Open hatch bulk shipping joint ventures:

Motives, opportunities and challenges

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Abstract

This study presents the results of a single-case study on the possible motives, opportunities, and impediments for establishing joint ventures in bulk and open hatch bulk carriers shipping sector. The findings derive from the semi-structured interviews with executives from an established joint venture.

The findings indicate that weak market conditions and bad financial results were factors that led the owners to discuss forming a strategic alliance. The primary driver, however, was the increased bargaining power of buyers, due to consolidation in the customer base.

The main findings also show that in general, there are substantial benefits in terms of costs synergies when forming joint ventures, especially within the open-hatch bulk carriers' segment. In addition to it, when there is complementarity between the businesses involved, their opportunities could be even more significant, such as the possibility of expanding to new markets without the need for investments in new ships.

It was found that the process of establishing a joint venture between two private Norwegian shipowners can be challenging given the owners personalities and contrasting organizational cultures. Moreover, the study identifies the decision-making process around vessel keys as a factor impeding negotiations between shipowners.

Foreword

I want to express my sincere gratitude to my research supervisor and co-supervisor, Tor Erik Jensen, and Veronica Jaramillo, for their patient guidance, enthusiastic encouragement and useful critiques of this research work.

To the Chairman, CEO, CCO, vice-presidents, and managers, who participated in this research. Thank you for contributing your time and providing valuable insights for this research.

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Vestfold, April 23rd, 2019

Børje Bjørknes

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1 Introduction

The aim of this study is to understand the motives and main challenges involved in the establishment of an international joint-venture (IJV) between two shipping companies operating in bulk and open hatch bulk carrier (OHBC) segments. The inspiration for this study came from the author's perception that the understanding of shipping joint-ventures and shipping pools has not yet been explored carefully as in comparison to other industries. There is a gap in academic papers and studies about bulk or open-hatch shipping alliances, and this study purpose is to contribute to providing new insights.

In this study, when addressing the Norwegian shipping sector, this paper refers to a shipping company controlling multi-national fleets in international trades. By executives, the researcher includes the owner, vice-presidents as well to the chief executive officer and chief commercial officer.

The following sections will cover the background of the sectors on which the case-study Joint-Venture operates, which are dry bulk and OHBC carriers. A brief elucidation of the historical context of these sectors is necessary to understand in what context the joint venture took place. Following the contextualization, a description of the concept of Joint Ventures and their peculiarities and how this type of corporate alliance relates to the concept of shipping-pools.

1.1 Background

In the following years after the 2008 crisis, the global bulk carrier fleet expansion continued outpacing trade demand and vessel demand growth rates (UNCTAD, 2017). Excess on capacity caused an extended period of low freight rates, and despite an eventually slowing on the fleet expansion, the demand for vessels did not grow, causing the depression in the freight market to become persistent. In 2016, only four bulk carriers' companies owned more than 100 ships on a deadweight tonnage basis, with the largest owned fleet representing less than 4% of the total fleet. While there is a trend of consolidation amongst their customers, the dry bulk shipowners remain highly fragmented, meaning that each owner had little influence and bargaining power with the customers (BIMCO, 2016). A situation of what economists call oligopsony[1] became an issue within the industry as the imbalance between income and demand sides increased the bargaining power of purchasers, putting pressure on the prices and negatively affecting sellers, in this case, the shipping companies.

1.1.1 The Open Hatch Bulk Carrier sector

By the late 1960s, trade growth on the longer haul routes for forest products made specialized gantried[2] OHBC's increasingly popular, leading to a rapid increase on the size of the ships and the use of more efficient cargo handling systems.

The OHBC business is very distinctive and specialized, with its focus on the efficient handling and stowage of unit cargoes. The base load of the business is forest products, but these vessels also carry steel products, containers and project cargoes and the vessels are designed specifically for the efficient transport of these cargoes (Stopford, 2009).

Larger operators of gantried OHBCs improved their market positions to serve large users of transport services for forest products. In the early 1970s, some operators started providing conbulker[3] services on a larger scale as a strategy to increase flexibility reduce ballast ratios, as vessels had to ballast on back-haul voyages due to lack of appropriate bulk cargoes (Stokseth, 1992). The OHBCs design offered direct access to the hold through hatches with extended width, allowing larger cargo units to be lowered into place. This resulted in an expensive cost due to the extra steel required to provide strength (Stopford, 2009), but helped with the empty-back haul issues, as one the capabilities of such vessels is "to carry containers on the outward leg[4], and dry bulk on the return leg" (Stopford, 2009).

Inspired by Porter's five competitive forces, the study of Stokseth (1992) concluded that this sector presented more substantial entry barriers due to economies of scale achieved by leading operators as well to the higher new-building prices due to the specialization of the ships

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[1]A term derived from the ancient Greek words' *oligo* (small number) and *Opsonin* (buy provisions), used to address to a market situation in which very few companies dominates the purchase of goods, services or factors of production, while the numbers of sellers, could be substantially bigger (Law, 2009)

[2] A gantry crane is a crane built on top gantry placed atop of the ship, used to loading and discharging operations.

[3] Alternative term for OHBC, mentioned by Stopford (2009)

[4] The voyage leaving a destination as opposed to the back voyage.

and its equipment. In the other hand, the bargaining power of the significant OHBC operators was described as limited, while the bargaining power of buyers was considered substantial because of the competition and availability of substitute services from operators of other vessel designs. The customers were demanding and required regular and frequent shipping services at a low cost, increasing the competition for CoAs. During the last two decades, there has been a trend of internationalization accompanied by consolidation and relocation of the forest products industry (Toppinen, Lähtinen, & Laaksonen-Craig, 2006; Zhang, Toppinen, & Uusivuori, 2014) which are the main customers of the OHBC's operators. Larger scale operations require transportation of larger volumes of cargo, thus requiring larger fleets, as well to large sizes of ships. There is a problem for shipping companies to adapt to these customer requirements, as the freight markets are weak and financing options are scarce. For some companies, joining forces with competition was the obvious solution, either through mergers or through alliances which usually were in the form of shipping pools, while some are having a more formal structure, such as Joint-Ventures.

1.2 Joint-Ventures and shipping pools concepts

According to McConnell and Nantell (1985) a joint venture "involves the joining together of a subset of the resources of two (or more) companies to accomplish some objective under the combined management of two (or more) parent companies." And according to Geringer and Hebert (1989), if the venture has a significant level of operations in more than one country, then it is an international joint venture (IJVs), which is a more appropriate term to address the venture studied in this thesis.

Terms such as strategic alliances, horizontal cooperation, and shipping pools are used extensively in the literature, so it is necessary to standardize the understanding of concepts in this study. Instead of looking solely into shipping or maritime alliances, the focus was extended to horizontal strategic type of alliances (HSAs), which are defined as concerted practices between companies operating at the same level(s) in the market (EU, 2001). More specifically, HSAs are formations between companies operating at the same level in the value chain (Cruijssen, Cools, & Dullaert, 2007; Wen, Larsen, Ropke, Petersen, & Madsen, 2018), being the alternative vertical strategic alliances (VSAs), where the cooperation happens between partners in different levels of the supply chain. Depending on the motives, Joint-Ventures could be established either as HSAs or VSAs. This study's IJV case refers to a HSAs between two shipping companies.

This study treats shipping pools as joint-venture structures, based on W.V. Packard (1989) definition of a shipping pool as "joint ventures between ship-owners to pool vessels of similar types, with central administration, which are marketed as a single entity, negotiating voyage/time charter parties and CoAs where the revenues are pooled and distributed to owners...".

A shipping pool structure involves a pool manager marketing the vessels as a single fleet and collecting the earning which, after deducting overheads, are distributed to pool members under a 'weighting' system or the 'distribution key' which reflects each ship's revenue capabilities. The ships are chartered into the pool, which pays voyage-related costs, while the owners are still responsible for capital costs, manning and maintenance (Stopford, 2009).

The pool control can be structured in two types: those controlled by their members and those operated, organized and managed by an administrator. In a pool that is controlled by its members, crucial decisions and effective control are in the hands of the pool members- the shipowners. They decide matters of pool policy; weighting revisions; admission of new members, for example. Whereas in the second case, the administration operates and controls a pool, they will take all necessary decisions, working as a board of directors.

Packard (1995), points out that, whether acting as the controllers or servants of the pool's members the administration is responsible for the administration; marketing and publicity; chartering and contracting; operations; and accounts and finance. The shipowners, in the other hand, can either maintain responsibility for capital expenses of new ship acquisitions, and for crewing and managing the ships or sub-contract all part of his ship-husbandry duties to a third-party ship manager, who would work in cooperation with the pool administration.

1.3 Purpose and research questions

Studying how IJVs can be successful is vital to the industry, as their studies show that there is resistance to forming partnerships and the success of joint ventures is an exception rather than the rule (Park & Russo, 1996). Managing IJVs is a challenging undertaking as it requires cooperation and collaboration in national and organizational boundaries. Despite this, some alliances in the shipping industry were formed between larger private companies, with some successful examples in Scandinavian shipping companies (Haralambides, 1996).

By illustrating a scenario of how global trade dynamics affects shipping, one can, for example, take into perspective the shift of global economic growth from developed to emerging economies. This phenomenon indicates that there could be an increased bulk commodities demand, consequently benefiting the bulk carrier's sector, whereas container shipping tends to see demand growth rates under pressure with a reduction in containerized trade. At the same time, oil tankers sectors might be benefited by the demand generated in Asia, but impacted by a contraction in Europe (BIMCO, 2019). External and internal factors create different opportunities and challenges. In other words, global macroeconomic drivers affect the whole shipping industry but affect every shipping sector in different ways.

This study focusses on the OHBC and bulk shipping sectors, and the purpose is to understand what challenges were faced and what opportunities were sought in allying. Given this line of thinking, the following research questions were formulated:

Question 1: "What are the main motives and opportunities justifying a Joint-Venture formation between Norwegian Bulk and Open-Hatch fleet Shipowners?"

Question 2: "What could be the main challenges in the formation of Joint-Venture in the Norwegian Bulk and Open-Hatch Shipping Sector?"

1.4 Outline of the thesis

The thesis comprises six chapters, each with their respective sub-chapters. Chapter one is an introduction to the research topic, presenting the background, purpose of the study and research questions. Chapter two comprises a review of theories and relevant literature. Chapter three gives an in-depth discussion of the methodology used in the study. Chapter four presents the findings derived from the data analysis. Chapter five discusses these findings in comparison to the literature reviewed in chapter two. Finally, chapter six provides a brief conclusion with answers to the research questions, as well as recommendations for further research.

2 Theory and Relevant Literature

This chapter will provide the relevant academic literature on JV with support literature from corporate strategic alliances while giving a description of the theory and the analytical concepts. The chapter is organized according to the objectives of this study, which is to answer what are the motives, opportunities, and challenges in forming IJVs in the bulk and OHBC sectors. Therefore, reasons for forming an IJV will be addressed first, followed by challenges of IJV formations. After each sub-chapter, frameworks with identified motives, opportunities and challenges will be presented as the propositions that will be countered by the data analysis.

2.1 Reasons and Opportunities for Joint-Ventures

Studies on motives for forming IJV are plentiful, and in the progress of this literature review, the earliest publication found on motives and reasoning for JV was "*Joint Venture Corporations: Drafting the Corporate Papers*" (1964) from Harvard Law Review journal. This article argued that corporations wanting to expand into a new area of business could lack the resources and skills to do so, thus, "finding it advantageous to obtain its requirements from another corporation*.*" It proposed the division of such situations in three categories as listed below:

(1) A corporation may solicit the capital investment of another with similar needs or interests to reduce the risk and cost of operations or to create an enterprise large enough to overcome the entry barriers of a given field.

(2) One corporation may possess skills or facilities that can be combined with those of another firm in an area in which neither is engaged

(3) One corporation may desire to integrate vertically but lack some or all the required skills or facilities.

Berg and Friedman (1977), claimed for their study on the motives for Joint-Venture in the U.S. chemical industry, that despite these types of formations being important organizational facilitators of interfirm cooperation little analysis of motivations for and implications of joint ventures had been performed up to that time. Later on, Berg and Friedman would list motives for joint ventures, as cited by McConnell and Nantell (1985), as follows:

"Acquire Skills and Technical Know-How; Acquire Distribution Facilities; Acquire Production Facilities; Joint Venture is a Customer of a Parent; Joint Venture is a Supplier of a Parent; Research and Develop a New Product or Process; To Acquire Capital; Produce for Government Contract; Purchase Government Owned Facility; Exploit a Product or a Licensed Process."

Later theoretical perspectives on Joint-Venture formations were plentiful, going from resource dependency (Pfeffer & Nowak, 1976), economics orientation (Contractor & Lorange, 1988; Hladik, 1985), the transaction cost approach (Buckley & Casson, 1988; Hennart, 1988), Organizational Learning and Knowledge sharing (Kogut, 1988), as a tool for strategic positioning of the organizations (Contractor & Lorange, 1988; Kathryn Rudie Harrigan, 1985; Kathryn Rudie Harrigan, 1988) and as intrinsically linked to the market and geographical expansion of a firm, in case of strategic alliances involving multiple foreign companies (Keith W. Glaister & Buckley, 1996).

It is not clear how the evolution or transition between the perspectives went down along the decades, making it challenging to map the origin interest on the topic, as well to point out which author is the most relevant. Only by reviewing the most recent papers it becomes possible to identify which are the most influential authors about motives and reasons for JV formations.

While studies on motives for forming IJVs are extensively present on literature, by narrowing down the scope of the literature review, it was possible to find out the reasons and motivations that are more relevant to the topic of this study. For instance, some authors (Midoro & Pitto, 2000; Panayides & Wiedmer, 2011; Yang, Liu, & Shi, 2011) have considered the formation of strategic alliances in container liners as mechanisms to achieve objectives, and their findings are, among others involving Financial (profits maximization and capital investments); Economical (recurrently referring to economies of scale and cost reductions); Strategic (pointing to geographical cover, expansion to new markets, increasing bargaining power); Marketing (as to satisfy customers requirements in terms of CoAs, network establishment and development, offering increased flexibility); Operational (better planning and coordination in global operations).

Haralambides (1996) provides an eloquent list of the reasons for creating/entering a dry bulk shipping pool on literature:

> "(i) undertaking contracts of affreightment, (ii) optimization of fleet scheduling, (iii) achievement of a strong marketing position, (iv) prompt response to changing market conditions, (v) high image and company profile, vi) income stabilization, (vi) risk sharing, (vii) better financing possibilities, (viii) penetration in protected markets, (ix) sharing of patented technologies, (x) synergy and economies of scale."

To be able to examine the cooperative strategy, it is necessary to understand the conditions that make cooperation more likely to happen. Many other authors explicitly point out a number of overlapping reasons for alliance formation in different sectors (Child, 2005; Contractor & Lorange, 1988; Keith W. Glaister & Buckley, 1996; Hagedoorn, 1993; Kathryn Rudie Harrigan, 1985; Johnson & Houston, 2000; Kogut, 1988; Mariti & Smiley, 1983; Rothaermel, 2017). Tallman and Shenkar (1994), for example, provide a rational managerial decision model in that multinational companies might choose forming alliances as an alternative approach to a full acquisition or internal investments. Furthermore, Kogut (1988) points out how strategic behavior affects the strategic positioning of a company and provide three motives for formation of alliances: that such form of alliance represents the lowest transaction cost alternative; that it facilitates the achievement an improved strategic position; and that it enables organizational learning.

To better organize the structure of this study, the reasons for joint ventures presented below are to be summarized at the end of this sub-chapter and presented as inputs for developing the pre-codes. Below, the most important reasons for the topic of this study are shown.

2.1.1 Hedge Against Uncertainty

Adapting to changing market conditions is one of the reasons pools are created (Haralambides, 1996). Also, he states that bulk pools are formed so that shipping companies can respond to the changing demand requirements.

Hedge against uncertainty is mentioned by Rothaermel (2017), as general businesses reasons for entering strategic alliances. Strictly speaking, in dynamic markets, strategic alliances enable the parties to reduce their exposure to uncertainty in the market.

In shipping, for instance, there is an increasing demand for CoAs (Stopford, 2009), which requires transportation of large volumes of cargo at regular intervals for a pre-determined period. These arrangements provide the shippers[5] controllable transport costs, and therefore, they become less dependent on the freight market fluctuations. The problem for many small to medium-sized shipping companies is that to bid for those types of contracts – involving high cargo volumes and time considerations- a large fleet and organizational capabilities are

[5] Consignor, exporter or seller named in shipping documents as the responsible for providing and initiating a shipment

necessary. The solution for interested parties is the formation of a joint venture or shipping pool with other interested shipowners (Haralambides, 1996).

The need to pulverize financial risks is often cited as an opportunity that motivates businesses to consider strategic alliances because it is a mechanism that ensures that none of the partners bears full risk for the venture (Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986). Contractor and Lorange (1988) argue that spread of risks can happen in a large project undertaking; diversification of the portfolio of products; faster presence in the market leading to more rapid payback of investment; subdivision of costs, as it is cheaper to form a partnership than to each firm execute a project alone.

When referring to risks as motivators for entering a pool, one of the possibilities is to reduce the average variability of revenues of ships, by placing them under a joint marketing and operations administration, as "insufficient performance from one vessel can be compensated by positive revenues from another" (Haralambides, 1996). Another opportunity is reducing exposure to volatility in freight rates. For instance, a way to "lock in" the risks of this volatility can be through entering CoAs. Having a broad portfolio of CoAs also incur in opportunity risks, as owners could lose opportunities in increased freight rates on the spot market.

It is assumed that when operating alone, many small to medium-sized shipowners might not have the required capacity to fulfill a CoA (Haralambides, 1996). Nonetheless, when cooperating with another company, this could enable possibilities for strategies, such as combinations of long-term CoAs with spot market opportunities (Haralambides, 1996), being that one of the reasons a shipping pool or a joint-venture could also be part of a broader risk reduction strategy.

2.1.2 Economies of scale

One of the most mentioned motive to form strategic alliances such as joint-ventures is that these mechanisms enable cost reductions and synergies generation by using the comparative advantage of each partner (Keith W. Glaister & Buckley, 1996).

In shipping, this factor is also pointed as an objective that firms want to achieve when cooperating (Haralambides, 1996; Midoro & Pitto, 2000; Panayides & Wiedmer, 2011). Haralambides (1996) disputes that economies of scale "…however vehemently advertised - cannot be seen as a major reason for creating a bulk pool alliance…" attributing that conclusion to the fact that capital and running costs remain the responsibility of the owners and savings would only be related to administrative expenses. Hence, the results from the concentration of commercial activities under the pool management and these, in like manner, are not substantial enough for contemplating pooling tonnage.

The report on OHBC of Stokseth (1992), in the other hand, mentions that economies of scale gains enable the ability to offer greater stability and frequency on specific trades, which was critical for Norwegian OHBC's to secure contracts with demanding customers. In addition to this, the report suggests that higher frequency and regularity of Norwegian OHBC pools have increased their ability to get back-haul cargoes, thus reducing ballast ratios. Furthermore, economies of scale provided the Norwegian operators with more significant market presence, which leads to the next opportunity in the following sub-chapters.

An alternative tool for executing corporate strategy and achieve economies of scale is through full mergers or acquisitions (M&A) (Rothaermel, 2017). A merger describes the two independent companies forming a combined entity. It tends to be a friendly alliance. An acquisition, on the other hand, describes the purchase or takeover of one firm by another. This could happen by friendly or unfriendly means, the latter considered as a hostile takeover (Rothaermel, 2017).

Hennart and Reddy (1997) study on why companies choose JV over acquisitions supports the prediction that joint ventures will be chosen when the desired assets are packaged in a way that would raise the costs of managing the merged unit — in other words, suggesting that a joint venture is primarily a device to obtain access to resources which are embedded in other organizations.

In this study, the companies involved are not listed in the stock exchange; therefore, difficulties in assessing the value of the target firm would be an obstacle. This is supported by Balakrishnan and Koza (1993) study on joint ventures, which argue that such structures are desired when acquirers do not know the value of the assets desired. According to these authors, a JV is an efficient vehicle for reducing these information costs because it makes it possible both to gather additional information on the value of the partner's assets and to rescind the relationship at relatively low cost in any eventuality. Hence joint ventures should be preferred to acquisitions when the firms combining assets have little knowledge of each other's business.

2.1.3 Strengthen competitive position

An additional alternative explanation for the use of joint-ventures stems from theories on how strategic behavior influences the competitive positioning of the firm, in other words, companies use strategic alliances to change the industry structure in their favor (Rothaermel, 2017). Increasing its competitive positioning enables a firm to reduce potential market and industry-specific restrictions on output, avoid inequality of bargaining power, and take advantage of economy of scale effects (Luo, 1997). In terms of strategies, two companies choosing to form a JV could be aiming towards increased competitive positioning, either through collusion or through depriving competitors of potentially valuable allies (Kogut, 1988).

Stokseth (1992) stated that the gains in presence/profile made it easier for the companies to “negotiate with and attract new customers” providing greater flexibility and service offerings such as the substitution of vessels and the “spread of marketing and administrative costs over a larger number of ships.” These gains increased the competitiveness of the operators, who also benefited from the increased purchasing power of bunkers.

2.1.4 Knowledge exchange

Organizational learning is identified as a recurrent factor of motivation by many authors and is broadly discussed in the literature (Haralambides, 1996; Hennart, 1988; Kogut, 1988; Makhija & Ganesh, 1997; Powell, Koput, & Smith-Doerr, 1996; Rothaermel, 2017). The knowledge-based theory consists in the view that joint-ventures are means by which companies can share knowledge to create innovation or retain their capabilities (Kogut, 1988). Studies on this aspect see Joint Ventures as devices for pooling knowledge. Hennart (1988), for instance, exemplifies this by stating that “Licensing is widely used to combine technical knowledge with that of local conditions, while cross-licensing allows firms to exchange complementary information.” In this same study, he elaborates on how different types of Joint ventures, share different types of knowledge. Makhija and Ganesh (1997) study develop a process model for joint ventures that are primarily motivated by the learning needs of at least one partner, showing how Joint Ventures control processes affect the dynamics of inter-partner learning.

The idea of knowledge sharing as a motivation for cooperation, must take into account the rapid technological development and that no single company has all capabilities for achieving success in productive researches, some players that have similar goals might join forces, instead of pouring resources alone in an uncertain endeavor (Powell et al., 1996).

Rothaermel (2017), argues that the exchange of explicit and tacit knowledge through interaction of personnel is typical in JVs,

2.1.5 *Expanding to new markets*

Overcoming entry barriers into new markets, either in terms of products, services or geography is often cited as a motive for merger & acquisitions and JV's (Haralambides, 1996; Rothaermel, 2017), while that the objective of entering new markets is achieved through strategic alliances (Johansson, 2000). According to some authors, entering new markets through an International Joint-Venture presents several advantages, enabling local and international firms to utilize core competencies, complementary resources and innovative capacities (Geringer, 1991; Kogut, 1988).

2.1.6 *Access complementary assets*

Rothaermel (2017) acknowledges access to critical complementary assets as one of the reasons companies join forces, stating that strategic alliances allow firms to match complementary skills and resources to complete the value chain.

In the shipping sector, companies can, for instance, enter new trade lines without necessarily increasing tonnage, which would incur in huge expenses. For example, one can argue that the objective might be to explore a specific a different geographical area trade, and that can also be done without having to invest on new tonnage but allying with a partner who has experience and capabilities in such business. As Lorange (2009) stated, financing based on large fleets has been more challenging to obtain as ship-finance banks are not willing to sign up for extensive credit facilities. In his perspective, a move towards consolidation is a strategic move of shipping companies to present financial results to meet shareholders expectations.

Table 1 Summary of identified motives and opportunities

Author(s)	Motives and opportunities for Joint-Ventures (Codes)	Categories
Stopford, 2009; Rothaermel, 2017Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986; Haralambides, 1996; Contractor & Lorange, 1988	Adapting to changing market conditions; Undertaking large contracts of affreightment; Risk sharing; Products portfolio diversification	Hedge against uncertainty
Keith W. Glaister & Buckley, 1996; Midoro & Pitto, 2000; Panayides & Wiedmer, 2011; Haralambides, 1996	Costs reduction; Synergies	Costs Reductions, Economies of scale/scope
Rothaermel, 2017; Luo, 1997; Kogut, 1988	Avoiding inequality of bargaining power; Providing greater flexibility with vessels; Increased purchasing towards suppliers; gains in presence/profile	Strengthen competitive positioning
Haralambides, 1996; Hennart, 1988; Kogut, 1988; Makhija & Ganesh, 1997; Powell, Kogut, & Smith-Doerr, 1996; Rothaermel, 2017	Technological development; Learning; Capabilities retention; Exchange complementary information	Knowledge sharing
Geringer, 1991; Kogut, 1988	Overcoming entry barriers; complementary resources; Cheaper Expansion	Entering New Markets
Lorange, 2009; Rothaermel, 2017	New trade routes without purchasing ships;	Access to complementary assets

2.2 Challenges in forming alliances

As observed previously, studies on opportunities and benefits of entering strategic alliances are plentiful. Many strategic alliances, although entered for rational strategic reasons, do not work. A large percentage of strategic alliances fails (Zineldin & Bredenlöw, 2003), raising debates over the onus that such relationships generate and, on the barriers, that the parties involved face when forming it. Veritably, almost none research on hardships of the strategic relationships in shipping was identified for this studies purpose, and this aspect of the topic has plenty of space to be further investigated.

Surveying literary works on this matter, a few authors listed problems facing alliances (Elmuti & Kathawala, 2001; Geringer, 1991; Geringer & Hebert, 1989; Zineldin & Jonsson, 2000), being mostly related to differences in organizational culture, high costs and problems in coordinating management teams, differences between the parties operational procedures, lack of clear goals, opportunistic behavior and externalities.

This study evaluates the impediments based on the general management literature, such as the ones mentioned above while linking it to the topic of this paper by analyzing the structure of a shipping pool itself and pointing out similarities.

Rothaermel (2017), define as Alliance Management Capability, a firm’s ability to effectively manage three alliance-related tasks: Partner selection and alliance formation, Alliance design and governance and post-formation alliance management. These aspects are taken into consideration and presented below with addition to relevant authors who discuss the same topics in the literature.

2.2.1 Partner Selection and alliance formation

Partner selection is the process of identifying a qualified organization as a potential partner to build an alliance (Geringer, 1991). Many authors discuss the phase of partner selection as having high relevance in the future success or failure of a joint-venture (Child, 2005; Porter & Fuller, 1986; Tate, 1996). Among the cited factors within the selection that are considered crucial are Compatibility of cultures and values; Understanding of the partner’s needs and complementarity possibilities; Open communications; Commitment; Fairness; Flexibility; and Trust (Tate, 1996).

Child (2005), theorizes that two necessary qualities are sought in a partner and are summarized as *Strategic fit* and *Cultural fit*. They present the matrix shown in figure 4 and explains that by *Strategic fit* involves assessing “whether the joint value chain of the partners seems likely to achieve sustainable competitive advantage for the partners*.”* While by Cultural fit, they argue that despite that is not necessarily crucial to both companies to have similar cultures, there must be efforts towards an understanding of cultural differences between the partners, and a willingness to compromise in the face of cultural problems, for the alliance to be active. Cultural fit is also a topic approached by Hofstede (1984) work, which argues that cultural similarity facilitates inter-partner relations and minimizes communication errors, leading to increased performance.

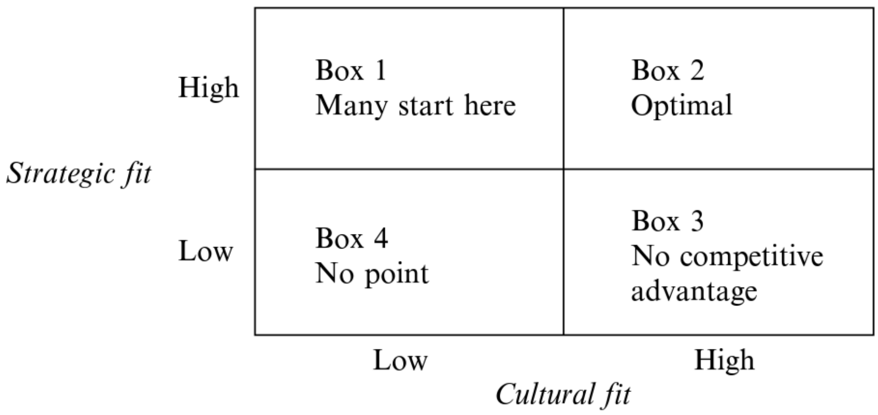

Figure 1 The strategic fit–cultural fit matrix. Source: Child (2005)

Porter and Fuller (1986), presents six criteria for selecting a long-term coalition partner:
1. Possession by the partner of the desired source of competitive advantage. This source means a contribution either in scale, technology, market access or another competitive advantage that the partners alone would not possess.
2. The need for an equal or balanced contribution from the partner. Meaning that the partners must offer complementarity between while maintaining some balance in terms of the power of the partners, in the sense that one does not have a much stronger position in the alliance than the other.
3. A compatible view of international strategy. There must be cohesion among the partner's strategy in terms of trading areas and international coordination.

4. There must be a low risk of the partner becoming a competitor. This point, in respect to shipping pools often is reduced due to the inclusion of a non-competition clause, which prevents the participant using other ships he owns or controls outside the pool to compete with pool vessels, as mentioned by Stopford (2009)
5. The partner has preemptive value about rivals. The partners perceive the alliance as a strategic move that would be capable of defending towards strategies of competitors; in other words, it would increase both competitive partners positioning.
6. The partners' organizational compatibility is high. The corporate cultures of the parent companies must be similar and compatible.

Organizational compatibility is often mentioned to be one of the main challenges in the formation of alliances, and it captures aspects of the cultural fit between different firms. Stopford (2009), for instance, argues that "for a pool to work, there must be cultural understanding" therefore, it is considered that the success of the joint venture depends upon the compatibility between the partners and this compatibility involves culture as well. For instance, Culpan (2002) suggests that each parent company brings its own culture into the alliance, and if those are not compatible, it can cause the JV to be vulnerable to conflict. Similarly, Hofstede, Hofstede, and Minkov (2010) argue that in bringing together two organizations to form a third culture, as in the case of IJVs, the new company can take on characteristics of one of its parent cultures or create a unique culture, bringing together elements of both parent companies.

Child (2005), notes that the possibilities of synergies due to the complementarity between assets and skills is how most companies assess their potential. However, not enough attention is given to the cultural compatibility between the partners, and this factor is often responsible for the breakdown of alliances. Midoro and Pitto (2000) study on liner shipping alliances, discussed that these alliances are characterized by high instability. Since in such agreements, different parties want to retain their roles and influence, there is a negative impact on decision-making time, as well to an increasing of bureaucratization of the alliance, in what the authors called organization complexity.

2.2.2 Management control

Management control is defined as the process of protecting a parent company's interest in a Joint-venture (Li, Tang, Okano, & Gao, 2013), and the extent of control exercised by parents over a venture's activities appears to be a critical determinant and an issue to IJVs (Geringer & Hebert, 1989; Yeo, 2012).

Heiman, Li, Chan, and Aceves (2008), describes as organizational fit the formal division of ownership between partners, and its impact on the JV performance due to the allocation of ultimate control in a JV based on shareholding structure. In their perspective, the presence or absence of a dominant partner is expected to have a different impact on performance than a structure where partner-firms possess equal-shares of JV stock.

The theoretical approach to the management control topic usually involves three dominating aspects: The *control mechanism*; the *control focus* and the *extent of control* (Child, 2005). The *mechanism* refers to the equity ownership, representation of the management teams, and managerial skills. The *control focus* addresses the scope of activities over which a partner exercise control. The *control extent* is the definition of decision-making capacity level of the partners. (Geringer & Hebert, 1989; K. W. Glaister & Buckley, 1998).

When forming an international IJV, there is a likelihood of an unequal negotiation of positions of the partners. Thus, the bargaining power of the partners is crucial to understand whether an alliance might lead to a takeover (Bleeke & Ernst, 1995) and the complexity of a joint-venture control and its impact on the IJV performance was also an object of study previously (Geringer & Hebert, 1989; Yan & Gray, 1994).

For instance, establishing a joint-venture governance arrangement could be especially challenging because each partner has different agendas, necessities, and priorities. Thus, how one partner behaves towards interests of the other could result in delays, unresolved issues and political difficulties (Geringer & Hebert, 1989). Rothaermel (2017), argues that *inter-organizational trust* is a critical factor in the negotiation of an alliance contract. He states that because all arrangements are necessarily incomplete, trust between the partners is essential for the post-formation alliance management, hence formal and informal mechanisms are required to have effective governance.

According to Geringer and Hebert (1989), although each partner must, by definition, relinquish some control over an IJV’s activities, such a move is often accompanied by great wonder, which supports the idea that control is an impediment topic for the formation of an alliance.

2.2.3 Revenue Distribution (Weighting Distribution)

William V. Packard (1995), discusses the prime importance of the methods of calculating the division of a shipping pool revenue, adding that it is a matter of considerable concern to member shipowners of the organization. The importance of developing a fair distribution of expected and unexpected costs and profits in alliances is also stressed by authors outside the scope of shipping (Gibson, Rutner, & Keller, 2002; Wen et al., 2018). Some studies hold that for alliances to be successful, one of the facilitators is finding a non-zero-sum solution, that is, a situation where one partner's gain (or loss) does not necessarily result in another's a failure (or gain). In other words, to be successful, everyone can achieve a win-win situation.

The weighing is a crucial factor in the establishment of a shipping pool, but opposing the previous theoretical papers on general businesses, Haralambides (1996), describes a shipping pool as a zero-sum concept. The explanation for this is because of a distinctive characteristic of the shipping pools, in which given the technical and commercial differences of each vessel, the weighing method has a purpose of evaluating and quantifying the relative potential of each of the ships, assigning a punctuation system that will determine the participation of a vessel in the pool. To allocate ship points and enables the distribution formula, ships need to have an extensive description of technical factors, design, and operational capabilities. This creates the possibility of some divergence between "*actual*" and "*distributed*" revenues from vessels, which could be noticed by the negatively affected party. Haralambides (1996), stated that the predominant reason for entering a pool is the possibility of undertaking large CoAs, which he suggested that the pooled tonnage should be composed of "more or less similar type," enabling effective management of ship switches and fleet deployment.

Also, according to Stopford (2009), revenue-sharing arrangements are almost always restricted to ships of a specific type so that the revenue contribution of each vessel is assessed accurately.

2.2.4 Human Resources Management

Human Resources Management (HRM) is often discussed as an essential part of the formation of a strategic alliance and could be subject of a full study alone. Jackson, Luo, and Schuler (2003) elaborates over the several HR issues in IJVs and affirms that they are very extensive in comparison with other cross-border alliances. They take the fact that over 70 percent of the IJV results in failures and most of the reasons are related to HRM issues. Child (2005) that suggested that HRM is not given the due priority in the formation of alliances, despite that many performance problems stem from poorly designed and executed HRM policies.

Child (2005) listed key activities customarily associated with HRM as follows: (1) Recruitment of personnel, as well to the analysis and definition of the tasks to be done in the alliance and Identifying the number of managers and employees required to work in the alliance, and the attributes they will need; (2) Training and development in respect to improvement of specific skills, whereas the development generally refers to learning that enhances their capabilities and understanding over time; (3) Performance appraisal as an HRM process that aims to assess the performance of employees against agreed targets; (4) Rewards, being either monetary or nonmonetary form such as being accorded public recognition within an organization for job-related achievement.

Child (2005) argues that these issues can become sensitive issues within an alliance, especially an international one that has staff who come from different cultures and labor markets; Organizational design and development: focus on a hierarchical structure, especially their likely personal and interpersonal impact. Furthermore, the structure of an alliance's hierarchy will impact on the quality of communications, and it may be regarded in a different light by the partners' employees if they come from cultures that have different expectations about the psychological distance between themselves and top management that is appropriate.

2.2.5 Communication and IT implementation

The importance of 'computerization' was raised by William V. Packard (1995) when computer technology wasn't as common in companies as it is today. At that time, he already discussed the importance of a shipping pool having an extensive 'in-house' computer system, with a memory large enough for storing and cataloging data.

In their study about horizontal cooperation between logistics companies, Cruijssen et al. (2007) identified communication and Information Technology (IT) implementation as an issue for cooperation agreements of medium intensity, suggesting that substantial investments are required, and cite this as an impediment for formation of alliances.

Tafti, Mithas, and Krishnan (2013) in their study of IT-Enabled Flexibility impact on alliances performance and market value suggested that there is a need for increased consideration of the role of flexibility in IT-driven business processes, in addition to transaction cost and coordination cost reduction. As a relevant example of how IT integration can negatively impact an alliance performance, when the firms Hewlett-Packard (HP) and Compaq merged, the alliance could not take advantage of full synergies due to problems in operational integration generated by largely distinct IT systems (Hallen, 2017).

2.2.6 International Joint-Ventures Performance Measurement

Performance measurement has been one of the crucial issues among scholars and business managers similarly in international business, organizational performance measurement is an increasingly important topic, and it is even more critical in the case of IJV’s (Geringer & Hebert, 1991; K. W. Glaister & Buckley, 1998; Larimo, Le Nguyen, & Ali, 2016). For instance, Child (2005) mentions that academic studies of alliance performance suffer from a variety of problems, including “measurement concerns, data availability (or lack thereof), uncertain strategic objectives, nonfinancial goals, competing objectives, and other concerns that reflect the complexity of cooperative relationships.”

Child (2005), summarizes the issue of strategic alliances performance measurement as being “*notoriously difficult*,” adding that solely assessing through standard financial terms could lead to missing the goals held by partners when allying. Hence, they emphasize the importance of making a distinction between ‘system’ and ‘goal’ criteria for alliance performance. ‘System performance,’ defined as the extent to which an alliance performs well as a business unit and ‘Goal performance,’ defined as the extent to which the objectives that each parent company has in allying are realized in practice. Child (2005) also mentions that since many alliances fail to survive for many years, stability and survival have often been taken as indicators of alliances performances. However, they argue that these indicators could exaggerate the incidence of alliances failures, as there are other reasons for IJV to terminate an alliance, for example, when both parties achieve their initial objectives in forming the IJV.

Many of the studies on IJV’s performance measurements focus on the impacts of the nationality of the companies in the performance. Geringer and Hebert (1991), for example, concluded that there are positive correlations between objective and subjective measures of IJV performance, between the parent's and the IJV general manager's assessment of IJV performance. In addition to it, they found out that the correlation between partners' assessments of IJV performance is stronger in IJVs involving parents with similar national cultures. While Mohr & Puck, 2005 findings indicated that success is not necessarily the same thing for two parent companies, in this case pointing out that, when evaluating the performance of the IJV, German firms related to profitability while for Chinese firms, it is related to growth.

Table 2 Summary of identified challenges in forming Joint-Ventures

Authors	Challenges (Codes)	Categories
Geringer, 1991; J. F. Child, David, Tallman, Stephen, 2005; Porter & Fuller, 1986; Tate, 1996; Stopford, 2009; Midoro and Pitto, 2000	Trust amongst partners; Strategic fit; Cultural fit or cultural understanding; Partners complementary; Partners organizational compatibility	Partner Selection and alliance formation
Li, Tang, Okano, & Gao, 2013; Geringer & Hebert, 1989; Yeo, 2012; J. F. Child, David; Tallman, Stephen, 2005; K. W. Glaister & Buckley, 1998; Yan & Gray, 1994; Rothaermel, 2017	The control mechanism, Control focus, Extent of control, Intraorganizational Trust	Management Control
Gibson, Rutner, & Keller, 2002; Wen et al., 2018; Haralambides, 1996; Stopford, 2009; William V. Packard, 1995	Technical and commercial differences between pooled vessels; Divergence between "actual" and "distributed" revenues from vessels	Revenue Distribution (Weighting Distribution)
Jackson, Luo, and Schuler (2003); J. F. Child, David; Tallman, Stephen (2005)	Different cultures and labor markets; Organizational design and development; Alliance's hierarchy structure	Human Resources Management
William V. Packard, 1995; Cruijssen et al., 2007; Tafti, Mithas, and Krishnan, 2013; Hallen, 2017	Operational integration generated by largely distinct IT systems; Large investments required	Communication and IT implementation
Geringer & Hebert, 1991; K. W. Glaister & Buckley, 1998; Larimo, Le Nguyen, & Ali, 2016; J. F. Child, David; Tallman, Stephen, 2005; Mohr and Puck	Measurement concerns, lack data availability, uncertain strategic objectives, nonfinancial goals, competing objectives	International Joint-Ventures Performance Measurement

3 Methods

This chapter covers how the research methodology proceeded, giving a discussion of the research strategies, the research design, sampling and methods of data collection. The section finishes with implications of reliability, replicability, and validity, as well as ethical considerations and limitations during the study.

3.1 Research Strategy

Within research strategies, two distinct approaches are available, the quantitative and the qualitative. These strategies are different in the way the data is collected and analyzed. The quantitative procedure involves obtaining large quantities of data, to facilitate generalizability. The qualitative method, on the other hand, focuses on collecting rich, high-quality data, examining a sample at a deeper level and enabling a thorough understanding of complex issues (Bryman & Bell, 2015). To be able to explore the subject, the researcher chose a qualitative approach to achieve deep insight into the knowledge of the industry professionals.

In a qualitative study, the relationship between theory and research is usually inductive (Bryman & Bell, 2015). Past research on challenges and opportunities in a Joint Venture formation in the Bulk and Open-hatch industry was not identified by the author, the closest topic being consolidation in container shipping. Due to the lack of relevant research for IJV regarding open hatch shipping companies, an attempt to develop the existing theories in IJVs and the influence of this in the OHBC sector.

The research strategy of this study is designed to be a qualitative approach based on in-depth interviews, considering the research questions objectives to understand a phenomenon. Semi-structured interviews were conducted, to obtain answers where informants can speak relatively freely while ensuring that the studied topics are covered.

This study will not be testing hypotheses, but instead, it will pursue qualitative research to answer the research questions proposed and in which it can be more flexible to alter the order and the direction of the studies during the process as appropriate.

3.2 Research Design

The design was chosen based on the access opportunity the researcher had to investigate the organization. A single-case study research design selected, as the objective was to examine a contemporary case in depth and within single settings (Eisenhardt, 1989).

Other methods, described by Bryman & Bell, (2015) such experimental, cross-sectional, longitudinal or comparative, could be taken into consideration as designs. The fact that the researcher had an opportunity to get an in-depth view from a specific case was the primary motivator in choosing a case-study design instead of others. It appeared to be the apparent option.

For example, the experimental design would be appropriate if the researcher wanted to test a theory or hypothesis using an experiment, where variables were controlled by the researcher. This design would not be possible in this study as the environment cannot be controlled by the researcher in any way.

A cross-sectional design would be appropriate to identify patterns of similarity between several cases. The data, in this case, must be collected at a single point in time while needing to be quantifiable and comparable to other datasets. This design could be used in research intended to compare joint-ventures in shipping with other industries, for instance, where questionnaires could be distributed among relevant informants from Joint-Ventures in two different shipping sectors, to compare them. This, however, was not chosen because the researcher would not get in-depth insights and the relevance of the study would not be the same. In addition to this, access to many informants would be difficult and time was limited for this study. The resources and opportunities available were considered first.

A Longitudinal design would require multiple informants from different companies and a large amount of work in getting repeated data collection over some time. Given the time constraint of this thesis and the access to informants by the researcher, using a longitudinal design would most likely be inappropriate.

A comparative design could be used if a study holds more than one case. For instance, it could be used to compare phenomena on contrasting cases, again, such as Joint-Ventures in different sectors. A single case, on the other hand, can have multiple units of analysis embedded in it (Yin, 2018).

A single case study design was chosen for this study. A case study design is appropriate when the research question is of explanatory nature and when the aim is to collect data that are not derived but instead, come from a natural setting. Therefore, a case study is an appropriate design when the research is answering a “how,” “why” or sometimes “what” questions, and when data are collected in their natural setting (Yin, 2018). The case study can be an entity such as a person, a group, an organization, an event or a society.

This study provides a description and explanation of the case instead of trying to get a random sample of cases. This study also focusses on the respondent's understanding of the challenges and opportunities in forming a Joint-Venture and how it matches existing theories on the same topic in the literature.

3.3 Case description

The case involves a Joint-Venture comprised of two shipping companies that have been competitors for more than 50 years. Decades before, both companies unsuccessfully attempted to form an alliance. However, today changes in external and internal conditions enabled the alliance.

The researcher interviews the leading executives from both companies who participated in the formation of the alliance to understand the motives, opportunities, and challenges involved in the process of creation of this alliance.

Freight rates volatility generated a level of uncertainty in the market that led shipowners to seek stability through strategies involving a mix of medium to long term contracts of affreightments combined with a smaller amount of spot market opportunities. The problem for this sector, specifically, is that their primary customers- large industrial producers with already strong bargaining power- are consolidating.

The main customers of the parent companies of the JV prefer having only one carrier as a service supplier and, as they are getting bigger, they will also require bigger carriers to serve them. Realizing this, the owners knew they had to increase their fleets as their main competitors, although less specialized for the type of trade they are in, operate far larger fleets. As the market was weak, the financing options are also limited. On top of that, there are substantial risks and costs involving the purchase of new ships, as the future trade demands are unpredictable. The only solution left for the shipowners was joining forces, in this case, through a shipping pool in the form of joint-venture agreement.

3.4 Data collection

Theory-building researchers typically combine multiple data collection methods, but some investigators employ some of the data collection methods (Eisenhardt, 1989). Field research, comprised of interviews, observation, and memos, for instance, is a common form of data collection associated with qualitative methodology (Frankfort-Nachmias, Nachmias, & DeWard, 2015).

3.4.1 Sampling

Given the opportunity that the researcher had to investigate a Joint-Venture case in depth, a strategy of interviewing key-people inside the organization was elaborated.

This study relied on a non-probability sampling technique. Non-probability sampling is often associated with case study research design and qualitative research, as case studies tend to focus on small samples and are intended to examine a real-life phenomenon, not to make statistical inferences about the broader population (Eisenhardt, 1989; Yin, 2018). Furthermore, the sampling method in this study can be described as a purposeful or judgmental selection method. The purposeful or judgment selection is defined as selecting settings, persons or activities to provide information that is particularly relevant to the research questions and objectives and could not be gotten as well from other choices. While in quantitative methods, only two main types of sampling are typically recognized- Probability and Convenience- there are discussions on whether this view takes into consideration that in qualitative research, those types are not adequate in selecting settings and individuals (Maxwell, 2013).

The downside of the chosen sampling method is that an unknown proportion of the entire population was not sampled, entailing that the sample may or may not represent the whole population accurately. Hence, the results of this study cannot be used in generalizations about an entire population. Due to the topic of this study, the criteria for choosing the informants included only high-level executives who participated in the process of formation of the Joint-Venture.

Table 3 Interview participants

Position in the JV	Position before/out of the JV
Chairman of the board	Chairman of the JV and Owner of company B
Chief Executive Officer	CEO at Company A
Chief Commercial Officer	CCO at Company B
Vice-President of Operations	Operations Director at Company B
Vice-President South America	VP at Company B
Vice-President Europe and North America	VP at Company A

3.4.2 Semi-Structured Interviews

A semi-structured shorter case study interview was developed based on the identified literature review main opportunities and challenges, to be able to answer the research questions and determine to which extent literature and the case related. As the informants time available was short, a “shorter case study interviews” approach was chosen as, according to Yin (2018), they are more focused and take more or less 1 hour to be performed, while it still can be open-ended and assume a conversational manner.

On the aspect of the interviews was that probing questions were made to the interview protocol, to attempt to find emergent themes or to take advantage of opportunities that were presented.

Bryman and Bell (2015), discusses the differences between structured interviews and what he called as a semi-structured type of qualitative interviews. The first is much more structured and appropriate for quantitative researches due to the need to maximize the reliability and validity of measurement of key concepts. The latter tends to be much less structured with a much higher interest in the interviewee’s point of view. In qualitative interviews, such as the ones performed on this study, “going off at tangents” is often encouraged to get insights that the interviews see as relevant and essential. The flexibility of this type of research interview was intended by the researcher as it was believed that more detailed answers could be achieved.

In the semi-structured interview, the researcher has a list of questions on specific topics to be covered, which comprised the interview guide. Even then, the idea is that the respondents had great flexibility in how to reply to the questions.

Before performing with the informants, the interview guide was tested with three master students of the University of Southeastern Norway, being adjusted accordingly so that the questions were asked in a cohesive order.

The face-to-face interviews were performed in quite sets without room noises and parallel talking. All interviews were performed in English, and a copy of the interview guide was given to each interviewee. The recording was done using the researcher's smartphone recorder. The interview consisted of 10 questions, with additional probe questions being asked if it was deemed necessary to extract more relevant information. As mentioned before, this flexibility is one of the most significant advantages of semi-structured interviews (Bryman & Bell, 2015).

3.5 Inductive Analysis (Coding)

Coding is used primarily, but not exclusively, to retrieve and categorize similar data chunks so the researcher can quickly find pull out, and cluster the segments relating to a particular research question (Miles, Huberman, & Saldaña, 2014). The goal of the inductive analysis in this study is to summarize theoretical data into categories and to use these categories as Pre-Codes for further investigation of the data collected. With this goal achieved, a deeper reflection, analysis, and interpretation of the data collected as possible.

This study begins with a review of the literature on joint ventures in various industries and Shipping pools, organizing it under opportunities and reasons, and challenges in these formations. Several articles within the topic's strategic alliances- focused on horizontal cooperation, joint-ventures or shipping pools- published in peer-reviewed journals were selected to be included in the review process. In addition to the articles, books on the topics of Shipping pools and cooperation strategies were also reviewed. The Pre-codes derived from the literature review are listed in Table 4. The codes that were derived from data analysis were inspired by the pre-codes identified through the literature review.

Table 4 Pre-Coding derived from Literature review

Challenges		Opportunities and Motives	
Categories	Codes	Categories	Codes
Partner Selection and alliance formation	Trust amongst partners; Strategic fit; Cultural fit or cultural understanding; Partners complementary; Partners organizational compatibility	Hedge against Uncertainty	Adapting to changing market conditions; Undertaking large Contracts of affreightment; Risk sharing; Products portfolio diversification
Management Control	Control mechanism, Control focus, Extent of control, Intraorganizational Trust	Economies of scale	Costs reduction; Synergies
Revenue Distribution (Weighting Distribution)	Technical and commercial differences between pooled vessels; Divergence between "actual" and "distributed" revenues from vessels	Strengthen competitive positioning	Avoiding inequality of bargaining power; Providing greater flexibility with vessels; Increased purchasing towards suppliers; gains in presence/profile
Human Resources Management (HRM)	Different cultures and labor markets; Organizational design and development; Alliance's hierarchy structure	Knowledge sharing	Technological development; Learning; Capabilities retention; Exchange complementary information
Communication and IT implementation	Operational integration generated by largely distinct IT systems; Large investments required	Entering New Markets	Overcoming entry barriers; Complementary resources; Cheaper Expansion
International Joint-Ventures Performance Measurement	Measurement concerns, lack data availability, uncertain strategic objectives, nonfinancial goals, competing objectives	Access to complementary assets	New trade routes without purchasing ships;

The interviews were recorded and are the primary data to be used to link with the literature review pre-coding. The pre-coding involved deriving pre-liminary codes from literature.

The process of interview data analysis started when the files were transcribed and reviewed for mistakes using Trint computer software. The transcribed interviews were then into Microsoft Word documents, and a review was performed to clarify meanings where needed, adding new words in brackets to increase the readability of sentences. Abbreviations and acronyms were written in full words.

Following this, it took place a process described as by Miles et al. (2014) as the first cycle coding, which involves attributing labels to chunks of data to detect reoccurring patterns. From these patterns, similar codes are clustered together to create a smaller number of categories, called Pattern Codes, which is described as the second cycle coding (Miles et al., 2014). The coding was done using NVivo software, and the codes were used to retrieve and categorize the data.

The codes used were created by the researcher described in what (Miles et al., 2014) called deductive coding, where a provisional list of codes is present before the fieldwork interviews, although other codes emerged progressively during the data collection.

Figure 2 Data Analysis process based on Miles et al. (2014)

3.6 Ethical considerations

It is a challenge to interview people in companies about their business strategies, considering that there is a possibility of bias on how they refer to their company and the decisions they made. To handle these issues, the researcher chose to interview objects with integrity and specialists, and even then, there still might be bias towards findings correlating with the intended outcomes. Thus, there was an effort to develop the interview questions in a way that would not place the respondents in positions where they would have to answer positively or negatively about the business.

Before beginning with an interview, a written consent form was presented to each of the informants. The written consent included information about ethical considerations such as the confidentiality and anonymity of the research respondents, but also information about the research objective and that the interview would request information about the reasons and challenges involving the for the formation of the Joint-Venture. For anonymity reasons, names of companies as well to its office's locations are kept anonymous, and the informants are indicated with numbers going from 1 to 6. The study was executed in an independent and impartial way.

The informants were presented with information that their involvement would consist of the participation of the interview. Informants were informed that participation in the study was voluntary and they could withdraw their participation at any time, that the interviews would be used for research purposes, and if wanted so, all the recordings would be deleted at any point.

3.7 Limitations

This section presents what limitations could potentially impact the quality of the findings and the ability to answer the research questions. The first clear limitations were caused by time and resource constraints to perform qualitative research in five months and the costs incurred in the process of gathering qualitative data.

Furthermore, the study was conducted on a single Joint-Venture making it context dependent and the fact that the Joint-Venture is an on-going enterprise means that it is difficult to establish an accurate description of all challenges and opportunities as future events may generate novelties into the topic.

The findings of this study are interpretations from raw data by the author who in sequence performed the open-coding process. Therefore, it is inevitable that the results are elaborated based on assumptions of the author who conducted the literature review and analyzed the data.

It was relatively difficult finding peer-reviewed, academic papers or books on open-hatch and dry bulk corporate strategies, joint-ventures and shipping pools, which made the process of finding relevant information on the sector hard. A lot of details as global-fleets size or updated consolidated financial reports are usually provided by financial research firms, which sells such data for prices that the researcher could not afford.

Single case study methods have been subject to several criticisms, the most common of which concern the inter-related issues of methodological rigor, researcher subjectivity, external validity, and generalizability. Maxwell (2013), for example, discussed two broad types of threats to validity that are often raised about qualitative studies: the researcher bias and the effect of the researcher on the individuals studied, often called reactivity. Due to the character of this study research questions and data collected, the research bias could have influenced the initial approach to the case. The responsiveness or the influence of the researcher on the setting or individuals studied, however, could be a potential threat to validity, but eliminating the actual impact of the researcher is impossible (Hammersley & Atkinson, 2007).

As this qualitative study data collection process was open-ended, the participants had control over the content of the data provided. Thus, the researcher is not able to verify the results objectively against the questions asked. The size of the sample and the number of informants and companies investigated presents another specific limitation to this study.

3.8 Validity and Reliability

It is recognized in this study that any generalizable conclusions can be drawn to any other case without further investigation. It wasn't the objective of this study to provide generalizability to the whole sector but to study a specific case in depth. The reason for this is since this study adopts a case study, there is a contextual uniqueness to the findings.

Instead of external validity, this study tries to produce transferability (Bryman & Bell, 2015), through what Lincoln and Guba (1985) describes as a 'thick description,' in other words, providing a robust and detailed account of the procedures during data collection. Lincoln and Guba (1985) argued that a thick description provides others with a database for making judgments about the possible transferability of findings to other scenarios. This involves what has been presented in the Procedures sub-chapter: Making explicit descriptions to the contexts that surrounded the data collection process.

To assure validity in this study, the informants interviewed in this study were all high-ranking executives, as well to one shipowner, who experienced the process of establishment of the Joint venture. Some of the informants had experiences in a previous attempt to establish a JV, which is something that adds value, as it will be shown in the Findings chapter. Finally, the interview questions were developed based on the topics evaluated in the literature review, and those were asked in ways attempting to avoid bias in the answers.

4 Findings

This chapter presents the findings from an analysis of the interviews. The findings are structured between codes generated from data collection. The combination of codes forms categories. Those categories are generated to address this study research questions. First, the motives and opportunities are to be displayed, followed by challenges.

4.1 Motives and opportunities in forming Joint-Ventures

To better expose the findings, the interpretation of the set of responses is revealed through a chain of factors and events. In this way, it is possible to have a comprehensible vision of what led the two companies to form the alliance.

Overall, the responses suggest that persistent external factors led both companies to adopt a strategy involving an extensive portfolio of medium to long term CoAs mixed with spot market opportunities, to hedge revenue income against market fluctuations while enabling them to take advantage of eventual opportunities in the spot market. This strategy is not a novelty initiated by JV, it had been put in practice for many years, and in the author's interpretation, it has implications that trigger the chain of events leading to the Joint-Venture. Furthermore, empty back-haul trips are mentioned as a huge challenge that the business face currently, as the companies manage to fix contracts on the front-haul, but struggle to find contracts on the back-haul, increasing ballast days ratios and reducing financial returns.

The bad market conditions were pressuring both companies so that they had poor financial results. The difference now was that also, their primary consumers -Large industrial producers- were consolidating. Hence, the CoAs strategy quoted above has implications. The CoAs are made with these large industrial clients, and according to the informants, these customers often have a preference to have only one carrier fully undertaking the contracts of affreightment while providing flexibility in terms of switching volumes of cargo between regions when needed. The consequence of these customers consolidating was that the primary hedge strategy of the companies could be threatened, as larger customers need larger and more flexible transportation fleets, and the companies were not in financial conditions to expand their fleets.

To attend their main customers' changing requirements, bigger fleets and global coverage was indispensable. As the owners did not want, or could, invest in new vessels, the Joint-Venture was the solution to address the situation.

Table 5 illustrates the sequence of events that was drawn through the author's interpretations of the informant's statements regarding the motives for the establishment of the JV.

Table 5 Sequence of events leading to the joint venture

Sequence of events	Categories	Codes	Quotes examples	
1	Market conditions	The market went down; Excessive Competition	*"The main factor was related to the market. Since 2008, the dry bulk market went down."*	*"there was excessive competition within the niche that we were operating in."*
2	Buyers increased bargaining power	Customers becoming larger	*"Our customers - which is mainly the pulp industry- have become larger and larger. "*	*"We see that our customers are becoming bigger as well."*
3	Risk Reduction	Contracts of Affreightment; Long term contracts	*"We hedge through our contracts of affreightment book."*	*"The hedge It's in the long-term contracts. We have in company B maybe a hundred customers. In CoAs, we have about 70 customers. A lot of that based on long term contracts."*
4	Attending Customer Requirements	Shippers want one carrier; Worldwide coverage; Joint ventures instead of investing in new ships	*"I think the two companies on their own would not have been able to take, for instance, one of the big long-term contracts that we have. Shippers want, very often, one supplier, one carrier."*	*"To be able to offer a complete service because that's what they ask you more and more that you can serve them in all directions, worldwide."*
		Serve clients better	*"Maybe instead of every company building their ships, I think that there might be more joint ventures."*	*"The other way is to invest a lot in new vessels, more assets. That, we didn't want to do. We could not at this time."*

The findings on motivation to form the Joint-Venture that were used during the open-coding process are listed in Table 6.

Table 6 Findings of motives with quotes from interviews

Themes	Categories	Codes	Quotes Examples	
Motives	Market conditions	The market went down; Shipping market quite bad	*"The main factor was related to the market. Since 2008, the dry bulk market it went down."*	*"The shipping market has been quite bad for many years now."*
	Access to complementary assets	Complementarity between businesses	*"We are complementary to each other."*	*"one company was much stronger in the southern hemisphere, and the other was stronger in the northern hemisphere, so they were seen as being complementary."*
	Attending Customer Requirements	Bigger volumes; flexibility; Shippers want one carrier; Worldwide coverage	*"There is one thing, bigger volumes. Very often they prefer to have one carrier because they get the flexibility."*	*"To be able to offer a complete service because that's what they ask you more and more that you can serve them in all directions, worldwide."*
	Competition	Excessive competition	*"There was excessive competition within the niche that we were operating in."*	*"competition has been increasing not necessarily only from the open-hatch side, but from containers, from multi-purpose ships and so forth."*
	Buyers increased bargaining power	Customers getting larger	*"We see that our customers are becoming bigger as well."*	*"our customers - which is mainly the pulp industry- have become larger and larger."*
	Empty-Back haul trips	Ballast days	*"there was fairly obvious synergy in that we could reduce the number of ballast days."*	

4.2 Opportunities in forming the Joint-Venture

Opportunities are the solutions to the obstacles encountered when investigating the reasons for joint venture formation; in other words, the goals that the companies were aiming to achieve with the alliance.

All informants acknowledged that synergies and scale are the main opportunities in allying, either through administrative costs reductions, flexibility and scale of a more significant fleet or through the capacity of taking on larger contracts of affreightment. For instance, when referring to overall savings generated through synergies, it was informed that the target for the first two years of the JV operation was 90 million dollars in savings, and they reached 91.5 million. This represented, according to the informant, more than 3000 dollars per vessel, in savings per day.

Additionally, all but one informant perceived the Joint-Venture as an opportunity to serve the customers better. For instance, one of the informants stated that being reliable for customers was the foremost opportunity, again, recalling that they are getting bigger. Two participants again raised the fact that shippers often want one carrier to serve them. Four of the participants states that Joint-Venture enables them to fulfill existing contracts better and to get new and larger contracts.

Furthermore, two participants mentioned a stronger bargaining power towards suppliers because of a larger volume of cargo. One of them argued that the company was now chartering ships from a stronger position due to the more significant market presence. The summary of identified opportunities is listed in Table 7.

Table 7 Findings of Opportunities with quotes from interviews

Theme	Categories	Codes	Quotes examples	
Opportunities	Cost Synergies	Cost-cutting; Joint ventures instead of investing in new ships	*"they also had that there was also a cost-cutting idea that you could take synergies by merging or doing a joint venture."*	*"Maybe instead of every company building their ships, I think that there might be more joint ventures."*
	Expanding global presence	Worldwide coverage; complementarity between businesses	*"by being together, we are then covering the entire globe."*	*"when company B was pretty good in the southern hemisphere. They had activity in Australia and had a big impact in South America. Company A was well- connected on the northern hemisphere U.S., Canada, Europe."*
	Risk Reduction	Risk spread; reducing competition	*"if something happens in the US, Brazil, Australia or South Africa the effect on would be smaller because we have a greater global spread. So are things like our country risk is down."*	*"in a way is partly a protective move...meaning we are improving our profitability, and so forth, reducing competition."*
	Improving Competitive Positioning	Stronger competitive position; Market presence	*" We're chartering in ships we are in a slightly stronger position because we have a bigger market presence."*	*"we are improving our profitability, and so forth, reducing competition."*
	Increased bargaining power against suppliers	More volume; stronger with suppliers; stronger with customers	*"we can be stronger with our customers. And we have more bargaining power with our suppliers because we have more volume."*	*"when we are chartering in ships, we are in a slightly stronger position because we have a bigger market presence with the with our suppliers. Suppliers are keen to secure our business."*
	The undertaking of bigger Contracts of Affreightment	bigger contracts of affreightment; long-term contracts; access to bigger clients	*" I think the two companies on their own would not have been able to take, for instance, one of the big long-term contracts that we have. Shippers want, very often, one supplier, one carrier."*	*"that gives us the opportunity of tying ourselves into some of the bigger shippers."*
	Possibility to dedicate to new efforts	Better hiring and retention of talent; Gains in department scales	*"we will hire and retain talent better. We're better able to work on disruptive innovation because we have, again, the scale to whether it's in the I.T. Department or innovation or the core chartering roles."*	

4.3 Challenges in forming the Joint-Venture

"The biggest challenge- I think- in the whole thing, has been the culture integration because our cultures are quite different."

The phrase above summarizes something that was pointed out by all informants, who addressed the differences between organizational cultures. They argued that the process demanded extreme efforts in terms of Human Resources Management before and during JV formation to ensure that the new company would have processes that fit the goals of the JV and that every collaborator knew what their roles would be. Informant 3 stated:

> We spent a huge amount of time in the six months before starting the company to ensure that we had processes that fit what we were trying to deliver.

The informants describe that six months before the kickstart of the JV, there was an intensive training program with the support of consultants working with culture and management training. That program would continue after the start of the JV, providing workshops and further support for integration.

In addition to this, from the answers to questions 4,5,6 and 8, it was possible to identify Vessels Keys and Revenues distribution, Management control (In terms of strong owners' personalities and resistance to changes) as the main challenges in the process of forming the Joint-Venture. The summarized findings on the challenges are listed in Table 8.

The vessel keys and revenue distribution, for instance, were not described as a challenging process in the current JV. The reason for this is that it was decided to distribute it on a very basic calculation, taking only into consideration the number of vessels and the revenue they generated, without considering classes, sizes, ship ages, and other technical and commercial aspects. However, vessel keys definition was cited as one of the challenges that led to the failure in a previous attempt of forming an alliance between the two companies, and that also had a big influence on the approach to this matter on the current Joint venture. Informant 1 said:

> If we had to go through, to define keys to all the vessels we have, and I think we have - God knows how many classes of ships we have- we probably would still be sitting and

> discussing it. But this can only last for so long. We need to find a vessel key distribution system, and we are into that phase now.

It was also identified that resistance to changes due to owners "strong personalities" was presented as a challenge in a previous unsuccessful attempt to form an alliance between the same companies 30 years earlier. Informant 1 statement regarding the previous attempt reveals an initial discomfort and that it was necessary for both parties to overcome personal pride to accept joining forces:

> Thirty years ago, Company A and Company B tried to get together. This was in my father's this time. And they didn't succeed because then, the time wasn't right enough in terms of personalities. This time, we did it. But of course, you must suffer before this. You must swallow some…You have to… we have to do this."

When asked about the IJV performance measurement, it was difficult to derive a conclusive interpretation whether it is a challenge to the establishment of the JV. The informants mostly discussed the use of Key Performance Indicators (KPI's) to measure progress or results of projects and processes. They also provide insights into the difficulties of measuring things such as integration. However, it isn't possible, based on the answers, to draw any conclusions whether this is a challenge to the Joint-Venture operation. Therefore, this aspect wasn't included as a central challenge in the findings.

Table 8 Findings of challenges with quotes from Interviews

Theme	Categories	Codes	Quotes Examples	
Challenges	Pool Weighting and Revenue Distribution	Different classes of ships; Complex key definition	*"It's very challenging. Especially taking account that both companies do not have one specific type of vessel."*	*"If we had to go through, to define keys to all the vessels we have, and I think we have - God knows many classes of ships we have- we probably would still be sitting and discussing it."*
	Organizational culture, differences Integration and Human Resources Management	Difficult culture integration; Different cultures	*"The Biggest challenge, I think in the whole thing, has been the culture integration because our cultures are quite different."*	*"A lot of challenges. The companies looking in on the outside were very similar but had slightly different ideas on how to do business."*
	Management Control	Resistance to changes; Egos; Different Personalities	*"They did that sort of, maybe 50 years ago. And they knew that one day it could make sense but, it's a question of: "Well this is my business I don't want to share it with anybody else." And you could do that to a certain extent when you're making money and when you are comfortable."*	*"Partly, we are talking about egos here."*

5 Discussions

This chapter reflects on the main findings of this study considering relevant theory and literature. The chapter will be structured in the same order as the findings chapter. The research questions will be answered and discussed in the summary of this section.

5.1 Motives and opportunities in forming Joint-Ventures

Poor market conditions added to the consolidation amongst the main industrial customers were the main motives for the formation of the investigated Joint-Venture. Due to a strong asset complementarity, there were synergies to be taken advantage of in terms of cost reductions, the possibility of expanding global presence without having to purchase new vessels, administrative costs reduction and increased flexibility and capacity to undertake CoAs and scale due to a bigger fleet.

All but one informant perceives the Joint-Venture as an opportunity to serve the customers better. For instance, one of the informants stated that being strong for customers was the main opportunity, again, recalling that they are getting bigger. Two participants again raise the fact that shippers often want one carrier to serve them. Four of the participants states that Joint-Venture enables them to fulfill existing contracts better and to get new and larger contracts

In addition to this, two participants mentioned a stronger bargaining power towards suppliers because of a larger volume of cargo. One of them argued that the company was now chartering ships from a stronger position due to the bigger market presence.

The data analysis indicates that due to freight rates volatility and the instability in income that was generated by it, led shipowners hedge themselves through strategies involving a mix of medium to long term contracts of affreightments with large industrial customers combined with a smaller amount of spot market opportunities, a strategy previously described by Haralambides (1996). This strategy consisted of gaining income stability that the spot market could not provide. Uncertainty in the market is discussed on literature as a motivator for strategic alliances, as they focus on sharing risks on projects or activities through the scale Joint-Ventures provide (Keith W. Glaister & Buckley, 1996; Midoro & Pitto, 2000; Porter & Fuller, 1986; Rothaermel, 2017). One of the main motivators pointed by informants of this study, specifically, is that their main customers, which already had strong bargaining power- were consolidating. The participants of this research persistently mentioned that these customers usually prefer having only one carrier as a service supplier and as they are getting bigger, they will also require bigger carriers. The owners realized that they would have to increase their fleets as they weren't competing amongst this sector alone, but against alliances of container liners operating far larger fleets, but less specialized and optimal for the trade. If renegotiating contracts, bigger companies would be able to provide better flexibility for the industrial customers, thus, winning contracts over smaller players. This relates to Lorange (2009, p.80), which argued that a standard response from publicly owned companies to improve their performance was to consolidate. The reason for that was that companies wanted global coverage to maximize buying power. Also, with the size they gained more flexibility in the sense that they could reposition fleets around, taking advantage of fluctuations in supply and demand.

Haralambides (1996) also supports the findings, by discussing that bulk pools are often created to attend customer requirements. He explains that with the emergence of large industrial conglomerates, such changes in demand have taken the form of CoAs, "involving the transport of large volumes of cargo, at regular intervals, over longer periods. Arrangements such as these offer shipper's greater reliability and less dependence on freight market fluctuations, at known and controllable transport costs."

As the market was poor with low freight rates, the financing options are also limited, as the financial institutions didn't perceive the sector with promising perspectives, and on top of that, there are big risks and costs involving the purchase of new ships, as the future trade demands are unpredictable. The only solution left for the shipowners was joining forces, in this case, through a shipping pool in the form of joint-venture agreement. Lorange (2009), discussed how financing new ships based on large fleets has been more difficult to obtain as ship-finance banks aren't willing to sign up for large credit facilities and that consolidation, instead, as an alternative to increasing the fleet size.

Complementarity between business was cited as an enabler for the Joint-Venture, as the companies had different regional trade focuses. In this case, it could also mean complementarity of businesses because the executives knew that a new company composed by the different contracts that the parent companies had, would be able to operate much larger areas while reducing overheads and SG&As at the same time. This motive also finds support on literature, as entering new markets through strategic alliances and its advantages have been previously covered in the literature (Geringer & Hebert, 1991; Johansson, 2000; Kogut, 1988).

A finding that was not identified on the literature review as a motive in forming JVs, but it is mentioned as a general challenge for OHBCs shipping companies (Stokseth, 1992) is the issue of empty back-haul trips. Hence, this factor is presented in this study as a novelty. The author's explanation of this factor also relates to the mentioned strategy of a combination of portfolios of medium to long-term CoAs with spot-market opportunities, but also the characteristics of the international trade aspects. As the parent companies transport mostly bulk and break-bulk commodities, there is a challenge that the shipowners themselves have no power to influence. For example, there is a big demand for commodities from Brazil to China, which in this case is the front-haul. On back-haul trips, however, it is extremely difficult to find cargo and contracts. Consequently, the ships going from South America to Asia must ballast on the back-haul trips, decreasing the voyage profits. The same happens between South America and Europe. This was presented as a "huge challenge" and because the companies were exposed to that with difficulties to solve it. The current adopted strategy to tackle this issue, according to one of the informants, is to seek voyages with cargo on the back-haul trip, thus, reducing ballast days. In other words, the company must actively search for cargoes on the spot market for the back-haul trips, as they have troubles finding contracts for it. This strategy, however, not always is possible as the spot market isn't consistent as a contract of affreightment.

Table 9 illustrates the findings from data analysis and the literature supporting them. The Findings written in bold were not identified through the literature review and are considered novelties findings.

Table 9 Table of Motives with support from literature

Theme	Categories	Literature supporting
Motives	Market conditions	Haralambides, 1996; Stopford, 2009; Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986
	Complementarity between businesses	Rothaermel, 2017; Lorange, 2009; Porter and Fuller,1986
	Attending Customer Requirements	Haralambides, 1996
	Competition	Rothaermel, 2017; Luo, 1997; Kogut, 1988
	Buyers increased bargaining power	M. Porter, 2008
	Empty-Back haul trips	Stokseth, 1992

The main opportunities perceived by the executives on the formation of the joint-venture involved synergistic benefits from reduced Selling, General & Administrative Expenses (SG&As) and overheads. These proved to be substantial after the establishment of the JV, from a target of 90 million to a total savings of 91 million dollars of savings in the first two years of the JV operation.

These benefits are often mentioned in literature as one of the most obvious opportunities in forming Joint-Ventures and shipping pools (Keith W. Glaister & Buckley, 1996; Haralambides, 1996). In addition to cost savings, there was a need of increasing the fleet to attend the customers' requirements, but both companies could not and didn't want to do it through the purchase of new vessels. The JV opened the opportunity of increasing the fleet without doing so. This correlates to Contractor and Lorange (1988) pointing out that it is cheaper to undertake larger projects through JVs than alone.

Aside from the costs, there is also a risk spread opportunity perspective. The possibility to spread market and financial risks were identified as opportunities through literature (Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986) and through the data findings. In this study, the fact that the companies had a strong presence in different continents meant that there was also the possibility of spreading geographical market risks, reducing what one of the informants called "country risk." As an example, it was informed that poor markets in the United States or countries in Europe could be balanced by a good market in countries in South America, Australia or South-Africa.

In addition to the geographical risk spreading, the risk reduction is also related to the undertaking of larger CoAs, as these contracts are the main tools that both companies use to hedge against volatility. The Joint-Venture creates the possibility of improving their hedge strategies effectiveness by securing long-term CoAs that both companies alone would not be able to carry on. Haralambides (1996) states that undertaking larger CoAs is one of the main reasons that companies form shipping pools, supporting the findings of this study.

Overall, the opportunities perceived by the executives are methods to strengthen competitive positioning of the companies in terms of cost efficiency, bargaining power towards suppliers and buyers.

The novelty of the perceived opportunities involves the possibilities of the new company to dedicate to activities that would not receive as much attention if not for the Joint-Venture. Not only scale benefits were gained in departments such as the IT and HR, but also, a whole innovation department was created. This is also exemplified by the informants when they refer to better hiring and retention conditions, as they can offer more attractive opportunities to new recruits. In the author's perception, the fact that the new company has a stronger global presence, coupled with the greater financial freedom gained through economies of scale, indicates that a more effective talent recruitment process can be realized. This means that that the company can offer better conditions and remuneration to new employees, thus being more attractive. This can become a competitive advantage as there is a competition for the best talent available in the job market and attracting them has can be costly in terms of salary.

Table 10 Identified opportunities with supporting literature

Theme	Categories	Literature
Opportunities	Cost Synergies	Keith W. Glaister & Buckley, 1996; Haralambides, 1996; Midoro & Pitto, 2000; Panayides & Wiedmer, 2011
	Expanding global presence	Haralambides, 1996; Rothaermel, 2017; Johansson, 2000; Geringer, 1991; Kogut, 1988
	Risk Reduction	Rothaermel, 2017; Haralambides, 1996; Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986; Contractor and Lorange, 1988
	Improving Competitive Positioning	Luo, 1997; Kogut, 1988
	Increased bargaining power against suppliers	M. Porter, 2008
	Bigger Contracts of Affreightment	Haralambides, 1996
	Possibility to dedicate to new efforts	

5.2 Challenges in forming Joint-Ventures

The analysis of the findings reveals that due to an urgent need for both companies to act given tough internal financial conditions, decisions were taken without regard to details that otherwise would have been major impediments. For example, instead of considering technical aspects of ships, their sizes, capacity, age, and equipment, it was simply decided that “a ship is a ship,” and therefore, the number of vessels regardless of their characteristics was considered when deciding how to distribute the JV revenues. It is possible to say that those could be impediments as the informants refer to them as contributing to the failure of a previous Joint-venture attempt between the same companies. In the previous attempt, the characteristics of the vessels and the number of classes might have turned the discussions too complex, which led to disagreements.

The main challenge in the process was the organizational culture integration, as the companies, despite being complementary in terms of assets, had substantial differences in organizational cultures and management structures. The issues on these aspects consequently required intense efforts in terms of human resources management even before the start of the

JV. Culpan (2002), for instance, stressed that lack of compatibility between cultures could cause the JV to become vulnerable to conflict, which was something pointed out to exist in this study's case. The findings also illustrate as to how executives address the issue pointed by Child (2005), that suggested that HRM is not given the due priority in the formation of alliances.

It is argued by informants that largely due to the efforts in HRM-which involved training programs, workshops, and consultancy- that they managed to reduce conflicts and doubts regarding the tasks and objectives of each employee in the new company.

The informants also argued that in this JV establishment, they attempted to create a whole new organizational culture, taking the best traits from each company. This finds great correlation to literature, as Hofstede et al. (2010) argued that in an IJV, organizational cultures from both parent companies are merged to form a third culture which is usually inspired by one the of the two parent cultures or through forming a unique culture combining various elements from the parent cultures. The informants stated that this was also done to avoid conflict and debates on which company had the best strategy.

It was also extensively mentioned by the informants that, one company had a decentralized decision-making management structure, giving their international offices liberty of making decisions. In the other hand, the other company usually concentrated the decision-making powers in their main headquarters. In addition to it, while one company was already internationally active both with offices and staff, the other operated had a more local focus, hiring mostly nationals from the country of the company's origin. Additionally, it was mentioned that there was a shock between in terms of how the employees acted in operations. For example, while some clerks preferred solving problems from the office, others considered that the best way to address operational issues was being present at the ports.

Another issue was the pool points distribution, or revenue distribution, which was described as a challenging process. However, in the establishment of this JV, vessels keys were not discussed in detail, that would, in another situation be troublesome due to the many classes of ships involved. The reason for this was that the owners agreed to do so to enable a faster establishment of the alliance. On literature, the pool points distribution has been previously described in detail (Haralambides, 1996; William V. Packard, 1995). However, it was not specifically pointed out as an impediment for the establishment of a shipping pool or joint venture specifically. Revenue distribution has been previously described as an impediment on forming Joint-ventures by Cruijssen et al. (2007), for example.

The informants of this study described an experience on how the pool points distribution process was one of the key factors that led to the failure of a Joint-venture attempt between the same companies' decades earlier. This happened as deciding terms of vessels keys became extremely challenging. The fact that vessel keys definition is a complicated process is identified on literature, but it is a reason for disagreement between companies wasn't identified by this study literature review and therefore is presented as a new finding.

The difficulties mentioned in the decision of the vessel keys have reinforced the issue of personalities of the owners involved. This was interpreted as a possible challenge in the discussions between owners attempting to ally. Haralambides (1996), for example, mentions as disadvantages in forming shipping pools, the trust among partners, in what he calls a very "*individualistic industry*", cultural differences between the parties, pride and the feeling of a "*lost identity*", concerns of "*losing touch*" with a very competitive market, and the disadvantages of committing tonnage for longer periods. William V. Packard (1995), supports this, stating that arguments against shipping pools are largely emotional and that traditional shipowners may be concerned with sacrificing what might be termed 'market identity.' Additionally, owners might feel that they could lose their 'feel' on the rhythm of the freight market activity and be reluctant to relinquish control over the operations of the vessels.

In the author's interpretation, there is a link between the fact that, not infrequently, Norwegian shipowners are has been for a long time, so there is a strong question of identity. This is perceptible even by the name of many companies, which bear family names. In view of this, it can be said that even if the company itself is at financial risk, the owners have a sentimental attachment and must renounce this in order to enter an alliance.

Table 11 summarizes the findings of challenges with support from the literature on Joint-Ventures and Shipping pools.

Table 11 Identified Challenges with supporting literature

Theme	Categories	Literature Support
Challenges	Pool Weighting and Revenue Distribution	William V. Packard, 1995; Gibson, Rutner, & Keller, 2002; Wen et al., 2018; Haralambides,1996; Stopford, 2009
	Organizational Cultures, Resistance to Changes, Integration and Human Resources Management	Porter and Fuller, 1986; Tate, 1996; Child, 2005; Rothaermel, 2017
	Management Control	Li, Tang, Okano, & Gao, 2013; Geringer & Hebert, 1989; Yeo, 2012; J. F. Child, David; Tallman, Stephen, 2005; K. W. Glaister & Buckley, 1998; Yan & Gray, 1994; Rothaermel, 2017; Packard, 1995

5.3 Learning Points

Taking into consideration that the OHBC sector is largely based on long term contracts (CoAs) and strong relationships with industrial customers, in order to maintain a solid long-term relationship with customers, they require high quality, efficiency, punctuality, and flexibility. The fact that there aren’t many companies operating in this sector means that even a few large clients could have an immense weight on their businesses.

Given this and taking into consideration the findings of this study, it is possible to say that the main factors that differentiate this sector from others in shipping are the large focus on forestry products trade, as indicated by the impact of the large industrial customers consolidation over the decision to form a joint-venture; and the technical aspects and different classes of ships, which could lead to complex and very specific vessel keys negotiations between companies operating many different classes of OHBC ships. Having previous experiences that the vessel keys discussions may become impediments when forming an alliance, executives tried to initiate IJV without defining those keys in detail. However, as the problem has not been conclusively solved, discussions will be resumed to set the keys, as this can be a problem if some party wants to add or remove ships from the pool.

Other factors that were identified in the literature review but weren't mentioned at any moment by the informants were knowledge exchange as a motivator and Communication and IT implementation as a challenge to form IJV.

Knowledge exchange was identified as a main motive between the companies into joining forces on the literature review, but no mention was made by informants. The author's interpretation is that this is related to the type of business of the JV, as it is a service provider and not a manufacturer. Even though there might be exchange in tacit and explicit knowledge between personnel, as discussed by Rothaermel (2017), this factor was not one of the main motives. Additionally, knowledge exchange is presented as a motive to forms JVs when a project or product outcome is intended, and companies with different expertise joint together to complement gaps in know-how and technology augmentation, as discussed by Berg and Friedman (1977). In other words, knowledge sharing might be one of the main motives between manufacturing companies, for instance, which want to gain access to patents, technologies, and know-how on processes. These goals would be very limited, if not absent, in the case of sectors such as the bulk or open-hatch shipping sectors.

No mention of Communication and IT integration as a challenge was by informants. It is mentioned that the IT departments from the parent companies and the Joint venture, which were individual, were to be merged as there were synergies to be gained in doing so. Therefore, in this case, it was seen more as an opportunity than a challenge, but it is not possible to draw conclusions on it. The author's perception is that given the business profile of the two companies, there might not be a very high level of complexity and differences between the IT systems of the companies. Other possible explanation could be that due to the fact that a new company was created, a new IT system was built from the start, costing more, but being simpler in terms of integration.

In respect to IJVs performance measurement, as mentioned in the findings chapter, it wasn't possible, based on data collected, to draw any conclusions whether this was a primary challenge to the Joint-Venture. Informants provided insights on how the performance is measured and discussed over the number of key performance indicators used to many on-going projects. This wasn't enough to be presented as a central issue on the matter of the JV establishment.

5.4 Addressing the research questions

The research questions are answered by reference to the data analysis derived from interviews with executives who participated in the process. The first research question of this study was: "*What are the main motives and opportunities justifying a Joint-Venture formation between Norwegian Bulk shipowners?"*

The answer to the first research question starts at pointing out characteristics of the sector which the companies studied were in Persistent low freight rates, intense competition from Open-Hatch bulk carriers, General cargo and mainly from the Container shipping companies, uncertainty on the future of international trade added to intricate new ship buildings financing availability. These were the factors that led the parent companies to adopt strategies involving a mix of medium- and long-term contracts over the years. They do not alone explain why the companies joined forces.

A more in-depth investigation reveals that currently, companies that rely on a portfolio of CoAs might have its income stability threaten by eventual consolidation in the customers base. In this case study, the portfolios contracts make up a percentage of more than 70% of the revenue of the companies involved. A relationship of co-dependency was created, as the parent companies directed their businesses to serve these industries, while the customers progressively relied on larger, more flexible and efficient carriers to serve them. Given the demanding market and financing conditions, the only remaining way for shipowners to expand fleets, and provide the needs of these industries was to join forces through a Joint Venture.

By establishing the Joint-Venture, the shipowners perceived clear opportunities in synergetic costs savings, risk sharing possibilities while undertaking larger contracts of affreightment, possibilities to operate globally without the necessity of purchasing new vessels and increasing their power along with their suppliers, which became keen to secure a larger business. With the scale gained, the Joint-venture also enabled new efforts towards Innovation and Human-Resources management.

The second research question was*: "What could be the main challenges in the formation of Joint-Venture in the Norwegian Bulk carrier Shipping Sector?"*

The answer follows*:* A joint venture between the same two companies was an option around 30 years before, but the freight markets weren't as bad at the time, and more importantly, the owner's personalities were a significant impediment. The owner's characters have such importance that the success in establishing the current Joint-Venture can be attributed to different mentalities of the current owners in terms of pride, egos, and resistance to changes, in comparison to the previous ones.

Furthermore, in the previous attempt, the decision over vessels keys distribution was challenging to the extent that no agreement was achieved. In the current Joint-Venture negotiations, the decisions were taken in a much simplified and faster way as both parties wanted to save costs and start the Joint-venture as sooner as possible. Only a few years after the Joint-Venture was operational that the parent companies decided to begin talks over this process to define a more comprehensive Vessels keys distribution system.

Finally, differences in organizational cultures were identified as the main challenge in the whole process of establishing the Joint-Venture. Even though companies were complementary in terms of assets, they had integration issues due to different management strategies and cultures. There was, for instance, a shock between centralized and decentralized management strategies, and raising debates whether which system was the best. To avoid friction and to allow a smooth process, what was done was to establish a new organizational culture from scratch. Rather than defining which parent company had the best system, and then transferring that system to the Joint Venture, companies tried to set the advantages and disadvantages of both systems by creating a new culture with the best of both.

5.5 Summary of discussions

The discussion is summarized in Table 12 by illustrating the discussions along with supporting literature. The discussed findings that were not supported by any theory or that weren't identified through the literature review are shown in bold.

Table 12 Summary of discussions with supporting literature

Theme	Codes	Literature supporting
Motives	Market conditions	Haralambides, 1996; Stopford, 2009; Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986
	Complementarity between businesses	Rothaermel, 2017; Lorange, 2009; Porter and Fuller,1986
	Attending Customer Requirements	Haralambides, 1996
	Competition	Rothaermel, 2017; Luo, 1997; Kogut, 1988
	Buyers increased bargaining power	M. Porter, 2008
	Empty-Back haul trips	Stokseth, 1992
Challenges	Pool Weighting and Revenue Distribution	William V. Packard, 1995; Gibson, Rutner, & Keller, 2002; Wen et al., 2018; Haralambides,1996; Stopford, 2009
	Organizational Cultures, Resistance to Changes and Integration	Porter and Fuller, 1986; Tate, 1996; Child, 2005; Rothaermel, 2017
	Management Control	Li, Tang, Okano, & Gao, 2013; Geringer & Hebert, 1989; Yeo, 2012; J. F. Child, David; Tallman, Stephen, 2005; K. W. Glaister & Buckley, 1998; Yan & Gray, 1994; Rothaermel, 2017
Opportunities	Cost Synergies	Keith W. Glaister & Buckley, 1996; Haralambides, 1996; Midoro & Pitto, 2000; Panayides & Wiedmer, 2011
	Expanding global presence	Haralambides, 1996; Rothaermel, 2017; Johansson, 2000; Geringer, 1991; Kogut, 1988
	Risk Reduction	Rothaermel, 2017; Haralambides, 1996; Mariti & Smiley, 1983; Midoro & Pitto, 2000; Porter & Fuller, 1986; Contractor and Lorange, 1988
	Improving Strategic Positioning	Luo, 1997; Kogut, 1988
	Increased bargaining power against suppliers	M. Porter, 2008
	Bigger Contracts of Affreightment	Haralambides, 1996
	Possibility to dedicate to new efforts	
Motives not mentioned by informants	**Knowledge Exchange**	Haralambides, 1996; Hennart, 1988; Kogut, 1988; Makhija & Ganesh, 1997; Powell, Kogut, & Smith-Doerr, 1996; Rothaermel, 2017
Challenges not mentioned by informants	**Communication and IT implementation**	Tafti, Mithas, and Krishnan, 2013; Hallen, 2017
	IJV Performance Measurement	Geringer & Hebert, 1991; K. W. Glaister & Buckley, 1998; Larimo, Le Nguyen, & Ali, 2016

6 Conclusion

This study has delved into the possible motives, opportunities, and challenges involving the formation of an International Joint-Venture between companies in bulk and Open-Hatch bulk carrier shipping segments.

Through the data analysis, it was possible to address the research questions. It was revealed that external factors led to negotiations of an alliance, and those factors involved persistent low freight rates, intensive competition, uncertainty on the future of international trade added to difficult new ship buildings financing availability.

Further explanation points out to the adoption of strategies involving portfolios of contracts of affreightment, comprising up to 70% of the revenue of the companies involved, and the main driver to form the alliance, the consolidation within the customer base. Due to this large concentration of revenue coming from a portfolio of CoA with large industrial customers and increased consolidation on this same customer base, the shipowners realized that they needed to act in order to serve them better, or eventually risk losing their main clients to competitors. Given the difficult market and financing conditions to buy new ships and expand the fleets, it was decided to form a Joint-Venture.

By establishing the Joint-Venture, the shipowners perceived clear opportunities in synergetic costs savings, risk sharing, possibilities of undertaking larger contracts of affreightment, an increased without the necessity of purchasing new vessels and increasing their power along with their suppliers which became keen to secure a larger business. With the scale gained, the Joint-venture also enabled new efforts towards Innovation and Human-Resources management.

The challenges identified involved the owner's personalities, due to possible different mentalities of the main decision makers, as well to their personal egos leading to resistance to changes. Furthermore, the decision over vessels keys distribution was also identified as a challenge in the Joint-Venture negotiations. In the case studied, decisions were taken in a much simplified and faster way as both parties wanted to save costs and start the Joint venture as sooner as possible, but the issue persists, and discussions are still to take place.

The challenge which presented to have more weight over the establishment of the Joint venture was the differences between organizational cultures, as there was a shock between centralized and decentralized management strategies. To avoid friction and to allow a smooth process, rather than defining which parent company had the best system, and then transferring that system to the Joint Venture, companies tried to define the advantages and disadvantages of both systems by creating a whole new organizational culture.

6.1 Implications for theory and practice

It is hoped that this study may contribute to strategic decision makers when forming Joint-Ventures between shipping companies. It has been discussed and investigated here that there are great benefits to be availed in such alliances. It was also analyzed that in the current industry context, there are strong reasons for companies to seek to consolidate. However, the main contribution of this study deals with the challenges involved, which goes from personalities and feelings of pride, as well as the ability to give in to something greater. Also, this study can serve as a basis for how future alliance negotiations will address vessel key distributions. The literature on cooperative strategies and Joint-Ventures has shown that Revenue distribution is a common factor of disagreement, and in the maritime sector, it has its specificities which can be overcome as this study identified. Finally, organizational cultures are stressed to be challenging to integration between parent companies, suggesting that more attention from executives is required to partner selection.

6.2 Recommendations for future research

Based on the findings and correlation with the literature that was reviewed in this study, a few recommendations are made for further study.

A first recommendation is to understand to which extent the Vessel Keys distribution is relevant for the start of an alliance between shipping companies. This study has shown that this process was defined in a much simpler and faster way to enable the establishment of the alliance. However, there is the need to define more detailed vessel keys since if one or both parent companies want to add a new ship or remove an old one, a more complex calculation needs to be done. Getting a full overview of this could find interesting solutions, as well to providing a clearer overview of costs involved and which way is the best, defining them before or after the start of operations of the new company.

Another further recommendation is on the Management structure of a Joint-Venture comprised of two companies with different management approaches- centralized and decentralized decision-making centers. In this study, one company had a decentralized management approach while the other had a centralized one. A deeper study of the advantages and disadvantages of each approach could provide useful outputs for defining a more optimize management strategy.

Finally, it is recommended further study on the issue of empty-back haul trips. This study identified this problem as a relevant factor in the strategies and decision making in shipping companies today. While the adoption of conbulkers helped with the ability to get back-haul cargoes, the problem persists.

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7 Appendices

Appendix 1: Interview Guide

1. What was the external and internal factors that lead to the decision to establish this joint venture?

2. How does this company hedge against the uncertainty of freight rates and market volatility?

3. What competitive advantages do you think companies that enter alliances will be able to achieve and to what extent?

4. How challenging was the pool weighing and vessel points distribution process?

5. How did the partner selection phase go? What were the requirements for both companies to identify each other as compatible partners and to find common ground?

6. How was the process of defining the management structure in the Joint-Venture?

7. How was the equity ownership of the new organization defined in the Joint-Venture?

8. How was the process of integration between the companies in aspects of organizational cultures, operational processes? In your experience were there challenges in integration aspects, and to which extent?

9. How is the performance of the Joint venture measured, in the sense that one can evaluate whether the alliance is being successful or not?

10. The shipping industry is usually described as traditional in terms of following up with technological advances. What is the strategic approach of this alliance towards digital innovation?