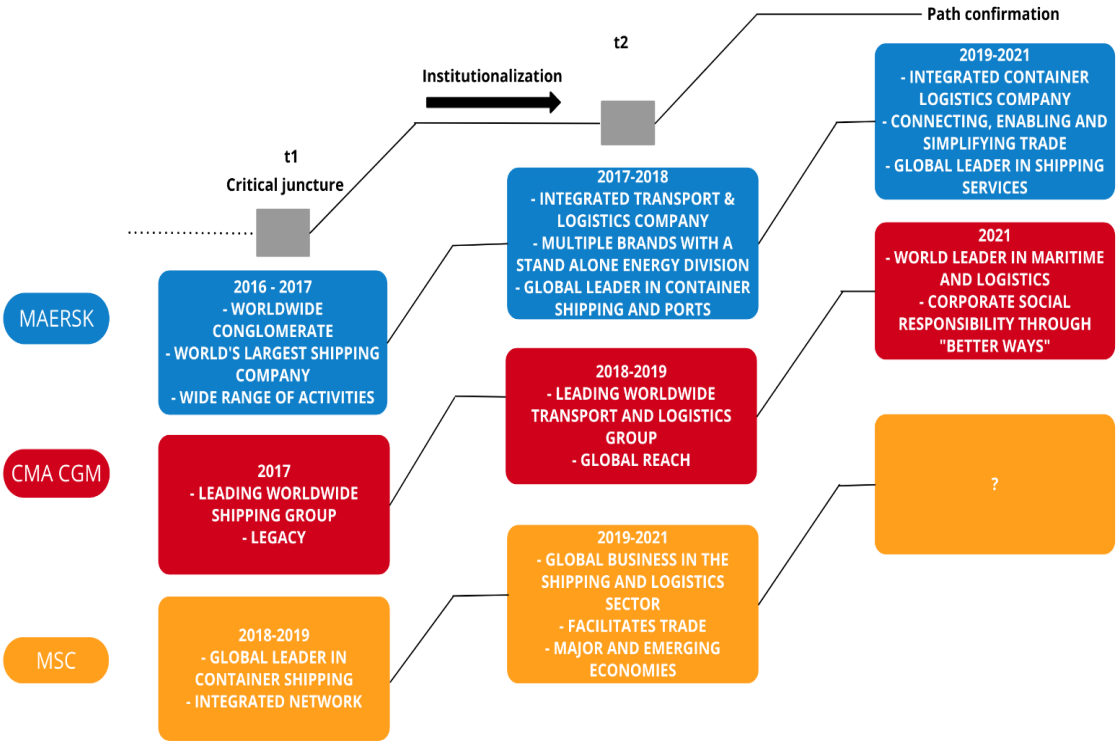

Figure 2: Critical juncture, institutionalization, and path confirmation of the strategic reformulation processes of the selected SLs between 2016 and 2022

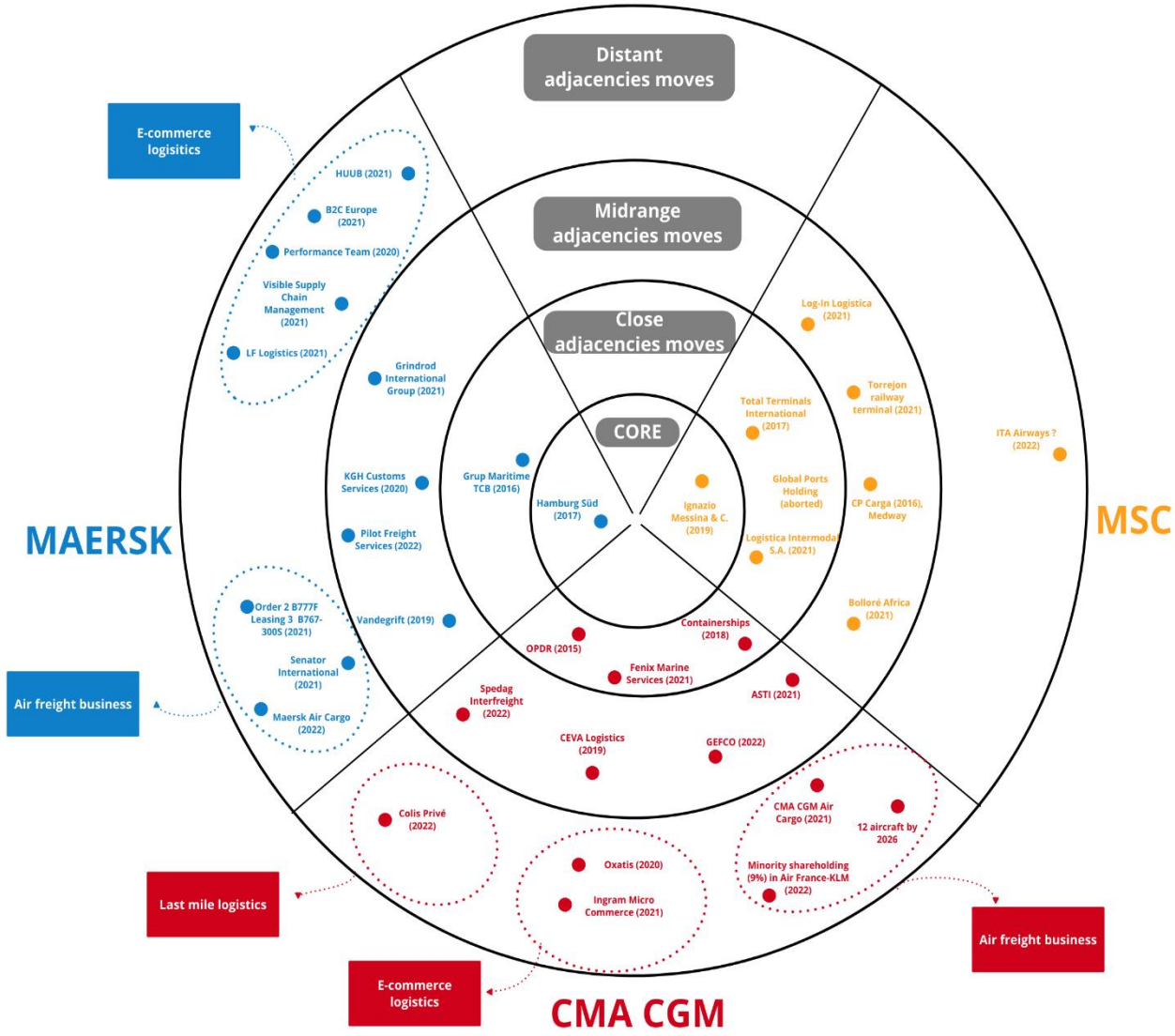

Figure 3: Strategic radar chart on the adjacencies moves of the selected SLs

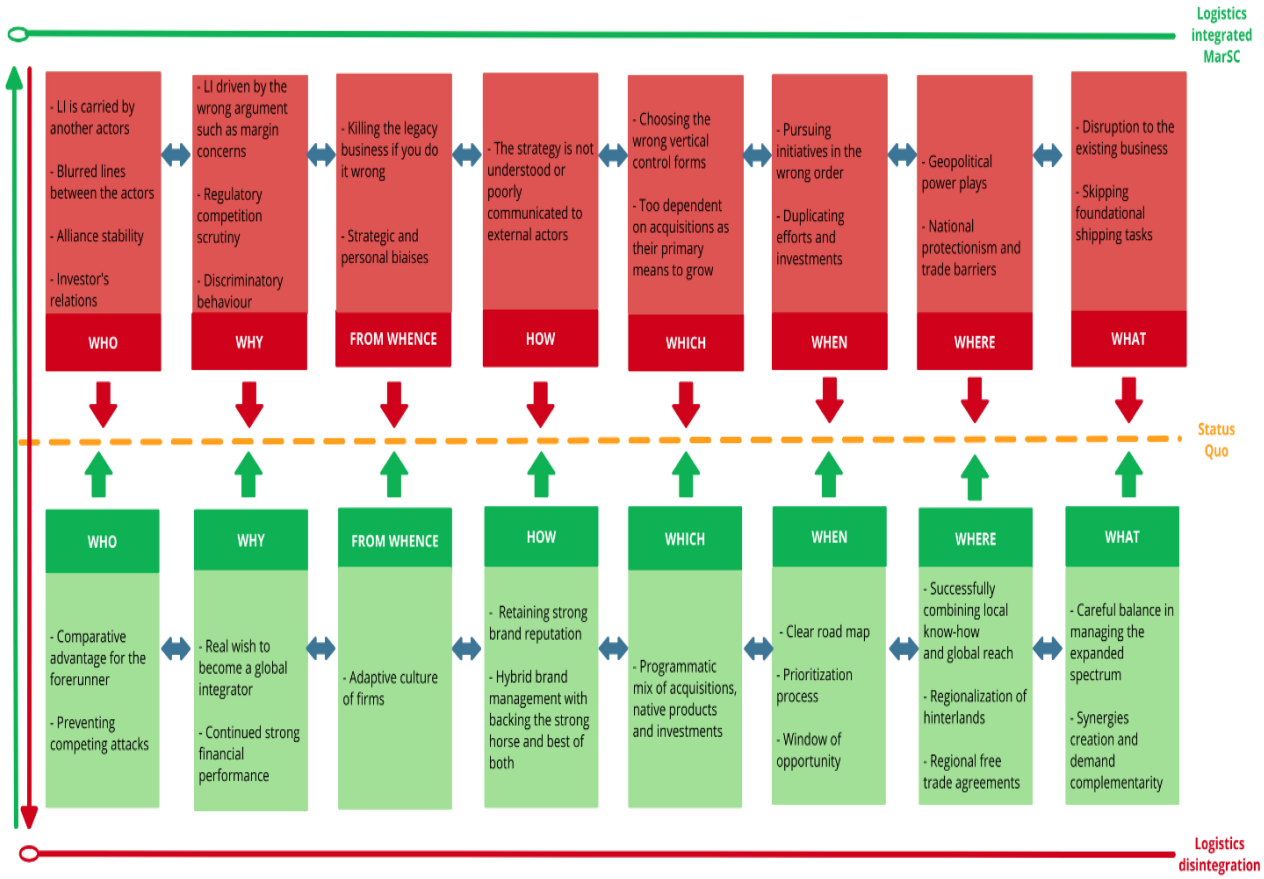

Figure 4: Enablers and impediments: status quo, integration, and disintegration

Table 1: Summarizing reading grid on the facets, building blocks, attributes of LI within the selected SLs and their link to the related research questions

LEGEND
Full color circle : attribute present in the LI strategy.
Light color circle : attribute partly present in the LI strategy.
Empty circle : attribute absent in the LI strategy.

FACET	BUILDING BLOCK	RELEVANCE	ATTRIBUTES	MAERSK	CMA CGM	MSC	COMMENTS
Inheritance	Drivers	RQ1	Generic economic & strategic drivers	●	●	●	Convergence between the three carriers
			Specific drivers such as e-commerce and omnichannel capabilties	●	●	○	
	Corporate endowment	RQ1, RQ2	Happy accident	●	○	○	Maersk : simultaneous drop in oil price and freight rate
			Major restructuring process	●	○	○	Maersk : from being a diversified conglomerate to an integrated logistics company
			Original portfolio coherence	○	●	●	CMA CGM : coherent portfolio; MSC : two distinct and separate branches : container transport and cruises
			Ignoring the past endowment	●	○	○	
			Capitalizing on the past endowment	○	●	●	
Architecture	Strategies	RQ1, RQ2	3 temporal steps (critical juncture, institutionalization & path confirmation)	●	●	◐	MSC : recent events foreshadow the completion of the third step
			Succession context plays an important role in the pace for change	○	●	●	
	Tactics	RQ1, RQ2	Growing by divesting	●	◐	○	CMA CGM: financing the LI strategy by divesting from some sea terminals
			Programmatic M&A&D	●	◐	○	Maersk follows a systematic M&A&D approach; CMA CGM is also starting to benefit from the learning curve.
			Magnitude of a single big advantage	○	●	◐	CEVA Logistics' acquisition is the backbone of the LI strategy for CMA CGM as well as Bolloré Africa is a major step forward for MSC.
			Favor structural & ad-hoc coordination mechanisms with independent providers	○	○	●	
			A one company business	●	○	◐	Maersk: single brand strategy; MSC: Medlog and Medway exist but the MSC name seems to outshine all others
			Different service providers within a closely knit	○	●	◐	CMA CGM keep the specificities of the acquired commercial brands; Medlog &Medway exist but the MSC name seems to outshine all others
			Looser vertical control forms (e.g., via incubators & accelerators)	●	●	○	Maersk : Maersk Growth ; CMA CGM; Zebox, CMA CGM Ventures
Spatio-temporal scene	Temporality	RQ1, RQ2	Long term commitment (in the past)	●	○	○	
			Bundling and unbundling strategy (in the past)	○	●	○	
			Overall opportunity grasping strategy (in the past)	○	○	●	
			Active waiting (nowadays)	●	●	●	Staging convergence between the three carriers
	Geography	RQ1, RQ2	Focus on consolidating their footprints in high demand areas to support cargo growth	●	●	○	
			Emerging markets and regional focus	○	○	●	MSC : focus on South America and Africa
Operations	Products & services	RQ1,RQ2	Distant adjacencies	●	●	◐	Maersk and CMA CGM: Both SLs are active in all types of adjacencies (close, mid-range, distant).
			Close or mid-range adjacencies	●	●	●	MSC: the SL does not venture much beyond the midrange adjacencies
	Outcomes	RQ2, RQ3	General discussion over the enablers and impediments	●	●	●	Convergence between the three carriers
STRATEGIC COMMITMENT		RQ1	ALL OF THE ABOVE	●	●	◐	MAERSK AND CMA CGM AIM TO INTEGRATE BOX SHIPPING WITH THE BROADER LOGISTICS CHAIN. MSC WANTS TO KEEP ITS FOCUS ON THE CORE OCEAN GOING BUSINESS