

# How can cooperation between neighbouring ports within the Oslofjord area become reality?

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A study of two neighbouring ports and the opportunities of future collaboration for mutual benefits

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## **Abstract**

This thesis analyses the competitive environment of two neighbouring ports: they are currently competing but future demands tend to focus on regionalization. These ports have a development potential for cooperation. The thesis was performed as a case study and focused on port authority and inter-regional planning. A port is the interface between sea and land, and form a natural intermodal hub for transfer of cargo between different transport modes. Environmental demands require more transport of goods transferred to sea, and the port potentially is a major contributor of goods transfer. First, the thesis established a base built on national strategy and reported historic performance. The thesis established a theoretical competitive situation based on conceptualized theories to visualize the energy needed for competition. Based on interviews with stakeholders and theories of competition and cooperation, evidence was discussed. The thesis considers the two ports current competitive situation and concludes with recommendations on how the ports can better serve local and regional interests through participation in inter-regional initiatives and applying currently available cooperation strategies. The thesis recommended a continued study, monitoring the future processes. Recommendation for the ports was to participate in the scenario workshop, abandon substitutability in favour of complementarity, and to consider opportunities of mutual investments.

# HOW CAN COOPERATION BETWEEN NEIGHBOURING PORTS WITHIN THE OSLOFJORD AREA BECOME REALITY?

## - A Study of Two Neighbouring Ports and the Opportunities of Future Collaboration for Mutual Benefits.

### Introduction

#### Background

The Norwegian Government has within the latest edition of the National Transport Plan 2014 – 2023; White Paper No. 26 (NTP 2014-23) (Government, 2013) expressed priority for the transfer of goods from road to sea. The Government's argument for the objective outlined in the NTP 2014-23 was to reduce road congestions, reduce the number of injured and killed in traffic, and a reduction of future emissions debited transportation of cargo on road. Transportation of goods is continuously increasing, and road transport is increasing most. Road transport represents a risk not only for the above mentioned issues it is also known that the heavy traffic exerts excessive wear on the roads. The transfer of goods from road to sea also represents a significant issue in the Government's ambitious political goal for the benefit of the climate (Ministry of Fisheries and Coastal Affairs [MFCA], 2013). To achieve the objective of increased sea transport, requirements of the maritime transport industry must be satisfied. NTP 2014-23 referred to an introduction of incentives and specific initiatives to be taken. Funds have been allocated to encourage maritime transport; coastal management; transport planning; strengthening of short sea shipping; goods flow analysis, to name a few (Government, 2013).

The increased focus on the benefits of sea transport and implicit the significance of port operations will be subject to much attention in the near future. An optimization of port services on a larger scale has aroused questions on regionalization.

A ship itself has limited access to the market since parts of the market is distant to the sea side and to the port. Therefore, the port is the interface between sea and land and plays a major role in the transfer of goods between sea and land. From SHIFT Project Report #2 we quote: "*Sea transport is by nature dependent on infrastructure and other transport modes in order to provide a value adding service. A port has to provide the necessary facilities enabling ships to dock, while road or rail are necessary links enabling further carriage of the goods to its end destinations*" (Holte, Norbeck, and Lien, p. 8, 2012). The value of a ship as

transport mode is significantly reduced provided that the ship cannot enter a port where it can be efficiently loaded or discharged. However, we know apart from loading and discharging ships, ports are constantly becoming more valuable in a logistics perspective. To cargo owners and industry it is attractive to be proximal to a port because ports provide connection to markets and supplies. Ports are often regarded multipliers in the sense that they are facilitators for other logistics operators and thereby increase the number of services offered. Therefore, ports and the quality of ports' performance are of major significance to ships' operations and to goods' flows. A port's value is often measured in efficiency during various port operations, including the opportunity to combine different transport modes. This combination is referred to as "intermodality" which means a combination of different transport modes during a complex transport operation (MFCA, 2013). The complex operations, involving several or many actors can be referred to as a transport chain which is operating within a supply chain. The port will appear an important actor at a certain stage within the chain. A port's attractiveness will be measured on its ability to service its customers and the other actors involved in the chain. We must be aware that a port should be characterized by an internal and an external environment. The internal environment is signified by all services and operations the port is able to perform within the port area. The external environment may be regarded as the port's connection with the outside world, by fairways at sea, roads, railway to achieve foreland and hinterland access, e.g. with inland terminals. External environment also includes authorities, legal bodies and others that affect ports.

### **Research Question**

The Norwegian Government has explicitly expressed that ports' cooperation is vital and desired (Government, 2013). First, one aim of this study is to bring us deeper into the processes affecting design of port operations, revealing actors, stakeholders and other factors that will affect the decision-making processes and the port performances. Then, a question of inter-port cooperation; port cooperation may be regarded important for future infrastructure decisions and allocation of huge public funds. Port cooperation can act as a contributor to more environmental friendly transport by increasing intermodality. The issue is frequently addressed, and we are presently witnessing efforts to establish collaboration arenas at regional levels; the county communities of Vestfold and Telemark have just initiated a joint-planning process investigating the opportunities of an inter-regional plan for intermodal goods transport in the respective counties. The future transport opportunities will rely heavily upon port

performance, and it is asserted that port performance will benefit from cooperation between the ports. We have to ask if the actors will be able to form strategies of cooperation. The research question will be:

*“How can general cooperation between neighbouring ports within the Oslo fjord area become reality? - A study of two neighbouring ports and the opportunities of future collaboration for mutual benefits”.*

To explore the research question a description of concepts and elements involved in competition and cooperation is necessary. External environment and strategies of infrastructure play a major role for the development of ports, and planners and decision-makers consider feedback related to the industry’s performance during planning processes. Stakeholders are valuable sources of information and will therefore be addressed.

### **Relation to Other Work in the Area**

A vast quantity of documentation has been produced and continuously is in progress to acquire more knowledge of transport and logistics. Stakeholders of the industry are involved at all levels; governmental bodies, academic and research institutions, consulting enterprises, businesses, and organisations. As a consequence, a large number of reports on transportation and logistics incorporating ports and ports’ operations and functions have been produced during recent years; see for instance “Efficient Terminals” (Fyrvik , Uthaug , Berg , and Gran, 2006) and SHIFT (Holte et al. 2012). These reports are regarded of great value because evidence of the industry’s performance is presented and quantified. Obviously, much information is historical data, but it is a reflection of the past *modus operandi* and it has quantified the rate of success. A common denominator in many reports is the issue of cooperation, which is this report’s main issue.

### **Cooperation**

Brooks et al. (2010) presented a report with several similarities to Norwegian conditions: *“Coordination and Cooperation in Strategic Port Management: The Case of Atlantic Canada’s Ports”* (Brooks, McCalla, Pallis, and Van Der Lugt, 2010). The report was essential to this study. Brooks et al. characterise the Canadian east coast ports as peripheral, but the issue of similarity was not primary a question of being on the periphery, rather a question of facing similar challenges: *“These ports are characterized, first, by a limited domestic market and, second, by more remote potential hinterland for which they will have to*



*compete with one or more other ports*” (Brooks et al. 2010:32). They asserted that these ports had to work harder achieving a competitive position, compared to ports more proximal to the great shipping routes and the markets. Additionally, infrastructure and facilities do not satisfy all the requirements for a successful port; the performance of inland transportation. To complement ports’ primary tasks, focus on better performance of inland transport, better customer approach - preferably customized, a more flexible business environment, and better reliability are factors to consider. Brooks et al. (2010) suggest two strategies; one of cooperation, and one of coordination. Justifying the cooperation strategy, they referred to two occasions to motivate cooperation: First, a port range perspective where several competing ports were serving a limited market. Under these circumstances overlapping would commonly occur, resulting in duplicated services and touting customers to achieve market shares. A market typically characterised by creation of destructive competition. Second, they refer to lack in ability of serving those customers to whom cooperation would be beneficial. Development of common public policy and marketing strategies were regarded favourable to attract growth (Brooks et al. 2010). They conclude their report with recommendations on how these ports can become better service providers and succeed. We will elaborate this paper further during the discussion.

Another significant contributor was Theo Notteboom, a Dutch researcher presented the terms complementarity and substitutability where he asserted: *Two load centres are perfect complements if they are always “consumed” together in fixed proportions by a port user*”, and continued: *“A high degree of substitutability between individual load centres is associated with fierce competition. In contrast, a high level of complementarity would create an environment in which mutual coordination prevails – at least for the container market segment considered”* (Notteboom, p.745, 2009). In his paper, Notteboom visualized the complexity of a conceptual model of a shipping line’s liner service design. Explaining the model, Notteboom referred to a number of previous empirical studies on port selection from a shipping line’s perspective pointing out three groups of factors: 1) the demand profile; flow orientation, scale and growth of the port, and connectivity with other networks 2) the supply profile; availability, cost, quality, and reliability, 3) market profile of the port; cargo control, terminal-operating business, presence of logistical activities, logistic focus, and reputation (Notteboom, 2009).

Decision processes take place at various levels; operator level, port authority level, municipality, county municipality, national level, and on international level. All these levels are closely connected because decisions in one level will affect decision in another; normally

the subordinate is affected by the decision of the superior. Nonetheless, it is not always a top-down pattern, which the above referred reports proved. Several levels were involved and the reports presented an opportunity of interaction and influence. This brings us closer to the core of the problem; organizations are composition of individuals working for a common goal. The objective is influenced by the people and the environment they work within, and may not be compatible with another organization's visions. We must therefore carefully emphasize that people are loyal to their owners and their superiors, and work for their common good.

### **Theoretical framework**

The theoretical framework of this thesis had to be composed of theories related to the issue of cooperation and the facets adhered to the subject. First, a description of elements of competition and the co-evolution of competing neighbouring ports, both to understand how ports compete and mechanisms that influence decision and development.

Second, an exploration of opportunities of cooperation between competing ports. Third, a suggestion of different areas of cooperation and how they are characterized. Fourth, a presentation of the current situation for ports focusing on strategies, goals, ownership and governance. Fifth, the emergence of opportunities and trends including new measures for improved cooperation.

### **Competition**

To understand the challenges and opportunities the ports face, a description of competition seemed inevitable. To achieve an insight into competition in general, specifically neighbouring port competition, two theories will be described; first Philip Kotler's general description of competition and a model of co-evolution of ports by Wouter Jacobs and Theo Notteboom.

### **Levels of competition**

In a competitive situation a supplier would assess all offers and the substitutes that a customer will come to consider. For a port it would appear too narrow-minded to only offer traditional port services if that port has ambitions to grow. Probably, most ports offer traditional services and the port must search to reveal other opportunities that could substitute the existing services and thereby achieve an advantage. Kotler separated competition into four levels which we can transfer to ports' competitiveness:

1	Brand competition	other ports offering similar services at approximately similar prices as our port
2	Industry competition	the port regards other ports offering the same services as competitors
3	Form competition	other ports offer services that provide the same service to customer as we do
4	Public competition	the port looks at all ports competing for the same customers as its competitors

Table 1: Levels of competition. Compiled by author

Actually all Kotler's four levels signify the competitive situation of Norwegian ports. Therefore we witness the ports' marketing efforts focusing on products, price, place and promotion (Kotler, 2008).

However, we must be aware of the fact that the competitive levels described above only focused on internal competition between ports. We could also apply these levels to external competitors as inland terminals and road transport. This would require a shift of focus of who is the competitor, which will not be done during this study.

### **Co-evolution through competition**

The discussion of co-evolution made by Jacobs and Notteboom (2010) could easily have been a description of the current situation in the Vestfold-Telemark region, as an illustration of the competition between the Port of Larvik and the Port of Grenland. Many elements presented in this paper would form parallels to the environment in which the ports operate and compete, and was therefore valuable for the later discussion.

When elaborating the theory of co-evolution of seaports, Jacobs and Notteboom (2010) formed a basis in the model of Buitelaar et al. (2007) describing institutional changes. However, they asserted that the model did not restrict itself to institutional changes. They argued that concepts of institutional arrangement and design in this model could be replaced by organizational routines and organizational forms. During operations ports constantly monitored their competitors, markets and socio-political development coordinated to the port's own performance. Changes in e.g. technology, strategy, infrastructure, and business opportunities could cause reasons for changes in organizations and/or operational routines. Organizational reflections were known to occur internally in administration, the board, or by the owners (municipality), or externally from legislative authorities, regional governance and

changes in trade and transport patterns. Jacobs and Notteboom (2010) suggested bringing about a critical juncture internally, causing the port to turn to new businesses, or a change in organization, e.g. specializing services and surrender less attractive and lucrative services to specialists. Such changes would most likely not pass without conflicts. Opposition might emerge at different levels; port administration, board, owners, and among employees in the organization. International influence was also regarded a motive for changes. However, ports were often regarded to be steadfast and locally solid anchored to local customs, and national, neighbouring influence applied as well.

The model considered institutional changes as an isolated process, confined to internal arrangements at fixed time and place. Societal development with a demand for change might for example restrict arrangements to stay within the local environment, e.g. municipality. In a competitive environment this could prove complicated as external demand for changes could emerge at different ports simultaneously, however, under different institutional conditions. Stakeholders of the institution, e.g. the board of a port, were also considered to interfere in processes, either of reasons of power or economics. Jacobs and Notteboom (2010) argued that the process had to relate to both the processes of change and reflection, and to the processes of evolution and design. However the approach required awareness of strong constellations within organisations, and sensitivity towards power and interest, e.g. politicians within a board defending certain issues. A possibility to analyse the occurrence of windows of opportunity should be allowed by the perspective of power, politics and collective actions, and the strategic actions taken by a port. Changes of the competitive settings in the port industry were claimed to be results of vertical and horizontal integration caused by firms acquiring the opportunity of direct intra-organizational stakes in neighbouring ports, resulting in new patterns of co-evolution between ports. New and improved communication and exchange of information amplified the effect.

### **Opportunities of cooperation**

Books et al. (2010) presented a report with several similarities to Norwegian conditions: “*Coordination and Cooperation in Strategic Port Management: The Case of Atlantic Canada’s Ports*” (Brooks, McCalla, Pallis, and Van Der Lugt, 2010). The report was essential to this study because it was feasible to draw a parallel to the situation in the Vestfold-Telemark region and the competitive relationship between the Port of Larvik and the Port of Grenland. Brooks et al. characterised the Canadian east coast ports as peripheral, but

the issue of similarity was not primary a question of being on the periphery, rather a question of facing similar challenges: *“These ports are characterized, first, by a limited domestic market and, second, by more remote potential hinterland for which they will have to compete with one or more other ports”* (Brooks et al. 2009, p.30). They asserted that these ports had to work harder achieving a competitive position, compared to ports more proximal to the great shipping routes and the markets. Additionally, infrastructure and facilities do not satisfy all the requirements for a successful port; the performance of inland transportation. To complement ports’ primary tasks, focus on better performance of inland transport, better customer approach - preferably customized, a more flexible business environment, and better reliability are factors to consider. Brooks et al. (2010) suggest two strategies; one of cooperation, and one of coordination. Justifying the cooperation strategy, they referred to two occasions to motivate cooperation: First, a port range perspective where several competing ports were serving a limited market. Under these circumstances overlapping would commonly occur, resulting in duplicated services and touting customers to achieve market shares. A market typically characterised by creation of destructive competition. Second, they refer to lack in ability of serving those customers to whom cooperation would be beneficial. Development of common public policy and marketing strategies were regarded favourable to attract growth (Brooks et al. 2010). A number of elements discussed in this paper could easily be applied to our regional situation. Brooks et al. (2010) concluded their report with recommendations on how these ports can become better service providers and succeed. We will elaborate this paper further during the discussion.

### **Complementarity and substitutability**

Another significant contributor was Theo Notteboom, a Dutch researcher presented the terms complementarity and substitutability where he asserted: *“Two load centres are perfect complements if they are always “consumed” together in fixed proportions by a port user”*, and continued: *“A high degree of substitutability between individual load centres is associated with fierce competition. In contrast, a high level of complementarity would create an environment in which mutual coordination prevails – at least for the container market segment considered”* (Notteboom, p.745, 2009). The two citations presented above were adequate with respect to competitive environment of ports in the Vestfold-Telemark region. Notteboom clearly described the distinction between the two alternatives.

### **Areas of cooperation**

Brooks et al. (2010) defined four areas of cooperation: one, port marketing and business development; two, port operations; three, port administration; four, regulatory work. The areas of cooperation were then divided into formal and informal cooperation. Formal cooperation was founded on agreement on mutual obligations and rights, and would typically have a form of a memorandum of agreement (MOA). An informal partnership could be characterized by emerging randomly, likely on a case by case basis or e.g. in multi- and single-function with respect to projects. A further elaboration of the elements presented were subjects of discussion during the case.

In some cases a situation might arise when cooperation with a competitor was initiated to reach decisive benefits that otherwise could not be reached, also called cooptition (Dagnino and Rocco, 2009 in Brooks et al. 2010). The ports might in this way stay competitive at the same time as they formed complementarity.

It was claimed that waste of scarce resources due to inter-port competition could be prevented through port networking among neighbouring ports through coordination of functions and segmentation of markets. It was further asserted that networking would create more effective bundling of container volumes towards the hinterland, which facilitated deeper access of hinterland and stimulated intermodality (Notteboom and Winkelmanns, 2001 in Brooks et al. 2010).

### **Strategic development and chronology**

Comprehension of strategic development of transport infrastructure was essential to the discussion of the case. Ports not only rely upon sea transport alone, many factors will influence ports' lives; changes in the inland transport infrastructure including rail and road standard and development; changes in trade patterns; globalisation and, e.g. EU-strategies; changes in financial and logistics thinking, could make a port evolve, stagnate or die. Alderton (2005) claimed that an analysis of strengths, weaknesses, opportunities, and threats (SWOT) could prove useful assessing the competitive edge of port development. Many of the elements that he described; geographical position, nautical access, hinterland connections, port facilities, value added services, and so forth are all important when assessing opportunities (Alderton, 2005 :22). He did not refer to competition and national and regional infrastructure as important elements; however his listing had to be regarded as guidance. Alderton also presented an illustrative model demonstrating factors that might constrain port development.

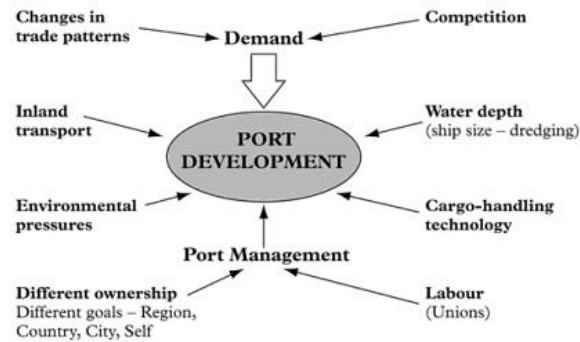


Fig. 1: “Factors constraining port development (Alderton, 2005, p. 18).

Just describing all elements and factors affecting port activities would not be sufficient during an elaboration of strategies. The formation of a basis of discussion required knowledge of development and chronology with respect to development of transport infrastructure and thereby port development. Official Government strategies proved valuable to achieve the aforementioned. These strategies were expressed during three issues of the National Transport Plan; White Paper No.24 – 2006-2015 (NTP 2006-15)(Government, 2004), No. 16 – 2010-2019 (NTP 2010-19)(Government, 2009), and NTP 2014-23 (Government, 2013). The latter plan was extended by amplification; “*More Goods at Sea*”, the Government’s strategic document on short sea shipping (MFCA, 2013).

Finally, information of reports produced by the trade, by authorities, and by research institutions was able to create a picture of the current situation. A presentation of all reports studied was not practical; therefore, a selection was made based on the diversity of the contributors. The strategic documents and the reports selected are presented under literature review.

## Methodology

The research was performed as a case study because the phenomenon studied was the chance of a possible cooperation between two neighbouring ports. The research question therefore touches the complexity of strategic decisions. Decisions of such character are dependent on many factors, often hard to identify due to the relation to internal culture, opinions and objectives. To reach the level where a prediction could be issued it was necessary to do an in-depth approach and achieve as many details and variations as possible for a final analysis. Relationships and processes within the industry required an understanding of interconnection and interrelation (Denscombe, 2010). It was imperative for the research to

establish a base of knowledge which was a prerequisite for the performance of interviews and the study of strategic documents. The knowledge was acquired through literature and by taking part in professional conferences and gatherings within the industry. Knowledge from literature was assembled utilising the Internet, visiting libraries, and approaching colleagues.

The author has in addition performed a former study investigating port operations at detailed level which provided deep insight into complexity of operations and the equipment involved to achieve efficiency. Likewise, a great number of constraints were detected which could take form of physical problems or administrative and operational interferences (Berg, 2011). Knowledge of basic port operations was helpful for the further comprehension of ports' primary and secondary tasks, but also brought about a genuine interest for ports' involvement in the chains of transport and supply.

Key words related to ports during the search were: *accessibility, cooperation, collaboration, competition, coordination, complementarity, development, efficiency, hinterland, infrastructure, intermodality, road, rail, substitutability, neighbour, supply-chain, transport chain and terminal*. Participation in the professional environment was a result of network building.

The issue of port cooperation was a major question that, irrespective of cooperation or not, would have a large prospective impact on the local society in particular, but also on regional development. Therefore, documents addressing the development of transport infrastructure were required. To acquire evidence, Government publications on transportation and logistics were studied; the Norwegian National Transport Plans (Government, 2004; 2009; 2013) proved valuable for the identification and chronology for development of national strategies for transport. To be able to establish a chronology, several issues were required, therefore the last three issues of National Transport Plan (Government, 2004; 2009; 2013) as referred to during introduction were examined. Additionally the document "More goods at sea – Government's strategy of increased short sea shipping" (MFCA, 2013), a sequel to the latest transport plan, was included in the study.

## **Data collection**

Yin (2009) referred to six sources of evidence: documentation, archival records, interviews, direct observations participant observations and physical artefacts. In this project documentation, interviews and direct observation were selected. Though, the author also have



had the possibility to attend to several conferences within the industry, observation would only to a minor extent be referred to.

### **Primary data collection**

Primary data was collected through two face to face interviews and by two telephone interviews. The face to face interview was performed in the Port of Larvik and at the County Hall of Vestfold in Tønsberg. For the participants in Telemark County, the interviews were performed via telephone. The advantage of a face to face interview was superior to the telephone interview, however costs incurred by travelling and time spent on travelling were the main reasons for using telephone.

Martyn Denscombe claimed that the interview was an attractive way for researchers to obtain information. He asserted that the researcher could use congenial properties which he already possesses, namely the ability to converse (Denscombe, 2010). Steinar Kvale asserted conversation to be the basic human manner of communication, and makes conversation part of daily life as well as professional activities (Kvale, 1997). The choice of a semi structured interview was regarded appropriate which will be explained below. Kvale defines the conversation as *“an interview which objective is to collect descriptions of the world of the interviewee with respect to interpretation of the phenomena described”* (Kvale, 1997, p. 21).

An important method of data collection during this study was the opportunity to address individuals assigned to certain functions and tasks related to planning, development and operation of ports, and of course adjacent infrastructure. Requests for interviews were therefore presented to leaders of port administrations and representatives of the authorities. The responses derived from the interviews were expected to differ with respect to which group the participants represented, and their organisations' view on certain issues. The idea was not to form a stringent framework of questions, but rather form guiding questions and then let the interviewees speak more freely on the issues brought up. A natural choice then, was to give the interviews a semi-structured character with allowances of turning unstructured if appropriate. The reasoning for this choice was the expected complexity and variety within the issue, and the desire to uncover different facets if they existed. As this was said, the data obtained from the interviews would be of a qualitative character. Jerome Kirk and Marc L. Miller (1986) deserved being cited on their definition of the terms qualitative and quantitative: *“Technically, a “qualitative observation” identifies the presence or absence of something, in contrast to “quantitative observation” which involves measuring the degree to which some*

*feature is present*” (Kirk and Miller, 1986:9). My aim was to search for the presence attitudes and opportunities.

Utilizing the interview to collect data, Kvale (1997) referred to two perspectives; the researcher as a miner or as a traveller. Having a miner in his mind, Kvale (1997) regarded the interviewer as the miner retrieving something valuable to the surface. The interviewee was looked upon as the mine, where information was to be found within that person's inner self. This information may either be quantifiable findings or certain findings that rather attribute significance, and is regarded qualitative, information that would later be refined through the researcher's pen.

As a traveller, Kvale (1997) claimed that the researcher made a journey that might in some cases appear somewhat random, and how the interviewer talked to people along the way. Nevertheless, route choices might have been the result of a methodology, and at the journey's end, the researcher had a story to tell, a story based on the findings and conversations that were made during the journey. Kvale (1997) asserted that the journey could impact the researcher by reflections and thus formed basis for education (Kvale, 1997).

Parallel to Kvale (1997), Denscombe (2010) indicated the interview as a method particularly suitable for obtaining complex and indeterminate information. In cases where the researcher was forced to familiarise with difficult subject matters and complex processes, the interview might prove valuable. An interview could give us an opportunity to clarify and go in depth on particular issues, and thus provided researchers with information that would normally not be revealed through a questionnaire. For example information on attitudes, beliefs, motives, experiences, etc.; information which could be regarded privileged. Denscombe (2010) also pointed out that if the interview should be valuable as a data collection method, the information we searched for had to be accessible, and had to be relevant to the study (Denscombe, 2010). Therefore, it was important that we obtained access to interview persons who were able to provide information which added complementary information, and enriched the study with quality and volume. This study required that the researcher should achieve an opportunity to observe behind the scenes and get a notion of what was being emphasized by the persons involved during the various processes of development. As Kvale (1997) expressed it: *“The search for real meaning nuggets leads to a reification of the subjective rather than to an unfolding, a differentiation, and an enrichment of the subjective”* (Kvale, 1996:226). The reification in this case was to interpret information obtained and assuming the effect during strategy building and future decisions. It appeared convincing that the opportunity to interview individuals from three different groups of

influencers and decision makers would add gravity to the study, either by supporting or contrasting theories and reports issued.

### **Seven stages of an interview**

Though conversing is natural, it was not given that we as researchers were able to perform an adequate interview. Therefore I had to refer to Kvale's (1997; 1996) seven stages of the interview research, with respect to the qualitative interview. Kvale (1997) refers to: thematising, designing, interviewing, transcribing, interpreting, verifying and reporting.

The thematising was of great importance of obtaining insight and knowledge of the issues to be addressed. It was imperative that we knew what we were studying and that we were in possession of a minimum of prerequisite knowledge. The objective of the study had to be evident, and we had to determine how to acquire data for the study. According to Kvale (1997) interviews were often commenced, even before research literature was studied (Kvale, 1997). Designing the interviews were essential, prior to my interviews I studied relevant literature on interviews, as Kvale (1997) to avoid error before, during and after the interviews. First, it was essential to form precise questions for the introduction of the interviews and not make any confusion about the information that was requested.

Selecting the participants with respect to the knowledge they represented and their credibility was essential to the quality of the interviews. For the interviews a guide with follow-up questions was sketched to prepare for eventualities which might occur during the interviews, since the interviews were to be of a semi- to unstructured character, and appear more as conversations. This list of current questions appeared as a conglomeration of approaches in relation to the issue of port cooperation.

A plan for organising the data collected during the interviews was formed. All interviews were recorded, which would require a transcription. The transcriptions were then prepared as a condensate of the essentials, finally forming a summary to be translated for presentation in this thesis.

Interpretation with respect to the data collected was of vital importance to catch the essentials of each interviewee. With reference to Yin (2009), emphasize should be put on validity. However, validity did not necessarily had to be exact in the sense that we could refer to our desire for precision in order to infer. Kvale (1996) cited Pervin (1984): "*the extent to which our observations indeed reflect the phenomena of variables of interest to us*" (Pervin 1984 in Kvale 1996:238). Prudence should also be executed during interpretation with respect to ethical aspects of the analysis.

Verification of evidence collected was imperative to prove that the case encompassed a high level of seriousness. If the information achieved should at any point appear blurry, speculative inference had to be avoided.

Finally, reporting the findings had to be evaluated with respect to confidentiality and consequences of publication (Kvale, 1997). All interviewees were promised not to be compromised or otherwise suffer any negative consequences due to their participation.

### Presentation of data

The fact that the participants were allowed to speak freely and in addition wanted to share specific information resulted in much evidence. Words and statements that affected directly or indirectly port operations and port development was extracted, then a selection was made, which ended in the following table:

Issue	Port of Larvik	Port of Grenland	Vestfold Municipal County	Telemark Municipal County	Support
Authorities' determination	x				0,25
Brevik terminal, relocation		x			0,25
Competing on commercial terms	x				0,25
Concentration of goods flows	x	x	x	x	1
Designated port		x			0,25
Efficiency within all levels of the transport chain, regionally	x	x	x	x	1
Facilitator in regional process				x	0,25
No interference with port managements			x	x	0,5
Long-time perspective		x	x	x	0,75
Maximum efficiency	x	x	x		0,75
Mutual investments	x	x			0,5
New Ministry, cautious optimism	x	x			0,5
Not railway in port	x				0,25
Port ownership a barrier?		x	x	x	0,75
Ports' participation in the process			x	x	0,5
Provide the goods market with confidence		x			0,25
Railway	x	x	x	x	1
Railway capacity			x		0,25
Reduction of road transport	x	x	x	x	1
Regional cooperation		x		x	0,5
Regional hub	x	x	x	x	1
Regional thinking		x	x		0,5
Specialization	x	x	x	x	1
Three future ports in the Oslofjord area	x	x			0,5
Transit operations		x	x		0,5
Utilization of existing capacities		x		x	0,5
Utilization of own capacity	x				0,25

Table 2: Berg (2013) Table of statements. Author's own compilation

The challenge was to separate relevant information. Consequently, it was decided to search for similarities within certain relevant issues and group these. Then, presence of the issue was noted, and because there were four participants, each was allotted with 0,25 points making a total of one in case all scored on the same issue. Later the table was refined (see page 60) for discussions.

### Participants for interviews

The criteria for participation were determined, and I chose to concentrate on three groups: port authority, municipality, and regional municipality. Port authority is the most important actor among the participants. It is the port authority that is responsible for the operation and administration of a port. According to the Norwegian “Act of ports and fairways” (*Havne og farvannsloven*), section 48, the port authority is ordered to administer the port’s capital and may invest in appropriate projects that will improve port performance (Lovdata, 2012). Port authority therefore is of significant importance in planning and execution of ports’ tasks, including increased business.

Organization	Participant	Function	Date	Interview
Port of Grenland	Finn Flogstad	Port Director	2013.11.12	Telephone
Port of Grenland	Jan Einar Skarding	Marketing and Logistics Mgr.	2013.11.12	Telephone
Port of Larvik	Jan Fredrik Jonas	Port Director	17.10.2013	Personal
Vestfold County	Per K. Caspersen	Project Mgr.	2013.11.12	Personal
Telemark County	Olav Risholt	Project Mgr.	2013.11.15	Telephone

Table 3: Participants interviewed in the study

Municipalities are port owners. At the municipal level, politicians dedicate their work for the benefit of their local community. Political activities are often directed towards initiatives of strengthening municipal economies, and thereby strengthening service provisions. Creation of work, offering new residential areas are activities attractive to people. A port may be an advantageous generator of capital, because ports often require services additional to core activities and thus bring forth other service providers. Ports’ incomes are welcomed by the municipality. Sadly, no representatives were available to the author within the timeframes available.

The county municipality often take on a regional responsibility by performing comprehensive planning for the region. The regional planning may be regarded as the link

between the local and the national interests, where the national interests govern the local development. For the study, representatives of the County Municipality of Vestfold and the County municipality of Telemark were approached. In Vestfold, Per Kvaale Caspersen, project manager at the department of transport and communication participated, and in Telemark, Olav Risholt project manager at Transport section participated. Both representatives from the counties also attend an inter-regional process programme with the objective of increased efficiency of intermodal transportation.

Tape recorder was used during the interviews to allowing me to take play a more active role favouring the opportunity and freedom to spar with the participant and to look for nuances in the answers. The process of transcribing the interviews was not performed as a hundred per cent transcription, however, as accurately as reasonable to the research question. The process was performed as described above. An opportunity to read and comment on the transcripts was given. The interviews were intended to give a general impression of the interviewees and the organization they represents, therefore, it seemed appropriate to reformulate and extend the statements to the extent that it was necessary, without distorting the content of the message, off course, with the approval of the participants. As for the validity of transcriptions of the interviews, the objective was not to literally quote the interviewees. The objective was to achieve a general understanding of the points of views of the individuals and their organisations.

During interviews as interviewees were encouraged to speak freely, personal reflections tended to occur, information which was not necessarily relevant for the research question in the first place. This information was transcribed and kept in the rough draft but not referred to later as such. However, personal attitudes might in turn have affected the persons in concern during a process of decision making, and should therefore be regarded interesting for the prediction of a possible decision. Information achieved emphasizing attitudes or other important information which should not be revealed in this thesis, was deleted and not referred to in accordance with the participants' wishes. As a precaution, all participants were informed that with respect to their individual integrity, no sensitive information revealed during interviews and conversations should be published. All information published should be of a public character and not compromise the participants in any way. The project was reported to the Norwegian Social Science Data Services, and approved as project number 35613. The transcripts of the interviews are not published, only the reporting due to the participants' integrity.

### **National strategic documents**

The national strategic documents (NTPs) were vital to the study because these documents expressed government's suggested priorities and decisions with respect to matters of transportation. The documents provided strategic guidelines, as well as allocation of financial resources and were presented in the Norwegian Parliament for discussions and final decisions.

### **Secondary data collection**

The secondary data presented in this study, was reports produced by different bodies; actors of the trade, organisations representing the authorities, research institutions, and consultancies. These reports were available from a number of sources, including the Internet. The results of the reports presented historic evidence of port activities actions and significance which presented an opportunity to evaluate current practices.

The author's access to the professional environment and participation in various settings, as e.g. conferences, produced a number of reports and summaries which were of assistance to the work.

Finally, a constant study of the press, particularly with respect to literature of the trade broadened the comprehension of all elements affecting port activities, directly and indirectly.

### **Validity**

Validity refers to the accuracy and precision of the data. It also relates to the suitability of the data in terms of the research question to be investigated. The fundamental question is: are the data of the correct for the examination of this topic, and have the data been measured correctly?

According to Yin (2009) internal validity was primarily used in explanatory case studies when relation between events that produced a result should be explained. If the researcher was unfamiliar with all elements that could interfere with the result, the research design had failed to consider threats to internal validity. A second problem might occur in cases where the researcher was not able to observe all events. However, an inference would be involved. A conclusion was likely to be drawn on the basis of past performance and experience. The question was whether the deduction was right? If these problems were taken into consideration when designing a case study, it proved that the problem of internal validity was comprehended (Yin, 2009).

External validity relates to the data collection and the results provided, and to what extent those findings are general beyond the immediate case study. The question to be asked was whether other researchers would achieve the same results if the case study was applied to other situations of port competition (Yin, 2009)?

However, a problem during a qualitative research project was to prove that the sampled data were correct (Denscombe, 2010), much depended on the person presenting the information and likewise the person who was the receiver. Qualitative data was primarily considered to be of meaningful size, which required the use of hermeneutics during interpretation. Hermeneutics is, simply explained, dealing with understanding and how understanding was achieved. The goal was to understand people, human actions, and the products of these actions; as language and what has been told (Baune, 1991). The method might in many cases be demanding, instead, the researcher could utilize the term "reasonably likely" and assume that the information is correct and appropriate. However, this actually gave no guarantee, but rather an assurance that qualitative data had been collected and tested in accordance with what is considered good practice. In this case good practice was related to the researcher's knowledge and expected statements and actions of the participants with respect to their present positions and backgrounds. Based on these considerations the credibility of the data can be set (Denscombe, 2010).

A relevant question to ask was the matter of credibility, objectivity, and if statistics and information presented were factual (Denscombe, 2010). Normally government publications should be regarded credible, objective and factual. However, as researcher we should be aware of the accuracy of information being produced by political bodies. Regardless of being official documents, information may have become biased, which require that we had to evaluate how clear-cut and straight forward information was presented. In some cases documents issued by political bodies may occasionally exaggerate a message to leave an impression of more vigour than what is the case. For example, a wide variety of active verbs are frequently used during the text; facilitate; strengthen; initiate, contribute; stimulate; increase and similar expressions (Government, 2013, pp.186-188), measures that may not come to reality. Statistics must be carefully studied if those who produced the report had any interest vested, additionally, it should be clarified if statistics were the result of decisions made by individuals (Denscombe, 2010).



## **Reliability**

Reliability refers to neutrality of the research instrument and a demand for consistency during different occasions. Different occasion may be referred to another researcher. The question is then, if the research instrument will generate similar results during different occasions, given all other things being equal (Denscombe, 2010), a new researcher asking the same questions? We are therefore obliged to minimise errors and biases in the project, because a prerequisite for allowing other researchers to repeat an investigation is to document the earlier procedures (Yin, 2009). However, it may cause a problem for later researchers with respect to the interviews as one method of data collection. Examination of relevant literature will prove less vulnerable to errors and bias. The interviews on the other hand, will most likely produce a difference, slight or major. The argument for a probable distinction is simple; interviewer is another person; interviewer and interviewee are different persons; premises have changed. No guarantee can be made for the result of a future interview, and we may allege this as an effect of development. New researches in the same mind can be encouraged based on development and changed conditions.

During the examination of academic literature, I did not have any intention of discussing the validity or reliability of the material presented as long as no direct controversies with known theories or general understanding were discovered. The intention was to appreciate and utilize previous work dealing with similar problems and make an effort to apply these for Norwegian conditions. However, we should always remember that academics too, will also develop affection for certain topics, becoming biased and advocate certain opinions, views that may contrast other theories and therefore must be investigated. In case such findings should occur, approved and presently used literature was to be consulted. Only a minor part of the literature studied was utilized during this study solely for the concentration of the competition-versus-cooperation situation.

The different reports studied presented a historic view, often bringing in recent statistics. These reports were often developed as a result of e.g. new legislative demands, nationally and/or internationally, which required changes in practices, operations and business, which again may have been beneficial to some industries, while others suffered. We might suspect some organizations ordering reports in an effort of highlighting their own objectives and thereby appear somewhat biased. Nevertheless, as stated above these reports are often built on statistic facts and must therefore be regarded reliable. On the other hand, one could always question statistics because statistics may be manipulated.

Searches of the press and the study of minor reports was regarded a necessity, though in danger of being biased in their form. This kind of literature is a plethora of arguments contributing to achieve insight into the level of engagement and commitment produced by organisations and individuals. However, we could not neglect this information because it revealed present trends, possibilities and constraints on the horizon. The information is not cited as such, merely creating an atmosphere.

This study would hopefully give us an idea how this phenomenon was viewed by two weighty groups of actors within port strategies and development; the port authorities, and the county municipality. The aim for the study was to provide a proposed prognostication for the future port development and structure. The selected groups were subjects for interviews and were approached personally by the author. The academic literature was based on a few recent works which were relevant for this case.

### **Literature review**

The result section in this report includes relevant data and information for the discussion of the research problem. The presentation of the results will start first with Government documents, second with reports research institutions, third with other reports issued by the industry, finally relevant material from the press.

#### **Strategic documents**

With reference to its previous issue, NTP 2006-15 (Government, 2004), the MFCA initiated a sequel to the planning process promoting and strengthening the issue of sea transport, involving organising and arrangements of port structure and coordination of investments in infrastructure. The document emphasised the importance of e.g. the use of container as cargo carrier and as premise for future port development in the effort of making sea transport more attractive. The Ministry established a port project in order to identify requirements of a national port structure in a long-term perspective. New knowledge revealed necessary requirements of port functions and requirements appurtenant to operations, as well as ports' connection to the land-based transport network (Government, 2004). One of the contributors during this process was the Interdisciplinary Work Group (*Tverretatlig arbeidsgruppe*) which issued a proposal to a new port structure, in February, 2003 (Johansen, Pedersen, Silborn and Nilsen Netter, 2003).

The group emphasised that future ports should take on an organizational form which could make it possible to enter into commercial structures with other actors in the industry, including other ports. Ports' revenues should unabridged be allocated to develop and maintain port services, not to other public duties. This form of organisation meant that the ports had to be operated as a commercial business. Then, some users claimed, the commercial operations had to be separated from the administration in future port operation. Development of a commercial character of the port structure was seen as a total reform of the existing port system. Eleven intermodal nodes were proposed to comply with the developing trends of increased cargo concentration. The working group envisioned that future cooperation between participants could form the basis for interregional port corporation which also should include private owners. The envisioned structure should at least comprise of one intermodal port of international standard in each of the commercial cooperation regions. The group emphasized that measures to stimulate structural processes and partnership development should be prioritized (Johansen et al. 2003).

NTP 2006-15 (Government, 2004) referred to the present port structure of fifty-seven ports of municipal ownership whereas ten of those were designated ports, and five were regional ports. The rest, private and fishing ports were referred to as others. It was emphasised that the State had few effective means to attend to national interests within the present port structure, and had to a little extent made any guidelines for investments in the sectors of transport. The Coastal administration was ordered to review the port structure and present a proposal. Based on the proposal, the Government concluded to maintain the existing port structure. The decision was influenced by the Government's view that emphasis had to be put on the predictability of national infrastructure planning, and on private sector transportation and logistics planning (Government, 2004).

Nationally and regionally, the Oslofjord area was regarded to represent great challenges. The municipality of Oslo passed a decision to relocate some of the containerized traffic which generated uncertainty in relation to long-term infrastructure development. The structure in the Oslofjord area would impact much of the eastern parts of southern Norway. In respect of these consequences, the Government initiated several projects focusing on port structure, port location and cooperation. Oslo was not granted a new container port, thus the Government suggested a shift in container flows and therefore initiated a cooperation project at the western side of the fjord. The project revealed that traditional inter-municipal collaboration was not regarded being sufficiently operative with respect to a model for the solution of the challenges in the region. No cooperation commenced on the western side.

Regardless of this, a corresponding project succeeded eventually on the eastern side and has been referred to in the introduction as “The Port Alliance”.

To achieve desired port structure NTP 2006-15 (Government, 2004) referred to some important measures; first, the prerequisite for the development of efficient port terminals attending to the principle of intermodality and smooth transshipment, and of door to door transports. The ports had expressed a desire for governmental funds; however, there were no allowances within the Government budget; second, governmental investments in infrastructure; roads and fairways which are subjects to priority in the National Transport Plan (NTP); three, the necessity of port development plans being implemented and anchored in local and regional planning work.

In NTP 2010-19 (Government, 2009); the Government intended to increase competitiveness through an aggregated and long-term transport policy. Within this policy the intention was improved utilization of the different transport modes’ advantages, and measures for transferring goods from road to sea and rail, and facilitation of intermodality. The Government emphasised the encouragement of the development of maritime transport, partly because shipping is an environmentally friendly alternative, and partly because it was regarded a natural mode of transport for a coastal state. The objective was that the maritime transport should take on an increased portion of the expected growth in transport. Adequate links between transport networks should be facilitated as part of the efforts to increase maritime transport, which was crucial for maritime transport’s role in national and international transport. The new “*The Harbour and Fairway Act*” (Lovdata, 2012) was regarded a key measure providing a legal framework facilitating the development of ports into logistics hubs. To achieve the objective of increased maritime transport, cooperation between goods owners, ports and other actors in the shipping- and transport market had to be established. Simultaneously, coordination with public facilitation and instruments was regarded important. The Coastal Administration played a vital role in this work and started up a project together with several ports to identify the requirements and opportunities for increased sea transport, and how to appear as attractive collaborative partners and actors within the transport chain. The Government also announced continued and active participation in the European and international cooperation on maritime transport (Government, 2009).

The Government's objective of increasing sea transport also expressed in their declaration "Soria Moria"<sup>1</sup> underlined the development of ports as logistics centres (Government, 2005). To achieve their goal, the Government emphasised four measures; first, the new Harbour and Fairway Act (Lovdata, 2012); second, improved fairways; third, improved overland access. The issue was elaborated in a project; "Efficient Terminals" (Fyrvik et al. 2006), which was accomplished in 2006 and will be presented later in this study; fourth, reduction of fees and charges. Ports should be developed more commercially, as attractive links in the transport chains presenting efficient solutions and being secured with adequate infrastructure on land and at sea. In that respect the categorisation and the national priority of the ports was defined in the new Harbour and Fairway Act (Lovdata, 2012). The criterion<sup>2</sup> of designated port was established in a previous NTP (2003), and the act authorised the Ministry to apply requirements and terms to the designated ports, e.g. terms and conditions of ownership (Government, 2009).

Existing cooperation between municipalities and regions were referred to as efficient approaches of establishing port services, the Ministry of Fisheries and Coastal Affairs claimed that cooperation should be augmented. The Ministry referred to work being carried out to benefit from a better utilisation of public and private infrastructure. Ports' ownership was either municipal or private, and all investments in ports should be financed by the ports. The Government was responsible for fairways, roads and rails leading to the ports. A proposal for guarantees and subsidies for financing port investments were presented to the Government. It was referred to the arrangements within the European Community and proposed that Norway should establish similar arrangements, and the government intended to look closer into this problem. However, a common responsibility rested on the state and the municipality to facilitate adequate transport infrastructure, e.g. by providing sufficient port areas for efficient operations (Government, 2009).

In NTP 2010-19 the Government presented a new port structure and defined thirty-one trunk-network ports. Twenty-five of these ports relied on overland connection, as the six others were sea-to-sea based ports. These trunk-network ports were all attached to the fairway from the Swedish border up to the Russian border. The port structure network was a part of the Government's strategy of developing a modern and coherent infrastructure signified by speed, reliability and efficiency. The linkage between the transport modes was an important

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<sup>1</sup> [http://www.regjeringen.no/upload/SMK/Vedlegg/2005/regjeringsplattform\\_SoriaMoria.pdf](http://www.regjeringen.no/upload/SMK/Vedlegg/2005/regjeringsplattform_SoriaMoria.pdf)

<sup>2</sup> Port Director Flogstad (2013) of Grenland was informed by the Ministry of Fisheries and Coastal Affairs that the criteria were subject to confidentiality, and therefore could not be informed.

issue for the transfer between the various modes and for an increase of flexibility and efficiency. Additionally, the Government regarded development of transport corridors as beneficiary for districts and regions. During the introduction of the trunk-network ports, the term national port was dismissed, which meant that the new structure comprised of ports defined as designated port and trunk-network port. The designated ports would maintain the role as ports of significant importance, and the trunk-network ports were connected to the inland road trunk-network. These ports obtained priority with respect to infrastructure development. The Government also emphasised that the ports should adapt to the increase in transport, especially the increase in ship sizes, and develop and maintain cooperation between ports and other actors in the industry in order to concentrate the international transports (Government, 2009).

NTP 2014-23 followed up measures taken in the previous plan and formed new objectives for the Government during the upcoming period. The port structure established by the previous plan was being maintained and the port structure in Norway was characterized as designated ports, trunk-network ports and other ports. The trisection of the ports underlined that the distinction between ports had a particular feature for the overall significance of the transport network (Government 2013).

The criteria<sup>3</sup> of being a designated port was related to the activities of the port, which services being offered, goods volume, organization and cooperation with other ports, as well as the port's social importance. There was an on-going rationalization process among ports, where cooperation and merging into larger units were regarded increasingly important. Considering the long-term increase in volume of goods, the Government suggested that this development had to continue. It was assumed that on a long term changes in port structure would be required to maintain and develop the port's role as a hub in the transport chain. The Government expressed their intention to interact with the ports for an improved and efficient port structure where the ports acted as logistics hubs providing intermodal transport solutions (Government, 2013).

In their goods strategy, the Government maintained the validity of facilitating for transfer of goods from road to sea. They asserted that the transport buyer provided the requirements of transport and made the choice of mode, and that distribution of transport modes was an effect of the choices of the actor, within the framework conditions of the authorities. The basis for the goods strategy should be developed during the next years and form a platform for a revised strategy for the next transport plan. With respect to these

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<sup>3</sup> See footnote one in page 24.

ambitions the Government assigned MFCA to accomplish an analysis of transport modes with respect to the transfer of goods from road to sea. The analysis will comprise of goods flows, logistics trends, and interaction between central actors in the industry, to evaluate the potential of transfer. Structure of terminals and ownerships were also to be included in the analysis, aiming to improve terminal efficiency. In addition, the Ministry also initiated a project for the preparation of a short sea shipping strategy. This project was intended as cooperation between market players; ports, operators, shipping lines, forwarders, shippers and actors consolidating goods transports, and representatives of the authorities on national, regional and local levels. A premise for success was that each actor should take action in their own area of responsibility, exemplified by improving efficiency of port operations. An obligation of the private actors to the supply of relevant data was requirement of the authorities. The Government extensively made use of active verbs describing the measures to be taken to achieve the objective of transferring more goods from road to sea; strengthen; stimulate; support; invest; continue; facilitate; improve; elaborate; co-locate (Government, 2013).

The Government expressed in particular the importance for the role of the designated ports with respect improvement of efficiency of sea transport. The Government therefore announced preparation for a grant scheme of governmental subsidies for designated ports. However, the formulation was not yet accomplished and should be subject to discussion, but subsidies should be limited to improvement of infrastructure only, and be apportioned on application from the ports. The Government also intended to encourage cooperation through subsidies and announced grants for cooperation between ports aiming at the concentration of goods flows. A realisation that many minor ports did not possess the resources for developing efficiency and appear as competitive logistical nodes was established. Norway was characterised by many transport corridors with fragmented freight flows and low regularity. These factors considered, operations and infrastructure accumulated high costs and ports failed to attract cargo. There had been indications that ports to a great extent were competing for the goods rather than to identify efficient and effective collaborative measures. The Government expressed great concern to counteract these tendencies, and claimed that the ports were responsible to identify rational collaborative solutions to the problem. Initially, a regional cooperation between ports and the necessity of concentrating goods flows within regions for the development of competitive logistical hubs were regarded appropriate measures. The benefit of regionalisation should be able to provide strong and specialized ports within the region offering high quality services. However, this measure could succeed when ports specialized towards the different types of goods and focused on cost reductions

and efficient administrations. To govern these measures, an organisational framework was suggested established to arrange for the cooperation and utilization of port facilities within the region, and the objective was to an optimal utilization of infrastructure. No current formal impediments were identified, neither should county borders be regarded as hindrances, however, the Government realised that a scheme of incentives could prove lucrative to establish cooperation. The establishment of grant schemes was repeated with respect to sea transport, intermodal transport solutions, and goods concentration, an arrangement which should be worked out by the Coastal Administration within the economic frames allocated to the transfer of goods. Additionally, the continuance of governmental subsidies for Short Sea Promotion Centre Norway was announced (Government 2013).

The Norwegian Government announced in NTP 2014-23 that it would focus on short sea shipping. This strategy has been expressed in a strategy document entitled “More goods at sea” (Mer gods på sjø) issued by the MFCA (2013).

In NTP 2014-23, the Norwegian Government granted three billion Norwegian Crowns (NOK) allocated for measures to increase the transfer of goods from road to sea. The importance of sea transport was emphasised, simultaneously as road transport was increasing and we witnessed a decrease in sea transport. It was expressed concern for improvement of know-how related transportation of goods because there was not one simple explanation why road transport was the current winner. Therefore, a turnaround initiated by the former Government was meant to identify initiatives to be taken stop this trend. Within the framework of a short sea shipping strategy, the Government proposed four measures: first, research and clarification of sea transport and combined (intermodal) transport solutions; second, the issue of incentive schemes to encourage transfer of goods from road to sea; third, grant schemes for governmental subsidies for port investments; fourth, the establishment of grant schemes for port collaboration projects (MFCA, 2013).

Research and elucidation of the nature of sea transport has been initiated, and a substantial amount of work is in progress at higher educational institutions, research institutes, consultancies, and other actors in the industry. Many research activities are performed internationally and it is important for Norwegian researchers to stay in close connection with their foreign colleagues. EU considered transport one of the main areas of the new research framework program, "Horizon 2020"(MFCA, 2013:18). Knowledge of competition with respect to transport modes was emphasised, and research and development should be directed towards increased understanding of the elements affecting decisions and choices. Though a vast amount of knowledge had been achieved through transports surveys data and modelling,



a desire for further knowledge and information retrieval had been expressed. Some factors which were elevated were interaction and coordination between actors in the transport chain, ownership and competition, terminal structures, and investments in infrastructure.

Intermodality and efficiency of terminals were regarded determinants for increased sea transport, and the importance of co-location with other logistics providers and actors would reinforce the potential (MFCA, 2013). The Oslofjord area has been regarded the most important premise for the total transportation in Norway. The reason is that many of the major suppliers of goods and commodities had located their central distribution warehouses in the Oslo fjord area. Expectations of increased goods volumes and the nature of present logistics trends, called for an analysis of goods transport, and how to improve the socio-economic value. The challenges of transport were designated to undergo systematic and thorough research to increase capacity and knowledge. In particular, we might emphasize the freight analysis to be performed which included the terminal structure and ownership, and how this segment could improve efficiency.

The strategy outlined and continued the incentive schemes for transfer of goods and the grants schemes for port investments. Transfer of goods should develop new concepts aiming for increased sea transport and achievement of a higher ratio of filling. Subsidising port investments would depend on the potential of transfer of goods from road to sea, concentration of goods flows, improvements of port operations, and development of logistical nodes focusing on intermodality and combined transports. Grants would be approved according to ports' applications and how measures in question are argued with respect to the Government's ambitions. It was emphasised that the ports should develop a competitive edge with respect to the transfer of goods between the different modes. Port cooperation was also given considerable attention, consequently, the Government signalled grant schemes to encourage cooperation. With reference to the characteristics of smaller ports, it was articulated that port cooperation should be stimulated and that the ports should develop an adequate infrastructure and be operated with efficiency. This document followed up the Government's intentions specifying conceivable impediments which could occur during a process of cooperation. Cooperation was referred with respect to the sharing and utilization of resources and knowledge. Minor ports were likely to suffer from lack of resources and knowledge, and therefore had to rely upon external assistance. Relevant areas that could be affected by governmental subsidies were e.g. assistance of external expertise in situations of a creation of mutual administrative functions; strengthening of commercial expertise; joint marketing efforts; financial support in during processes of merger. On this basis, the

Government stated that it would establish a grant scheme to facilitate shared services and mergers. An additional step was taken a further step was taken to strengthen the importance of the ports. Two more designated ports; Trondheim and Bodø were added to the existing five; Oslo, Kristiansand, Stavanger, Bergen and Tromsø which were assigned in NTP 2010-19 (Government, 2009). The document followed up the present plan emphasising the importance of adequate road connections to ports and stated that the Government still will be responsible for inland roads and infrastructure linking the ports, also during the regional reform.

## **Reports**

In order to discuss the issue of competition between ports, it was crucial to possess a minimum of knowledge regarding the work which in recent years has been devoted to strengthen maritime transport, and thus port significance. Much work has already been accomplished and the vast majority of actors and stakeholders of the industry have contributed. Presenting a selection of reports was intended as a support to; one, understand how many contributors have been, and still are involved; two, being able to follow the chronology of the work; three, create a picture of what was prioritized to achieve the goals of increased transport at sea; four, put these elements and factors into a perspective of port cooperation.

TØI, Institute of Transport Economics, Norwegian Centre for Transport presented in February 2013 a report “Logistics in Norway”. The report is a synthesis of five earlier reports illustrating development of logistics organisations and -costs in Norway. As an opening to the findings on the different documents studied, a quotation of their introduction seems appropriate:

*“Changes in the organisation of industry and trade in the direction of fewer production units and more centralised wholesale in combination with increased population and purchasing power lead to more complex supply chains that require efficient logistics and transport solutions. At the same time it is a goal to reduce greenhouse gas emissions from transport, especially in the cities. To achieve the emissions targets while maintaining a competitive business environment, it is important that good logistics solutions be developed. This requires more efficient organisation, better utilisation of cargo capacity and the use of less emission intensive transport solutions than today”*

(Hovi and Eidhammer, 2013, p. I)

### **NewFreight, ports and goods flows**

An initiative taken by the “Trading vessels Owner’s Association” (Fraktefartøyenes Rederiforbund) commissioned the research institute of “Møreforskning” in Molde to accomplish a report focusing on a new generation coastal cargo vessels. The objective was to operate vessels in compliance with a future environmentally friendly and efficient Norwegian coastal logistics.

The report “New transportation, ports and goods flows” (NyFrakt havner og varestrømmer, Nilsen Netter and Oterhals, 2009) focused on concentration of the main product flows, especially between Norway and foreign countries. The industry’s requirements for selection of port were related to location, infrastructure, cargo concentration at all levels, and transshipment costs of port calls. Environmental issues became increasingly relevant for the design of transport solutions, underpinned by improved resource factor inputs at executive levels. The report referred to a port structure that has been, and still is developing, and that the ports set in a transport context must deserve their rightful place within a hierarchy. The issue was considered important because the ports now more than ever have become integral players in various transport chains. The port trunk-network depends on connection to fairways, roads and rail and must be put in a transport chain context. The report pointed at four ports within the trunk-network; Oslo, Kristiansand, Stavanger and Bergen, which were intended to cover the majority of foreign goods traffic to and from Norway. The other ports would merely act as feeder ports serving the designated ports. They also referred to a desire to put a distinction between domestic and foreign ports. An inter-municipal cooperation was considered presenting useful results and had provided new opportunities, particularly for unit loads and by concentrating certain groups of goods. The collaboration had a great impact on the ports’ efforts on task sharing and specialization within the port districts. The interaction between the ships and the port facilities were highlighted to secure optimal utilization of the resources. The inter-municipal cooperation was considered positive in conjunction with resource utilization in ports and the development of a traffic potential, simultaneously achieving a satisfactory degree of specialization. Additionally, cooperation between private and public sectors was considered as positive effects. Information exchange between ports, shippers and carriers were particularly highlighted in the respect of achieving maximum efficiency. It was pointed out that mergers and ownership changes by the transporters and the logistic operators resulted in fewer and larger companies which opened for new transport systems and transport combinations in which ports were regarded important players. During transport and terminal planning work, active participation of the business sector as contributor was regarded an asset.

For trunk-network ports' connection to the external environment e.g. via roads were considered crucial factors for a successful development of maritime transport and port services. The ports were referred to as the hub and transshipment nodes between sea and land, which had always been there. The new elements were development of technology and organization. A standardization of cargo types, unit loads, handling equipment and procedures contributed to a more efficient and better adapted technical goods transfer between different transport modes within the terminal. Thus demands for insight and knowledge increased in all phases of transportation operations, for all stakeholders, and not at least for the ports. It was concluded that knowledge of cargo types and their impact on the choice of transport mode was still insufficient. Challenges would be the ability and the opportunity to acquire knowledge, market insight, and understanding of how indicators that control the market and the scale traffic works. The experiences related to the inter-municipal cooperation of ports in southern Norway seemed to point towards a better utilization of resources with respect to task sharing as well as initiatives on port development within these regions. Port administrations' involvement in ports' tasks and service functions are increasing, and the ports have to a greater extent participated in development work. The inter-municipal port cooperation was highlighted as an example of ports' upgrading to comply with needs for improvements and investment in infrastructure, as well as the planning and design of efficient and sustainable transport solutions . A prerequisite was that this should apply in the ports' articles of association and was obeyed (Nilsen Netter and Oterhals, 2009).

#### **Efficient terminals (Effektive terminaler)**

Commissioned by the Norwegian Coastal Administration, The Norwegian Marine Technology Research Institute (MARINTEK) carried into effect a project that should investigate and analyse the characteristics of efficient terminals with respect to the transfer of goods from road to sea and rail. The report was brought to a conclusion in 2006.

The primary objective of the report was to identify and characterize efficient terminals. The result was an identification of best practice elements affecting efficiency which could form a basis for development, innovation and competitiveness. Five superior drivers were identified, one was cooperation; interaction, information and organization. They asserted that interacting players would generate an increased potential of influence with regard to politicians and society in general. A regional arena was indicated, and regionalization of terminals and ports could encompass function sharing and thereby improve specialization. Their impression was that many ports had an ambition of being good at all types of operations

for the conviction of being expansive. Unfortunately, taking on too much may prove opposite and develop inefficiency. However, specialization and function sharing did not necessarily have to be the result, instead establishment of a common basis for development where all stakeholders within terminals or ports could come up with better solutions, as for example information flows. With respect to development of infrastructure it was claimed that transport of goods increasingly had to be incorporated in the overall planning and that transport know-how was embedded with decision-making authorities. The statement was based on a lack of comprehension among policy makers and local communities, resulting in lack of knowledge of future demands which were likely to result in lack of investments. Absence of information from political authorities and port administrations regarding plans and strategies was also asserted to complicate the operators' strategies and plans.

The report pointed at the number of ports and their capacities, and ascertained that development plans did not correspond with the anticipated growth in goods transport. Concern was expressed in relation to investments that could cause increased costs for goods handling and thus reduce competitiveness of intermodal transport chains. Satisfactory solutions would occur when port authorities and port operators entered into cooperation. Operational planning proved in many cases to be inadequate and improvement of procedures and systems were required. Inadequate terminal planning would result in creation of bottlenecks. Measures for improvement were identified: cultivation of operations with respect to type of goods preventing conflicts during operation of different types of goods; an aim for faster goods flows by reduced internal distances; improve access to avoid congestions and delays, which was also regarded an authority responsibility; customizing investments with the objective of fixed-flow patterns; increase logistics expertise; implementation of routines for better planning, coordination and information flows.

The report summoned up thirteen keys factors to efficient terminal operations. The key factors with relevance to the study were: one, cultivate operations in terms of cargo types; three, introduce optimal, fixed internal flow patterns; four, establish appropriate loading and unloading areas for unit loads; five, accommodate investments for goods type and volume; eight, strengthen logistics expertise; nine, establish platforms for terminal development; ten, introduce improved procedures and systems of operational planning; thirteen, improve access to terminals, adjacent infrastructure; roads and rail included, which is public responsibility. During the project, Norwegian Port Association was challenged to prepare a description of the concept of effective port facility. Their first question was ports future orientation and whether they were in line with trends and developments in transport and logistics, and the importance

of trends imposed by the market. They discussed the comprehension for the development of ports as modern intermodal hubs and concluded that politicians were in need adult education related to transport of goods. Another major challenge was the limited volume of cargo and the recognition that not all ports could become intermodal hub. Geographic location should be prioritized, and, in order to develop optimal solutions other chain actors should be included in this work. A paradigm shift in transport was suggested due to the increasingly rapid development in logistics and that logistics had become a strategic tool for business. In view of this mind-set cooperation within transport chains were imperative and required that all actors complied. Five assertions which could form a basis for development were proposed, assertions which politicians and other players should be able to decide on:

- “1. Industry and commerce and the major transport companies have regarded ports and sea transport as inefficient and less future oriented.*
- 2. Norwegian ports focus too little on the industry’s requirements on efficient supply chains / logistics chains*
- 3. Discussions of ports have to a large extent dealt on internal matters and less on the understanding of the market and the trends prevailing*
- 4. Industry and commerce do not know what ports can offer of services and products - communication and information (marketing) has been insufficient*
- 5 Industry and commerce’s interest has changed and they will be motivated to consider new solutions provided they satisfy demands of price, frequency and reliability”*

(Fyrvik, Uthaug, Berg, and Gran, 2006, p.70).

They also summarized the outside world’s view of Norwegian ports, and claimed that ports were regarded petty kingdoms being controlled by politicians, exposing conservative thinking with limited knowledge of goods owners’ and market’s requirements. The ports’ organizations were regarded restraining rather than enterprising and lacked competence in modern logistics and holistic approach. These descriptions of the port industry was repudiated, however, they realised that the challenge was to disprove them and to prove opposite. The ports needed to improve their proclamation of their services, and they had to realize their role in order to increase competitiveness. As a consequence of restructuring by creation of increasingly larger logistics providers, ports had to improve information and coordination and work in closer relation with the users. Their opinion was that the authorities had appeared diffuse and said

that so far it had been difficult to see that the Government had worked towards the goal of developing ports as logistical hubs as it was expressed in "Soria-Moria Declaration". In that case, the authorities appeared to be a hindrance rather than a partner. This would make the Transport Plan only as a game for funds, unless funding was allocated for ports and maritime transport. Assertions of the absence of cooperation and cluster thinking were also referred to, and former port conferences had appeared rather introverted instead of extroverted. They asked how much attention the port industry had paid to the signals of the market trends, and concluded by asking the question if Norwegian ports wanted to develop as intermodal transportation hubs (Fyrvik et al. 2006).

### **How to strengthen sea transport's competitiveness**

In an effort of increasing attractiveness of sea transport, and as a sequel to "Efficient terminals", the report (Hvordan styrke sjøtransportens konkurranseevne, Berg and Aarland, 2009) was initiated by the Norwegian Coastal Administration and Norwegian Ports Association. The Norwegian Employers' Organisation's was invited and was represented in the project by "Norwegian Ports" and "Logistics and transport industries' association". This was regarded as an initiative of the industry itself, and they said: "The objective of the project is to provide input to the National Transport Plan (NTP) 2014-2023 and to contribute to increased knowledge of supply chains and requirements of industry within the participating ports" (Berg and Aarland, 2009, p.6). In addition, the project was presented to short sea ship owners and to the Norwegian Shipowners' Association, consenting to the project. Additionally, twenty Norwegian ports took part in the project.

The report was carried out in three levels; first, understanding of supply chains and markets; second, public operating parameters; third, the issue of interaction and communication.

A recommended plan of action formed the conclusion, presenting twenty measures. We will address the most relevant in terms of competition and cooperation: One, no specific actions with respect to increased sea transport had been initiated by the departments, and a more active role with respect to visualize the plan's strategy was missing; four, improved knowledge of sea transport and intermodality to predict consequences of political decisions, plus, stronger participation by politicians at municipal and regional level; five, logistics hub's increased importance in a regional, economic relation. Increased competition between networks and chains had to be view in parallel to ports' regional connection, and the fact that ports should not compete one-to-one, but cooperating within regional networks' competition.

“The Port Alliance” was referred to as an example to be copied; seven, the Coastal Administration had to increase responsibility and their role as national port authority, and strengthen their efforts within planning. The participants feared that a consolidated contribution of those organisations with special interest, the actors themselves, and regional authorities would be the preliminary solution to the problem regardless of superior ministry; eight, several ports had already started a process of establishing themselves as logistical hubs, focusing on more and new tasks within the supply chains. To comply with increased requirements with respect to environment and efficiency, a governmental investment fund was suggested. The transformation processes were regarded demanding and would require time, change of attitude and objective, financial resources and extensive planning. Strong logistics hubs would need great investments, and ports could not increase income by traditional port services, value adding services were regarded essential to increase goods flows. It was a fact that there existed large variances in goods flow, areas available, internal and external infrastructure and so on; therefore, ports should define their respective competitive edges.

The number of transport corridors is numerous, and better consolidation of goods was regarded as a challenge. The challenges included interaction by many actors and investments in infrastructure. A scepticism for potential governmental grants it was expressed about government support as this could contribute to an unbalanced competition, on the other hand, they realized that investments in infrastructure could prove impossible to ports' economies. Pilot projects were called for; nine, thorough market analyses were requested to assess the ports as logistics partners to regional industries and businesses; ten, ports experiencing growth in intermodal transports should be prioritized in connection to the trunk network. Several designated ports still waited for improved infrastructure in their vicinity, and they could not see any increased momentum on the behalf of the authorities; thirteen, ports should cooperate to develop and improve best practices according to the thirteen measures referred to in “Efficient terminals” (Fyrvik et al. 2006). All ports of priority should make up status and follow up suggested initiatives; fourteen, the ports should initiate plans of action in collaboration with actors and operators within the respective ports; fifteen, Ports within the Oslo fjord area should strengthen cooperation within marketing, operations and infrastructure. The competition in this area was regarded fierce especially with respect to road. Many ports in this area were regarded to lack resources for development of new concepts, though the great potential. Three challenges were defined special for the Oslo fjord area; first, an extensive competition directed towards the “main artery” of seas transport, containerized



goods from Gothenburg; second, a strong growth of population requiring living areas; third, a political demand for an increased coordination of goods and logistics. The last issue in their recommended plan of action was the focus on communication and information. The ports were being criticized by major transport operators, and have had a need to abandon the reputation as petty kingdoms, and that each municipality should have a port. This was considered outdated thinking, and modernization and market adaptation was requested. Port managers have responded and started profiling their ports, still many challenges were left to solve. This report was not regarded as a long-term strategic document, rather a short-term plan for initiating planning and execution of more or less immediate measures (Berg and Aarland, 2009).

### **StratMoS WP C**

The European Community very much have the same goals as Norway with respect to environmentally friendly and efficient transport. Norway has contributed to research projects dealing with sea transport. One of these was The North Sea Region Programme 2007-2013, which “*works with cutting edge policy areas in regional development through transnational projects*”<sup>4</sup> Included in this programme was “StratMoS WP C”, a project with an objective to promote the transfer of cargo from road to sea, based on intermodality. Accessibility within the North Sea region should be achieved by the implementation of the concept “Motorway of the Sea” and transport networks into transport chains. Work Package C was studying how cooperation between larger and smaller ports could be developed in the sense of complementarity (Caruso, 2009).

Altogether nine areas of cooperation were found during the study: “*inland terminals, planning, waterways, marketing, environmental protection and monitoring, training and human resources, rail & road infrastructure, terminal operations and Information and Communication Technology (ICT)*” (Caruso, 2009, p. 11). Consequently, the report revealed a vast number of opportunities for cooperation between ports and we will point out the most relevant. Before we take this further, the report referred to three types of cooperation; organisational cooperation, referring to internal cooperation between actors within the port; structural cooperation, implied external work, e.g. creation of new operations outside port area, but forming a part of the total port operations; project cooperation was signified by single time occurrence, e.g. development and building of infrastructure. The project also

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<sup>4</sup> <http://www.northsearegion.eu/ivb/content/show/&tid=75> (2013).

emphasized who were cooperating, benefits of cooperation, and challenges of cooperation. Additionally, the report also produced real examples of cooperation.

Inland terminals could prove valuable to ports in a co-ownership. The concept was regarded advantageous on several grounds; inland terminals could form an elongation of port area of operation; providing port services and operations inland; prevention of congestions in port area; providing specialized services; reduction of cost due to co-ownership and joint responsibility for costs. However, some challenges were also identified, as losing grip on distribution network. Planning is needed at all levels of port development, operation, and administration. Cooperation during planning was considered important and beneficiary, and should include all actors involved. Rationalization of resources for the purpose of cost reduction and enhanced influence in cooperation with authorities for local and regional planning, were referred to as adequate examples of cooperation. Mutual profiling and marketing proved attractive elements of cooperation in the sense that the cooperating port could pool their resources and jointly reach a wider market. Port associations were mentioned as examples of e.g. national joint promotion, but cooperation at regional levels was also regarded positive for regional development. Furthermore, opportunities of cooperation would also be found within environmental monitoring and protection, as well as for competence enhancement of employees. Improvement of infrastructure, in particular roads, but also rail, were typical areas of cooperation between ports as they could with joined forces gain more influence during interaction with authorities. Information and communication technology was a typical field of cooperation, either organisational, or as a single project, and would benefit safety and efficiency.

During the conclusion, the report referred to their main research question: *“How could North Sea ports be effectively integrated into the European logistical network and how could port cooperation and port complementarities improve the flow of door-to-door transport as per the Motorways of the Sea concept”* (Caruso, 2009, p.189)? The report referred to cooperation and complementarity which proved good effects in ports. Some ports were ahead of others because they had merged and established new organizations. Copenhagen and Malmö was referred to as an example of adjacent ports which successfully merged. Norway was highlighted due to long distances, which was considered challenges for cooperation. However, other arenas of cooperation were highlighted, such as ICT (Information and Communications Technology) and marketing, which could form a basis for partnership. Rules of competition within the EU was estimated as one of the major drawbacks in terms of cooperation, and it was suggested that these regulations had to be considered prior to a

possible cooperation were signed. Too extensive cooperation was also considered negative for the development of prices. The report underlined during the conclusion that more research on cooperation was required, but at the same time emphasized that knowledge achieved in this report should be shared with all players in the industry (Caruso, 2009).

## Case study of Competition Between Ports of Grenland and Larvik

### The Oslofjord Ports

The Oslofjord region, if Kristiansand was excluded, included seven ports within the Norwegian port trunk-network whereas six ports handled containers. Tønsberg did not. All ports in the area were known to compete for the goods, also with road transport (Berg and Aarland, 2009). However, due to ports' ownership, being owned by municipality, either as inter municipal companies or as municipal businesses, ports compete on conditions similar to any private enterprise (Jonas, 2013).


Port	Container in tons	Map
1 Port of Grenland	388 533	
2 Port of Larvik	670 529	
3 Port of Tønsberg	0	
4 Port of Drammen	121914	
5 Port of Oslo	1279622	
6 Port of Moss	300168	
7 Port of Borg	363752	

Table 4: Ports in the Oslofjord. Compilation by author. Statistics by SSB (2013).

Map retrieved from: [http://www.oslofjorden.com/badesteder/akershus/alvearen\\_badeplass\\_nesodden.html](http://www.oslofjorden.com/badesteder/akershus/alvearen_badeplass_nesodden.html) (2013)

The main challenge was the road transport from the Port of Gothenburg to Oslo and the southern parts of Norway; estimated to more than two thousand five hundred trucks per day (Flogstad, 2013). The area around the Oslofjord is the most populated part of Norway. Naturally, we found the major transport corridors here. The total volume of containerized goods, loaded and discharged in 2012 was 3 124 518 tons, the distribution of loaded and discharged volumes were almost in balance; 1 546 727 tons loaded and 1 577 791 tons

discharged. Larvik and Grenland presented a throughput of 1 059 082 tons which counted for nearly 34 per cent of the total volume of containerized goods in the Oslofjord area (SSB, 2013).

The ports' future role in the effort of transferring goods from road to sea and rail has been subject to an increased attention. To achieve this goal, the ports should develop to be efficient and competitive intermodal hubs and contribute to the competitiveness of sea transport. It was emphasized that ports should cooperate to concentrate goods flows to decrease the number of transport corridors signified by small volumes and poor regularity (Ministry of Fisheries and Coastal Affairs, 2013), though these tasks might prove challenging (Berg and Aarland, 2009). An effort to be considered was regional cooperation. The Government expressed concern for cooperative desire among the ports, particularly with respect to the Oslofjord area.

**The Ports of Grenland and Larvik**

A closer look at the neighbouring ports of Port of Grenland and Port of Larvik may be could reveal when, how, and why these ports should consider cooperation. The importance of these two ports was demonstrated above as their combined volumes of containerized goods counted for one third of the total volume in the area. The distances between the ports and their different terminals are just in excess of forty kilometres, and the construction of the new road (E18) will reduce distance with respect to time, not necessarily the physical distance (Risholt, 2013). The two ports possessed in total seven locations for port operations, which are described in the table below:

Port	Terminal /wharfage (location: see map)	Function/facilities
Port of Grenland	Brevik terminal	Container (LoLo), RoRo, dry bulk
Port of Grenland	Skien port terminal	General cargo, dry bulk, RoRo
Port of Grenland	Porsgrunn terminal	Bulk
Port of Grenland	Langesund ferry terminal	Ferry (Ropax)
Port of Larvik	Revet terminal	Container (LoLo), ferry (Ropax)
Port of Larvik	Kanalkaiene terminals	General cargo, dry bulk
Port of Larvik	Svartebukt terminal	Dry bulk

Table 5: Terminals in the region. Berg (2013), Compilation of author. Information retrieved from Port of Larvik (2013); <http://www.larvik.havn.no/> and Port of Grenland, (2013); <http://www.grenland-havn.no/terminaler>

For both ports container handling was regarded prioritized area of business because the industry expected a growth in the volume of transported containers. One reason was bulk operators who increased utilization of containers as load carrier, also for bulk product due to their intermodal properties (Jonas and Flogstad, 2013). Currently, Port of Larvik told they had possibility of tripling capacity overnight (Jonas, 2013), whereas Port of Grenland was in need of a relocation due to shortage of capacity (Flogstad, 2013). Examination of port statistics has proven that Port of Grenland was superior in bulk handling, and Port of Larvik was superior in container handling. Port Director Jonas revealed that the port was currently assessing the possibilities of sketching plans for a possible bulk enterprise (Jonas, 2013). It was evident that the two ports competed in the same arenas, and that they both had a desire to expand and develop more business. It was also evident that the two ports made efforts to substitute each other, instead of taking on roles as complementarities.

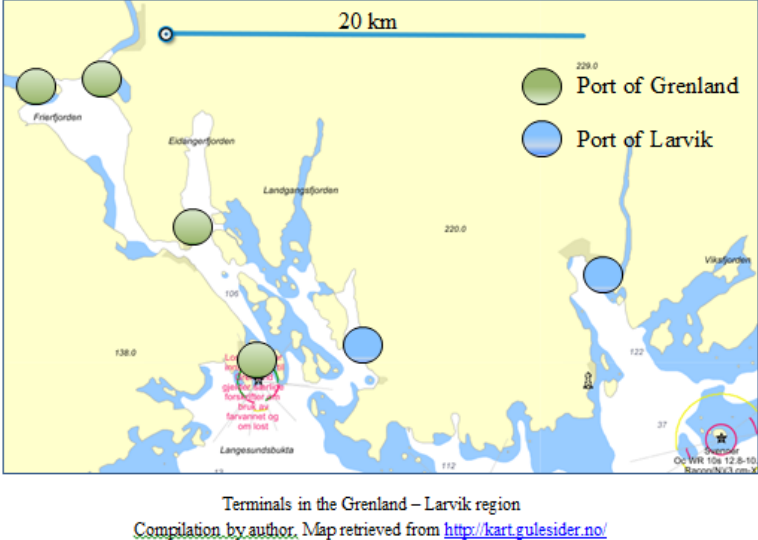


Fig. 2:

**Summary of political strategies**

The chronology of the political development and efforts provided vital information on the strategic signals port industry had to conform to. The development of government strategies did evolve into more tangible forms, implying more factual measures and the transport plans did reveal some progress. Until now much of the contents of previous plan documents could be perceived more visionary than practical. However, some major improvements were made; a new Port and Fairway Act (Lovdata, 2012) was approved in 2009, as well as a new port structure (Government, 2009). The new port structure was formed as a port trunk-network to ensure a coordinated development of Norwegian transport infrastructure, linking up with the road trunk-network. The recent government left an ambitious strategy document which was characterized by greater dynamism than earlier. In the last rotation of the national transport

plan, several concrete measures were addressed with the intention to increase the volume of goods at sea. A total of three billion Norwegian kroner were allocated to different measures. Among the important measures in this context were regarded freight flow analyses, financial support of the Short Sea Shipping promotion centre of Norway. In addition, the Government announced incentive and grant programs to the transfer of freight from road to sea, investments in ports, and grants schemes for port cooperation. There were no complete details of how and where these grants would apply. The Norwegian Coastal Administration was been commissioned to design the grant scheme of port cooperation and cargo concentration.

### **Summary of the reports**

All reports indicated that cooperation in some form or another was a must to achieve improved efficiency and intermodality, and to increase the significance of sea transport. Environment was a major driver underlying the focus which has been directed towards the choice of the right transport mode. Cooperation was linked to virtually all levels in a supply- or transport chain, both operationally and administrative, and private and public. It was referred to internal and external collaboration across organizations and established boundaries, to be able to encounter development and new trends. A proposal for a paradigm shift in transport was suggested due to the ever increasing and rapid development in logistics and which had become a strategic tool for business. Simultaneously, all participants should be favoured viable terms to comply with the requirements of industry and society. Information exchange was considered an important tool on the road to achieving these goals, and could be viewed as an adequate example of cooperation.

Recognition that Norwegian goods flows were fragmented and small was claimed. However, there were challenges to be considered due Norwegian geography and topography. An aggregation of cargo flows was therefore not a responsibility which was resting entirely on the players' shoulders alone; Government also had to bear their share of the responsibility. Knowledge and understanding at all levels, both private and public was needed if optimal conditions were to be created. Collaboration in planning at detailed and at a superior level was attributed great importance, and there was a demand for authorities to provide clear and specific signals. If Government was not able to meet these requirements, Government would rather be distinguished as an obstacle to development. The fact that all ports could not evolve was recognized, and collaboration and specialization seemed a way to go. References to cooperation that had already taken place were highlighted; the Port Alliance, a cooperation between the ports Borg, Moss and Horten; the merger of the ports of Copenhagen and

Gothenburg. Both initiatives were asserted to demonstrate positive experiences. A recommendation for cooperation between the ports in the Oslofjord area was proposed to strengthen cooperation in marketing, operations and infrastructure.

### **Interviews with the actors**

The interviews with the actors were intended to include representatives of municipality but time and resources of the author restricted the extent. However, interviewing port authority and regional authority was regarded sufficient for this case. First, the interviews with the port directors will be referred to; second, the regional authorities will be accounted for.

### **Interview with Port of Grenland**

Flogstad commenced the interview by referring to the recent election and change in government, and emphasized that the ports now have a new superior ministry to deal with. As the Ministry of Transport and Communications has succeeded the Ministry of Fisheries and Coastal Affairs which was discontinued by the new Government, he was optimistic. He claimed that this change had increased the chances of a harmonization because all infrastructure projects, including ports would be correlated. Simultaneously the new Government proposed a regionalization. Port of Grenland is an inter-municipal company and is owned by six municipalities: Porsgrunn, Skien, Bamble, Kragerø, Drangedal and Siljan. According to the port director, the six municipalities already represented a region with a population of approximately 130 000 inhabitants, and it was possibly the seventh largest concentration of population in Norway. Flogstad believed that the smaller feeder vessels would eventually disappear because they were more resource demanding relative to their size compared to the larger feeder vessels within larger European ports. With reference to studies that were conducted in Europe Flogstad assumed that we in future would see larger feeder vessels which also would represent larger concentrations of goods. If this scenario were to become reality, he claimed that all stakeholders in the long term would be better served with one regional hub. Flogstad also referred to global forecasts pointing out significant growth of cargo, particularly in containerized cargo and he explained this by referring to dry bulk operators who tended to increase utilization of containers as transport units.

In that sense Flogstad emphasized that cooperation between the neighbouring ports of Larvik and Grenland would benefit industry and the region, as well as the port themselves. He underlined that the development of overland infrastructure had contributed to the reduction of barriers in the sense that distances still existed, while time consumption had decreased

drastically. The reduction of time consumed should be regarded as an advantage to interaction and cooperation, and that he referred to an example of cooperation between the municipalities of Larvik and Porsgrunn. Time was no longer a barrier, the cause was improved infrastructure. He said that cooperation could appear differently, it did not necessarily have to signify a merger, and the importance was to achieve a balanced perspective of the opportunities of cooperation. Flogstad accentuated the Port Alliance has an effective partnership where the stakeholders shared common tasks, e.g. mutual financial administration and mutual technical administration. He asserted that the ability of regional thinking would benefit all stakeholders. However, port ownership could be identified as one barrier of cooperation; ports are owned by municipalities, and as municipalities did not possess any incentives to regional thinking, he claimed that municipalities in that case did not develop interest in working regionally. The ports themselves had to detect the opportunities, and Port of Grenland had definitely discovered the advantages of a regional cooperation and was willing to develop a collaborative relation.

In terms of competition Flogstad regarded the road from Gothenburg to Oslo; European road No. 6 (E6) as the primary competitor, which represented the major challenge. More than two thousand five hundred truckloads of cargo were passing the Swedish-Norwegian border at Svinesund each day. Therefore, he regarded the major effort had to be a strengthening of the North Jutland corridor, up through Denmark towards Vestfold and Telemark in Norway.

Skarding, the marketing and logistics manager informed that cooperation indeed not was absent. He referred to a project “Choose the Sea” (Velg sjøveien), involving Norwegian Port Association and the associated ports, and Short Sea Promotion Centre Norway in collaboration on marketing matters and as a joint approach towards the Government in strategic matters. Skarding exemplified another collaboration project, Stavanger and Risavika, where public and private players cooperated and built up a general cargo hub in Stavanger. Cooperation between public and private stakeholders, a public private partnership (PPP) was claimed to be an interesting constellation where not only public owned ports cooperated, but private operators were also invited, which was also pointed out by Nilsen Netter and Oterhals (2009). An example he believed should be copied in the Oslofjord region. As Flogstad said, cooperation did not necessarily result in a merger, Skarding told that we should be open to other forms of collaboration, and a concentration of goods would improve utilization of infrastructure. Port infrastructure usually is capita and cost intensive. The mentality of Port of Grenland had focused towards the respective ports’ residual capacities and the utilization of



these, and a belief that these capacities represented future opportunities. In long term, the issue was how to ensure predictability and a long-term perspective of port services within the region. Flogstad told that a relocation of the Brevik container terminal was inevitable; however, he was very open-minded to the positioning of a new terminal. His main concern was predictability and a long-term perspective with respect to the goods market, and that services and capacities were present. He suggested that a co-location of services and utilization of existing capacities and locations with respect to specialization could be one solution. Skarding also drew the attention to area issues and stated that future volumes of goods would require large areas, especially if a hub was in concern. A study of the map, he said, would reveal the lack of opportunities for an installation of such a size. In general they did view inland terminals with scepticism, due to less advantageous experiences. Skarding emphasized that every move of goods within a terminal generated costs. He asserted that the design of terminals had to provide maximum efficiency, and reduce movements to a minimum during transfer operations between the modes. Rail was absolutely regarded as a resource, but, at the present regularity was poor. Skarding referred to one operator who had to abandon rail due to lack of regularity.

Flogstad informed that much activity was generated by development of industrial areas. One of their main tasks was to conduct business related to carriers utilizing sea transport, and emphasized that ports stimulate new businesses. He referred to the major players, Ineos, Hydro and Yara, and said they in addition worked with many other actors as well. Flogstad was convinced that his colleague J.F. Jonas, the port director in Port of Larvik would share his future predictions that they would be cooperating significantly closer in twenty to thirty years to come. He continued to predict the future number of ports in the Oslofjord, which he believed to be three; one port on the east side of the fjord, then Oslo and Drammen merged, and finally a port on the west side of the fjord.

However, one frustration had troubled Flogstad; it concerned the criteria for the definition of a designated port. A request to the Ministry was denied, and he was told that such information was exempt from public disclosure, and that aroused some controversy because he was convinced that this was public matter. He justified his approach by referring to the industry in the region and what value this would have had without a satisfactory port. Port of Grenland did almost provide all functions of ports; wet bulk, dry bulk, general cargo, containers, RoRo, ropax and fishing. Flogstad definitely claimed that Port of Grenland qualified as a designated port, and in cooperation with Larvik it certainly would. He asserted that there should be a national incentive that ports managing to establish cooperation should

get more attention from the Government. In order to build up a regional development, Flogstad claimed that it had to be anchored in a political ownership, but that ports during a process only could provide professional advice. Skarding supported Flogstad and said that political impetus needed to be present and that it as such would be positive for the region. The development of Torp airport was highlighted as a good metaphor for a regional cooperation as the region had agreed upon.

### *Summary*

A cautious optimism was expressed in relation to the change of government and that they had become subject to a new department. Better harmonization of infrastructure projects and more regional thinking was assumed. They referred to examples of improved overland infrastructure assisting break down of barriers between communities. However, municipalities' ownership to ports could on the other hand be seen as a barrier to cooperation, because there were currently no incentives underlying at municipal level. Anyway, optimism for cooperation in a long term perspective was regarded unavoidable. Nevertheless, Norwegian ports did cooperate; projects run by Norwegian Harbour Association; Stavanger and Risavika, where public and private players cooperated in a public private partnership (PPP) for a general cargo hub the Port Alliance, cooperation between the ports of Borg, Moss and Horten which had proven good results. Regarding the competitor side, the major competitor was considered to be the road transport between Gothenburg and Norway. Seizing the opportunities Jutland corridor would offer was regarded of great importance for the region. Therefore, it was important in terms of supply and capacity, to provide the goods market of the region with confidence for the future, which also might include specialization of services. European trends could probably lead to the disappearance of the small feeder vessels and that the larger ones would take over. It was a fact that the Brevik terminal had reached its limits with respect to capacity, and had to be relocated. They were quite open with regard to a new location and would assess proposals. Due to their positions and functions located in one of Norway's densest populations, it appeared strange that the two ports combined had not achieved status of designated port.

### **Port of Larvik**

On the question of cooperation between ports Jonas told that his immediate reaction was administrative cooperation, including financial functions, technical functions and

planning processes. He envisioned rationalization in order to achieve efficiency and reduce administrative costs. His next step was streamlining offers with respect to the thinking of specialization of services and functions; he had in mind bulk, Lo-Lo, Ro-Ro, ferry and so on, and an optimization of terminals and wharfage in relation to their respective functions. The third advantage he identified was the approach toward authorities. Cooperation could probably provide greater impact particularly with respect to strategy and planning of infrastructure. Jonas told that if they were able to streamline infrastructure on sea, infrastructure on land would follow. He illustrated his assertion by exemplifying ferry operations; if all ferries were located within one area, roads had to be developed and improved to link up the terminals to the inland road network. He was aware of the importance of hubs, but reminded us that we were a relatively small number of inhabitants in Norway, living scattered along a long coastline. Norwegian hinterland he regarded insignificant because most of the settlements in Norway are relatively close to sea. This pattern of settlement had inevitably led to many minor ports. He referred to a former plan dealing with few ports, and only one international port and he claimed that this concept could have caused problems of distribution in terms of increased road transport. On the other hand, he also emphasized the necessity of a balance between few and many, and he believed that future required larger concentrations of goods implicitly meaning fewer ports. Concentrations of cargo would better facilitate road and rail development and connections, and this was stated especially with the Oslofjord in mind. Therefore, concentration of goods flows was imperative to the improvement of infrastructure, especially for containers and he added he was confident to know where a container terminal should be located. As a bulk operator Port of Larvik was not a significant actor, however, general cargo represented a substantial part of goods flows. The general cargo traffic, he told, was run and controlled by NorLines. Jonas believed that the container traffic caused the most problems in the Oslofjord area. The number of ports were too many, and he believed that we were going to be left with four ports in the Oslofjord, including Kristiansand; one port on the east side of the Oslofjord; a port in Oslo, he was a little unsure of Drammen, but believed Drammen would survive in cooperation with Oslo; and finally one port on the west side of the fjord. To Jonas, this was a core issue; would the western port be Larvik or Brevik?

Jonas clearly stated that competition between the two ports existed and that cooperation was not a particular issue, simultaneously he expressed an understanding of the authorities' desire to step in and assess conditions for creating comprehensive solution for the improvement of goods transportation. He told that today the two ports were competing on

completely equal terms; they are municipal owned, they operate on public land, and they offer services to the market. Until now the authorities had not been capable of making decisions, according to Jonas. However, he expressed a cautious optimism on the issue that the ports had become subjects under the Ministry of Transport and Communications. The Ministry of Fisheries and Coastal Affairs was according to Jonas, completely impotent, and did achieve nothing. He strongly emphasized that if the authorities wanted to do something, it was imperative that they knew what should be done; it had to be thoroughly justified and reasoned, then they had to accomplish. If the authorities failed, then they had to accept that the ports were run and acted like private commercial businesses and competitors. And he continued: *“if you compete long enough, the best will win”* (Jonas, 2013). Therefore, Jonas did not want to accept any compromise solutions because this could create uncertainties. On the question of neighbouring ports’ mutual investments with each other, Jonas was positive and denominated this corporate thinking. He believed a corporate model consisting of skilled and competent personnel, in administration, and in the board, could be able to solve present problems.

Uncertainties were likely to push away the larger actors who were dependent on long-term predictability, and designed their strategies accordingly. This statement was especially directed towards politicians and planning authorities, and urged for caution during planning processes. Jonas viewed Jernbaneverket as a typical provider of conditions. The reasoning for his view was founded on the fact that the government was responsible for rail and rail terminal constructions. Where ever a railway terminal is located, he told, other actors and terminals will settle. Jonas had not been able to identify any strategy issued by Jernbaneverket regarding goods transport in Vestfold and Telemark, neither did he believe that Jernbaneverket was capable. Road construction also suffered from an in splotches constructing syndrome, according to him, leaving an impression of inferior or lack of strategy. Jonas did not have any relation to anyone with knowledge in this issue, and therefor suggested not to get involved in these matters.

Jonas referred to port capacities and explained that the Port of Larvik was capable of triple their capacities overnight. He believed that the Port of Grenland had reached its limits when it came to the Brevik terminal. This he explained caused different approaches and different modus operandi of the ports. He told that Larvik was prepared to enter future, they just needed more goods. To achieve larger quantities of goods, he suggested that Oslo should be relieved of good in transit. His idea was that the eastern and western side of the Oslofjord should handle the cargo which was not destined for Oslo and thereby avoid too large goods

congestions in Oslo. He did not regard a potential inland terminal at Kopstad as idealistic; however, it was better than status quo he explained. Ideally, according to Jonas, the location of such a terminal is in the southern part of the county, preferably in Larvik. The port had already started on a draft, but, the port was not capable to commence such project. Railway is important and Jonas referred to an approach by CargoNett some years ago where they tried to establish a project including regular rail departures from Larvik and Brevik destined for Drammen, Oslo and Trondheim. The project came abruptly to a halt for reasons that Jonas did not know. However, Jonas was quite satisfied with his largest customer, Color Line. Color Line was able to present a report evidencing a loss of income due to inferior road quality. The report resulted in governmental grants for improvements published in the latest issue of the National Transport Plan, 2014-2023 (Government, 2013, p.188) an optimal solution he told, would have been a completely new linking E18 to the port.

### ***Summary***

On question of cooperation Larvik directly identified several cooperative measures: administrative, financial, technical, strategic and a streamlining of services which could represent mutual benefits. Such cooperation would facilitate rationalization, shared costs and might cause specialization within the ports. Currently the port was competing in the market at a strict commercial basis, and so far cooperation with Grenland had not been an issue. Mutual investments could signify corporate thinking which was positive and could prove a great advantage on condition that competent personnel occupied positions in administration and board. A major concern was concentration of goods flows, and they understood the regional authority's interest of current goods flows in the region to assess future opportunities. However, authorities should exercise due care during planning processes and not expose poorly anchored visions; otherwise industry could suffer losses of business. Authorities had to exhibit vigour and act firm. Though, there was a cautious optimism with regard to a new superior ministry (MTC). Railway connection was regarded important, there had been attempt to establish a connection, but the plans were abandoned.

Future prediction suggested four ports in the Oslofjord area, Kristiansand included; one port on the eastern side of the fjord; Oslo and Drammen together, because Drammen was regarded to survive only in partnership with Oslo; one port on the western side of the fjord.

### **Vestfold County Municipality**

Initially, Caspersen pointed out that the importance of focusing on maritime transport was to strengthen the region of Vestfold and Telemark as a transport corridor along the west side of the Oslofjord. Primarily, the idea of good logistic, good transport systems and good handling of goods should appear attractive to business and industry. Thereby it should be more favourable to draw business establishments to the region, in particular the larger logistics actors, Komplet was one example. Then Caspersen presented the desire to reduce road transport and transfer goods to sea and rail as the second major argument. Caspersen emphasized that operators and actors had underlined the importance of the ports' efficiency and ports' professionalism during execution of port services. However, Caspersen thought it was strange that two ports, very close to each other, were competing fiercely, but did at the same time emphasize that efficiency was the objective. If cooperation could contribute to better efficiency, that was positive, however, it was not a goal by itself, rather an establishment of an optimal hub within the region. He told that he had not so far, registered any dynamics which should automatically call for cooperation in a short time perspective. Today, he said, port operations provide profit to municipality and indirectly to local politics, especially in good times. Incentives of cooperation were not conspicuous enough, which did not encourage a regional goal of cooperation. The incentives toward the municipalities as owners were not obvious, and therefore, it would not make sense to the owners to invest in regional growth as long as each port was properly run and did well.

The regional goal was that the ports should appear attractive to the operators; in particular those working with transit operations. The idea was to strengthen transit operations in this part of Skagerak. Goods should be transported via the Danish Jutland corridor, e.g. from Hamburg or Rotterdam, and being loaded on board vessels in Frederikshavn or in Hirtshals, destined for Vestfold and Telemark. Caspersen could not see any logical reason why the goods should pass through Gothenburg and claimed the Jutland corridor was faster. However, better efficiency during goods handling operations in Norway was required. Railway operations in particular were regarded not sufficient. In Denmark, Caspersen could inform, the railroad network is being improved, including the introduction of electric power. The Norwegian railway perspective will last for approximately ten to fifteen years he said, but then it should be possible transport sufficient volumes of goods, based on investments made in infrastructure. He told that a plan programme had been prepared and was now dispatched to the county municipalities due for hearings, and the consultative statements were expected within November this year. In this programme, he told, existed opportunities of collaborative

actions for the ports. However, Caspersen emphasized that the ports themselves clearly had expressed that they were presently competing, and intended to do so. He urged caution, because they did not want to complicate the process with the programme by exaggerating the focus of cooperation.

With reference to the last strategic document issued by the discontinued Ministry of Fisheries and Coastal Affairs, Caspersen did interpret the grant scheme encouraging port cooperation to be intended for minor municipal port along the western and northern coast of Norway. The reason for his interpretation was the objective of improved efficiency during port operations in minor ports. Larvik and Grenland did not qualify according to him. Neither did Caspersen believe the amount of money involved to be of any significance, he also expressed difficulty understanding how these grants should be concretized. He stressed that during a potential cooperation, no hesitation to which port was doing what should be made. There had to be one owner and one form of operation only. He believed, as long as county border existed, and that the competition remained unchanged, no forms of collaboration could be identified, except from actions that would provide both parties instant benefits. He referred to activities as container storage and other less sensitive tasks. If the respective ports should enter into collaboration, Caspersen believed that a specialization process would prove very demanding. But, he told that if they could utilize the present situation, e.g. Larvik did container handling and Grenland did bulk handling. And, if the chain of thoughts should have been pursued further by e.g. an inter-regional ownership, a thorough clean-up of the product portfolio would have been required, and a redefinition of who was responsible for what had to be executed. Such a task would create many challenges to be solved. However, if a municipal merger should take place, hypothetically, then the cards had to be reshuffled and the whole situation might have changed. We must not forget geographical and administrative borders accordingly, Caspersen said, borders that had erected over time, which could create barriers obstructing cooperation. Consequently, it was included in the planning process an evaluation of potential cooperation, mutually beneficial to the two ports. At the present Caspersen assumed it was sufficient capacity within both ports, and therefore, the need for a new regional port was of no current interest.

Considerable investments were planned for the Vestfold rail tracks during a period from ten to fifteen years. The importance during this process was to clarify the requirements of goods transport on rail in Vestfold. Caspersen did not aim at the locally collected goods destined for Oslo or vice versa, the focus, he told, was on the goods from the European continent in transit. He also mentioned situations when rail transport proved lucrative, and

referred to traditional methods of measuring profitability, including distance which he meant was relative, his belief was rather on volume. The importance was to view this in perspective to the new transport axis sketched, and he informed that the Danish rail project of upgrading to electricity from Fredericia and north would be completed in 2026. Caspersen also informed that this was an expressed objective in the EU strategy to increase utilization of electric railway too transport goods; the TEN T project<sup>5</sup>. The EU strategy towards 2050, he told, was to reduce road transport to the half and thereby double sea and rail transport, resulting in more goods destined for Norway at sea and on rail. He repeated the importance of the planning for goods on rail in Vestfold, and he referred to a potential of transporting goods from e.g. Hamburg to Trondheim utilizing rail overland, and sea transport from Denmark to Vestfold and Telemark. In Denmark Frederikshavn already has completed a master plan, Aalborg is in the middle of construction works, and Hirtshals also has development plans. Caspersen pointed at the eastern side of the Oslofjord and explained that goods from Gothenburg would still be transported on road. The reason, he told, was that Sweden did not prioritize rail development on the distance from Gothenburg towards Oslo. One or two departures from the Vestfold- Telemark region each day with goods would, according to Caspersen, increase goods transport capacity considerably. These predictions underlined the importance of commencing the planning process including the Jutland corridor and the western side of the Oslofjord. Rail capacity through Oslo was insufficient at the present, but a new signal and control system for rail would be installed, gradually increasing capacity towards 2030.

The continuance of the planning process includes Larvik and Grenland, Caspersen told, the ports will both attend project groups. Similarly, Caspersen emphasized that the collaborative aims were to protect the owners' interests, and that the good will of the owners was essential if they were to achieve objective of port cooperation on a long term perspective. It was in the hands of the port directors, he said, to achieve the goal. In that respect Caspersen underlined that political statements contributing to increased competition had to be avoided, he continued and told the industry was governed by different drivers but political. A political task, however, was to facilitate infrastructure at a regional level, and prepare for establishment of business and industry. At the present areas in Vestfold and around Larvik were available for new establishments, and he also expressed curiosity for the new terminal planned at Kopstad and how this would affect the planning process.

Caspersen told he could not present any simple and obvious answers to the question of cooperation, particularly in a short time perspective. In a long time perspective it might look

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<sup>5</sup> - Trans-European Transport Network (<http://tentea.ec.europa.eu/>, 2013).



differently, however, dependencies were upon markets and development of hinterland, he claimed. He told that the crystal ball could be perceived somewhat vague. With respect to cooperation Caspersen felt that they were struggling in the beginning of some long stairs, and therefore, had to keep a relaxed relation to problem. The primary issue were the social and the commercial benefits.

### ***Summary***

The primary objective was to strengthen the Vestfold-Telemark region and make it attractive to business establishments. Attractiveness should be based on efficient logistics, efficient cargo handling and efficient transportation which included the ports of the region. Transit operations were considered a priority and the Jutland corridor represented a profitable opportunity to the Vestfold-Telemark region. Current infrastructure work in Denmark, both improvement of railways and port development, were in progress. A prospective utilization of the Jutland corridor represented a major challenge to the road on the E6, and represented a reduction of road transport which was a major issue.

Competition between two neighbouring ports could appear somewhat strange; however, the ports had so far expressed a desire for continued competition. The county did not regard the question of competition as essential; however, if cooperation could represent increased efficiency, it would be welcomed. Hypothetically, if cooperation should take place, issues of specialization had to be discussed. Cooperation should not be regarded as a short-time objective, rather as a long term goal. Port ownership, which was municipal, would most likely affect the ability of cooperation. If the ports produced sufficient economic results, there would be no reason to change the way of operation. As for the current situation, the port directors themselves had to initiate collaborative measures, in initiative which were outside the regional government's mandate.

The on-going planning process to improve transport and logistics efficiency also required adequate overland infrastructure, in particular railway. The Norwegian railway lacked capacity but the passed plans for the construction of new railway additionally had to consider transport of goods. Both ports were invited to the project.

### **Telemark County Municipality**

Risholt told that the project acted as a facilitator, an operator which should initiate processes which among all should increase the ports' consciousness of cooperation. If this

goal could be achieved it would prove satisfactory to the project. Risholt referred to his background, explaining that he had no experiences with respect to ports and sea transport; however, his interpretation of the reports that were presented showed a satisfactory level of precision. Similarly, he drew attention to port investments and his impression of untapped resources with respect to expensive equipment due to the aim of the ports to appear multifunctional offering broad and competitive services. Consequently, expectations to the upcoming process emerge to see if the extent of cooperation will increase. Risholt referred to the Port of Grenland which already had performed a major restructuring, merging from three to four ports to become one port. He was not familiar with the organisation in Larvik.

A practicable collaboration, Risholt believed, should necessarily bring about an organising and a division of tasks. He did not believe that both ports required all facilities; his opinion was that it would prove costly and not benefit the customers as much as one should believe. In a partnership, for example, the ports could share functions; one port did containers operations, while the other was engaged in bulk operations. But this would only depend on a true cooperation where the market was shared between them. Another approach was a total restructuring, and Risholt drew the attention to a continuous increasing collaboration between municipalities for improved efficiency with respect to services. Nevertheless, it was the physical borders between the municipalities and counties that governed the strategic decisions made, he told. If one was united within a region, he said, a change in mind set would be likely to occur. Experimentally, within a scenario model, Risholt asserted that it was possible to investigate such effects. The idea was to develop several perspectives and to study if the number of perspectives supporting the objectives were satisfactory. He claimed it could appear as a threat to some participants, but since it was an experiment, one was free to choose in the end. He referred to the competitive conditions between Larvik and Grenland, and was convinced that a different ownership with different incentives would have created different circumstances today. It could have been one organisation, and he believed that ownership structure cemented the organisational structure which formed the basis for the dynamics. He then questioned how much dynamics were present in the current model. He feared that this competitive environment would prove exhausting to all parties in a long term perspective. It should be questioned whether other bodies could lift the problem related to cooperation, and in that relation a closer look at the port boards and the composition of representatives could prove adequate. The competence of board members should be an issue and a more active attitude towards these questions might be beneficiary to the dynamics.

Risholt explained that within the planning programme, a scenario workshop was included. A scenario workshop according to Risholt comprised of properties that enabled viewing of trends, tendencies, and development characteristics within the industry and in society in general, implemented into a regional cooperation. All actors should be gathered in a workshop and experience all trends affecting port development, Risholt said. The assembly should through an applied methodology agree upon which trends to attend to and then establish preparedness. Possibly, they would end up with number of trends of major importance to port development. Based on these trends different scenarios should be presented, preferably somewhat exaggerated to identify different models of organisation. The construction of a futuristic image could commence, anchored in prioritized trends and assessed in comparison. Risholt referred to good experiences utilizing such tools and explained that the methodology had proved effective. The idea including all stakeholders was to provide opportunities to influence the process and the result. However, it remained to see how suitable the experiment would prove to this industry. Risholt claimed that this project in particular was initially suitable for such an exercise, and it could prove revealing with respect to future realities and challenges that will occur. Consequently, the result will be dependent on the composition of the participants, and it was of great importance to strive for diversified backgrounds.

The exercises performed in the scenario workshop intended to provide a mutual basis of knowledge, to create a common understanding of reality. Essential to succeed was to bring along the most important actors on this journey, as Risholt expressed it. Actors in possession of decision-making authority were prioritized; port administrations, port boards, owner, and municipal leaders. The development of knowledge should equip these decision-makers with abilities to make better strategic decisions in two years' time than they do today. The idea included a shift from a detailed and local perspective, up to a regional perspective and the consciousness of an inter-regional development perspective. However, if the process should be obstructed due to lack of participation of the actors, halt points were built in, and the first would occur after the scenario workshop and the following analyses. If for some reason the process should be discontinued, this was the time to do it. Risholt told this was the first true milestone which should reveal the opportunities of cooperation. First they had to build knowledge and understanding, but the primary challenge was to encourage all stakeholders to take part in the process.

### ***Summary***

With regard to the planning process for the inter-regional project that was started up this summer, Telemark County Municipality viewed themselves only as facilitators. Within the project there were elements of cooperation which ought to be elaborated. An impression of low utilization ratio, particularly with respect to equipment was expressed. Regional thinking was one of the major objectives. Municipal cooperation across local borders to strengthen and increase service provisions was emphasized as a good example of cooperation and regional thinking. Port ownership was regarded as a formula for the current competitive situation. Competition could appear exhausting and thereby create negative effects. Potentially, if cooperation should take place, a requirement for organizing and division of tasks was regarded necessary to present specialized and efficient services. Change of ownership could prove necessary for improved cooperation.

The current planning process included a “scenario workshop” which objective was to orchestrate different situations with regard to tasks and operations, and test different options. It was regarded vital that the decision makers within the organizations participated in the workshop. It was also emphasized that they dared test out alternative scenarios.

### **Discussion**

As an introduction to the discussion an attempt to illustrate, solely on a theoretical basis how the ports' competitiveness hypothetically could have been challenged and turned out. The objective was to establish a composition of all factors, elements and tasks the two ports must attend to in a competitive environment. To determine whether the two ports can actually benefit from collaboration, an analysis of the evidence extracted during the interviews should be discussed. Similarly, national and regional government strategies and initiatives should also be considered during the discussion.

### **Efficiency Drivers and Liner Operator Choice**

Larvik and Grenland are adjacent ports with largely overlapping foreland and hinterland. Several operators call on the same ports. Therefore these two ports will typically be perceived as substitutes. Substitutes are characterized by fierce competition (Notteboom, 2009). Currently Larvik and Grenland are competitors. The level of substitutability is vital for liner operators' choice of port of call. When establishing new liner services, the operator will identify the substitutes along the planned route and make a similarity index. Thereafter, selection of a port with moderate to high substitutability will be performed, (Notteboom, 2009). based on certain factors; 1) demand profile; 2) supply profile; 3) market profile These

three choices can be attempted seen in relation to the five efficiency drivers identified in the report “*Efficient Terminals*” (Fyrvik et al. 2006). If the right column of conceptual model of liner-service design is considered, the criteria for the selection process may be identified within the model of the five efficiency drivers; 1) external conditions; 2) organization, interaction and exchange of information; 3) competence; 4) equipment; 5) Layout and infrastructure, presented in the figure below:

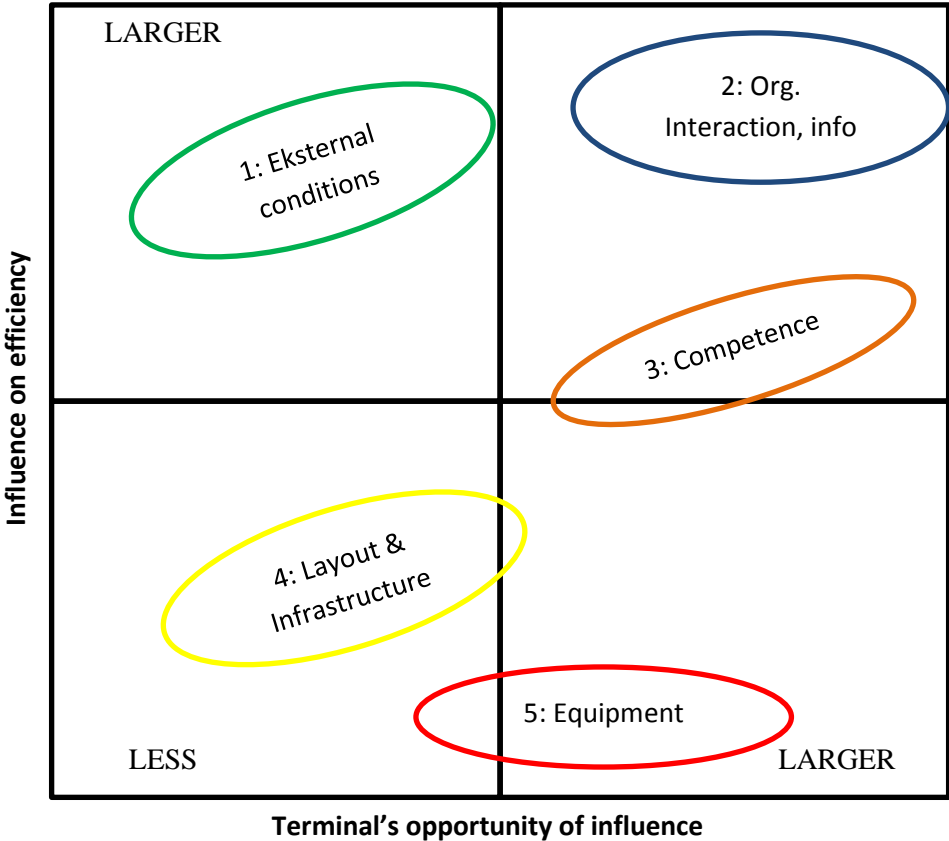


Fig. 3: Compilation based on Fyrvik et al. (2006:6)

With respect to the demand profile criteria as flow directions towards foreland and hinterland, and connectivity to other transport networks could be identified within the external-condition model which refers to fairways, road and rail accessibility. Drivers of high importance for efficiency, but the port has less influence, however, a determined and strategic port administration may be able to influence the political environment. Alderton (2005) regarded changes in inland infrastructure to be one factor of constraint affecting port development (Alderton, 2005). Development of infrastructure is of vital importance to the ports development and existence in the competitive market. For instance, where a railway terminal is located, other actors and terminals are reluctant to establish themselves (Jonas,

2013). It can be argued that the ports can increase their influential power through cooperation as Brooks et al. (2010) suggested. Cooperation between the two ports could be established on an informal basis which might be an opportunity to achieve a position on public policy issues (Brooks et al. 2010).

The supply profile of the port (Notteboom, 2009) was related to factors directly affecting a ship’s call to a port. This supply profile holds many of the characteristics of the external conditions, because it refers to nautical access with respect to reliability and quality, hinterland accessibility, and costs applicable to the ship’s call (Notteboom, 2009). These are factors which the ports are less in control of, which are imposed by national, regional and local authorities (Fyrvik et al. 2006). The NTPs are strategic documents that directly and indirectly will influence development of e.g. nautical infrastructure and inland connexions, as well as defining fields of authority, e.g. the Norwegian Coastal Administration (Government, 2003; 2009; 2013), typical factors that can impede ports’ development (Alderton, 2005). On the other hand, a factor that the ports control themselves is the container terminals, which are important to the operator because terminals layout and infrastructure reflect efficiency. The complexity of container terminals includes a number of sophisticated and costly equipment for cargo handling. The quality and performance of the equipment is critical in view of efficiency and productivity, unless it can represent a constraint to the ports (Alderton, 2005)

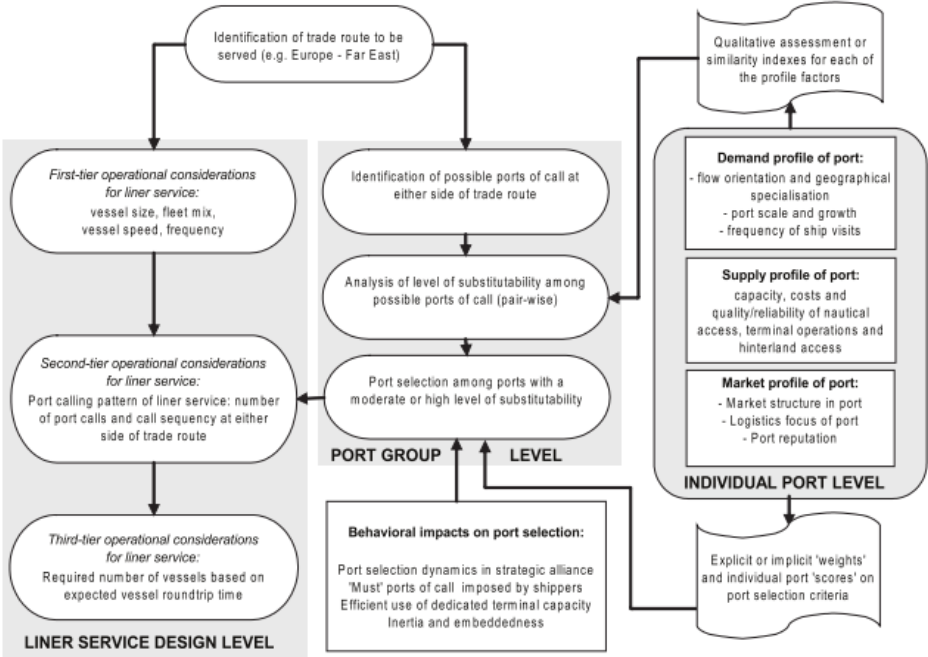


Fig. 4: Liner operator’s selection model. Notteboom, (2009). Complementarity and substitutability among adjacent gateway ports. Environment and Planning A, 41(3), 743–762. Retrieved at:doi:10.1068/a40220

Third, criterion of assessment is the market profile of a port. Cargo- control characteristics, terminal's structure and operation within the port, and logistics focus (Notteboom, 2009), are all factors that can be related to organisation, interaction, information exchange, and competence (Fyrvik et al. 2006). At this stage the operator's priority is in alignment with the ports focus on efficiency and the ports opportunity to influence efficiency. Though, if we asserted that the two ports were not complementary, but substitutes.

The above exercise demonstrated that there is a certain degree of concurrent factors with respect to a liner operator's selection criteria of ports, and of ports' view on, and opportunity to affect port efficiency drivers, internally and externally.

### **Competition and Co-evolution**

In the following discussion a line operator's choice can exemplify how a hypothetical situation can develop if the line operator desires to consider their presence in a particular port. This action may be triggered by the idea that a signal of a possible relocation would help in negotiations to reduce costs of calls, or achieve higher priority in the port, measures to strengthen the operators competitive advantage. Such situations occur all the time in customer-supplier relations. However, this case assumes that the ports are substitutes.

The next step then, is to understand how competition affects ports' development with respect to co-evolution. In light of the two ports' current modus operandi, an impression of co-evolution was founded. In view of the complexity of services offered by both port, among them container handling, a model of co-evolution presented by Jacobs and Notteboom (2010) which was an extension of a model created by Buitelaar (2007).

The model presents two competing ports, e.g. Grenland and Larvik, respectively at the terminals of Brevik and Revet and how they compete for terminal development. The two ports are located within the same region, only a short distance apart. At a certain point of time a challenge occurs to the ports in this region because the liner operator wants to reconsider its preferred port of call. The reason could be, as stated above, that the liner operator wants to strengthen their competitive advantage due to signals in the external market affected by new opportunities and competitor strategy. Additionally societal developments are also considered, and can be exemplified by environmental demands and international and national desire for transfer of goods to sea, and the strengthening of short sea shipping, (Government, 2013; Ministry of Fisheries and Coastal affairs, 2013; Holte et al. 2012), which in turn is stimulating the liner operator to act. The external markets and societal developments form a basis for the

firms' market reflections (Jacobs and Notteboom, 2010). To keep it simple, we assume that the locations are the terminals, and that the firms are the ports including their operators.

A possible change of location by the liner operator created the first "*window of opportunity*" on the left side, which would provide terminal A an opportunity to give a positive response via port "*One's*" market reflections. This first challenge is creating a critical moment; t1. Terminal B is left with two opportunities; either port "*Two*" wants to develop a similar terminal (Similarity index – Notteboom, 2009) based on their market reflections or; terminal B countermoves, trying to attract not to develop or continue plans at terminal A. The occurrence of this opportunity, the first window of opportunity in terminal B, arises at time t2 which is a critical moment. (Jacobs and Notteboom, 2010).

Finally, interaction between the terminals and the ports will provide a series of actions and reactions. Spread out in time the occurrence of a second window of opportunity would emerge and transformation in the region will be put into effect, creating a critical conjunction at time t3. Outcomes of the transformation could be several and be exemplified by: 1) no terminal development, 2) development at terminal A by port "*One*", 3) development at terminal B by port "*Two*" (Jacobs and Notteboom, 2010). However, as long as competition between the two ports prevails, we will not see any development of terminal A by port "*Two*" and vice versa, the cooperation have had to be agreed. The case would have been different if there were independent operators in the ports and terminals, the outcomes could have been multiplied.



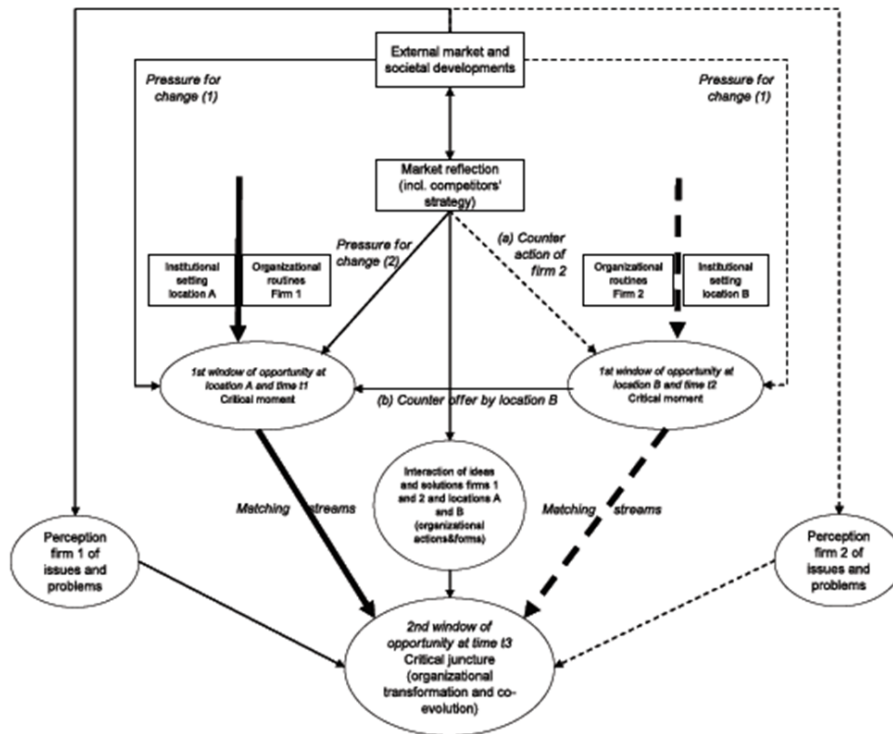


Fig 5: Co-evolution through competition. Jacobs and Notteboom. (2010:19).

The exercises above were an attempt to illustrate, on a theoretical basis how the ports' competitiveness hypothetically could have been challenged and turned out. The objective was to establish a composition of all factors, elements and tasks each of these two ports must attend to in a competitive environment. To determine whether the two ports can actually benefit from collaboration an analysis of the evidence extracted during the interviews should be discussed. Similarly, national and regional government strategies and initiatives should also be considered during the discussion.

### Evidence of the interviews

The evidence that came to light during the interviews was interestingly in a sense, relatively coherent in several areas. The assertion was based on statements from the participants that could be put into association with each other. However expressed differently, an affinity among the statements could prove valuable for an analysis and discussion related to the question of cooperation. The similarities were divided into three levels: port management, regional authority, and common for both levels. An analysis and a discussion would hopefully reveal some indications or answers to cooperation. The findings are weighted and implemented into a table simply to indicate unanimity among the participants in certain issues:

Port authority					
Authorities' determination	0,25	0,25			0,5
Competing on commercial terms	0,25				0,25
Mutual investments	0,25	0,25			0,5
New Ministry, cautious optimism	0,25	0,25			0,5
Three future ports in the Oslofjord area	0,25	0,25			0,5
Mutual response					
Concentration of goods flows	0,25	0,25	0,25	0,25	1
Efficiency within all levels of the transport chain, regionally	0,25	0,25	0,25	0,25	1
Railway	0,25	0,25	0,25	0,25	1
Reduction of road transport	0,25	0,25	0,25	0,25	1
Regional hub	0,25	0,25	0,25	0,25	1
Specialization	0,25	0,25	0,25	0,25	1
Port ownership		0,25	0,25	0,25	0,75
Regional thinking		0,25	0,25		0,5
Utilization of existing capacities	0,25	0,25		0,25	0,75
Regional authority					
Facilitator in regional process				0,25	0,25
No interference with port managements			0,25	0,25	0,5
Ports' participation in the process			0,25	0,25	0,5

Table 6: Similarities in evidence. Berg (2103), author's own compilation based on evidence from interviews

### Port management - Competition between the two ports

With regard to port management issues, five areas will be discussed: 1) the competitive situation, 2) the authorities' impact on port operations, from local to national level, 3) the new government, new ministry, 4) the future freight flows in the Oslofjord area, and 5) mutual financing and investments.

The fictitious, competitive environment presented above demonstrated what could affect a competitive situation (Notteboom, 2009; Jacobs and Notteboom, 2010; Fyrvik et al.2006) actors involved; actions at different levels; during different periods of time. Nevertheless, it is important to pursue the impression of the interviews with the port managements. Currently, in Larvik it was told that they operated as a standard commercial business, competing on strict commercial terms. This denotes that Larvik is following a competitive strategy to achieve a competitive advantage. It is likely that competition very much focuses on similar services offered by competing ports, e.g. by the Port of Grenland, and that price level was known not to differ much (Port of Larvik, 2013; Port of Grenland, 2013), which satisfies the requirements to brand competition. Similarly, the requirements of industry and form competition also prevail, since the Port of Grenland is one of the major competitors, and is also providing similar added value services (Kotler, 2008). However, if a port shall stay competitive, it is imperative that the port stays flexible and is able to react to

market changes (Porter in Segal-Horn, 2004:57, 58). Jonas informed that the port had formed a sort of preparedness to possible changes and opportunities (Jonas, 2013). Since there are numerous similar attributes within the two competing ports, substitutability must be regarded moderate to high, and is regarded a considerable selection criterion during a liner operator's selection process of ports to call (Notteboom, 2009). Substitutability was known to signify fierce competition; it was also asserted that the larger the substitutability, the less of that value that was created, was captured (Notteboom, 2008; Jakobsen and Lien, 2001:55). As long as the two ports continue to compete in the same market, for the same customers, it is reasonable to believe that they will continue to co-evolve (Jacobs and Notteboom, 2010). On the other hand, they could agree upon an exploitation of their respective strengths and become complementary ports and share fixed portions of the market (Notteboom, 2009). Complementarity is signified by products or services offered in context, and there are assertions that complementarity increases values. It has been claimed that complementarities form a strategic fit (Besanko et al. 2010), and that it was essential to gain strategic fit among processes to achieve a long-term competitive advantage (Porter in Besanko et al. 2010).

#### **Port management - The authorities' impact on port operations**

The authorities can be characterized in several ways; Government and Parliament as the country's highest authority, right down to local authorities and regulatory bodies at municipal levels. The authorities must be regarded as external environment, except municipality regarding ownership, creating opportunities and constraints. The authorities issue conducts through plans, regulations and laws, at the same time allocating funds for societal initiatives. The transport plans and other national strategic documents (Government, 2004; Government, 2009; Government, 2013; Ministry of Fisheries and Coastal Affairs, 2013) reveal the plans of the Government with respect to future development of national transport infrastructure. National plans are also affected by international plans, e.g. directives issued within the European Community. Environment is an issue becoming increasingly important. Environmentally friendly transport is a highly prioritized issue, and Norway is working in compliance with current and future requirements for environmentally friendly transport.

The focus on sea transport is a natural elongation and result in transferring goods from the roads: it is an explicitly expressed objective in the Norwegian plans (Government, 2004; Government, 2009; Government, 2013; Ministry of Fisheries and Coastal Affairs, 2013). The

last issue of the plans, NTP 2014-23, is very clear that specific measures shall be put into effect. The ports should develop efficient intermodal solution to enhance the transfer of goods from road to sea, and to rail. However, goods flows in Norway are fragmented and lack volume (Jonas, 2013; Berg and Arland, 2009) and it is not evident that every port can be given the opportunity to become efficient intermodal hubs (reference, year).

Authorities do not only impose a positive impact on development. If authorities are not showing determination and act accordingly, uncertainty may be an effect. Uncertainty is not a desirable situation and result in loss of opportunities, because large operators require predictability. Therefore it is essential that actors, like ports are invited to participate in planning processes. The region's (county municipalities of Vestfold and Telemark) invitation to the conference for an inter-regional plan for intermodal cargo transport is a good example of cooperation (Caspersen, 2013). Though cooperation between the two ports does not currently exist, it was regarded beneficiary as such if the cooperation should create efficiency (Caspersen, 2013). A regional thinking was necessary (Caspersen, 2013; Flogstad, 2013; Jonas, 2013; Risholt, 2013), however, the design of a future transport and logistics scenario was not yet established. Neither would the regional authorities propose any cooperation between the two ports, because that might disturb the on-going process (Caspersen, 2013; Risholt, 2013). The regional authorities should in this case act as the facilitator and provide dynamics into the process. A scenario workshop should take place in the spring 2014. The workshop intended to create different scenarios built on prognoses and other relevant information. The results should be realistic and provide the participants with information for strategic planning. The advantages would imply that every result could be ignored and abandoned without outing anything to effect. The greatest concern was to get hold of the decision makers and make them stay within the workshop (Risholt, 2013)

Municipality may be regarded external and internal similarly. The Norwegian ports are complying with the Landlord principle, meaning that the municipality owns the ports, which is the land, basic infrastructure (wharfage, apron, stacking areas, roads, etc.) including cranes. The rest belongs to the operators leasing space for their activities (Alderton, 2005). It has been questioned whether municipal ownership is an advantage or a constraint. The advantage points more in the direction of local job opportunities, and a close relation to the community. The constraints created by a municipal ownership might be signified by local thinking and lack of a competence within the board because politicians to a great extent are represented in these boards. And, politicians execute their assignments as politicians, polemicizing for their local welfare and benefits (Caspersen, 2013; Flogstad, 2013; Risholt, 2013). An assumption

based on this, might in some cases affect decisions. Irrespectively, evidence of municipal cooperation has been revealed as municipalities have looked at mutual projects to improve services towards citizens within the respective municipalities. The cause was assumed to be the newly constructed road, E18, which has brought the localities closer in time (Flogstad, 2013). The question must then be: can cooperation between municipalities, and thereby the owners promote port cooperation?

### **Port management - New government, flows and investments**

The recent election and change of government, and the fact that the Ministry of Fisheries and Coastal Affairs was discontinued, being followed by the Ministry of Transportation and Communication was welcomed by the port directors (Flogstad, 2013; Jonas, 2013). The ports had finally become subjects to a ministry where they had a natural belonging because ports were indeed a part of the transport infrastructure. The chances of correlation and harmonization had become strengthened (Flogstad, 2013). The new ministry inherited the current transport plan, NTP 2014-23 (Government, 2013), from the retired government, but the Minister of Transport and Communication expressed in confidence that their ambitions were to redeem the previous Government's plan.

Due to the fragmented cargo flows, the need for larger hubs was evident (Jonas; 2013; Flogstad, 2013; Berg and Aarland, 2009). Their predictions appeared as blueprints, as according to their opinions, the Oslofjord area would end up with three major ports; one at the eastern side of the fjord, one at the western side, and Oslo, probably in partnership with Drammen (Jonas; 2013; Flogstad, 2013). If the Grenland and Larvik continue to compete, the best will survive in the end (Jonas, 2013). The result will be one remaining port, but the question is if this scenario will benefit the objectives of the region. Complementarity would be more likely to create a sustainable future, because both ports are resourceful.

None of the port directors showed signs of negative attitudes towards the question of mutual investment in the two ports. The question is where and how this might be implemented (Jonas; 2013; Flogstad, 2013). However, Jonas reflected the question as corporate thinking, meaning that both port administrations needed a superior body at corporate level composed by skilled personnel (Jonas, 2013).

### **Mutual response**

All participants expressed a general agreement to the major issues of transport, logistic and cargo handling for the region. The ever emerging demand for efficiency and concentration of cargo flows regionally was accepted. To meet the future requirements, especially with the opportunity of the Jutland corridor, the demand for one central hub was evident. However, both ports wanted to be a part of this. As indicated earlier the only way both ports can survive is to establish some activities of cooperation. Cooperation does not necessarily need to appear constant. Cooperation could take many different forms: formal, informal, one project or multiple projects (Brooks et al. 2010). The scenario workshop which will take place in the spring 2014 in relation to the regional project will provide opportunities to investigate different cooperative activities without risking any consequences (Risholt, 2013). Within the next ten to fifteen years infrastructure in Vestfold and Telemark will have been considerably improved, providing opportunities for a coexistence of both the ports of Grenland and Larvik. The schedule for the Norwegian infrastructure development is well aligned with the projects in Denmark. Since Sweden do not prioritize the railway from Gothenburg to Oslo, the cargo still has to be transported on the road (Caspersen, 2013), unless new liner services are established. A major objective is the railway. So far it has not been any success due to infrastructure and capacity problems (Skarding, 2013). Railway development is not in the hands of the ports; railway development is a one hundred per cent governmental development issue in Norway (Jonas, 2013; Government, 2013). It is vital that the visualization of the goods' requirement with respect to the current railway construction is realized by the authorities (Caspersen, 2013). The ports can play an essential role by presenting their opportunities. It is likely that the ports would impose a more forceful impact in collaboration than standing alone. In a typology presented by Brooks et al. (2010) based on empirical data derived from studies of port cooperation, many prosperous opportunities can be found, at least for exploration:

<b>ACTIVITY</b>	<b>Formal</b>	<b>Informal</b>
<b>Marketing and Business Development</b>	<ul style="list-style-type: none"> <li>• Joint advertising and promotional activities</li> <li>• Establishing a joint marketing agency</li> </ul>	<ul style="list-style-type: none"> <li>• Seeking joint clients</li> <li>• Exchange of experts</li> <li>• Promote the use of each other's facilities</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>• Common training agreements</li> <li>• Joint application of new communications technologies*</li> <li>• Port development planning*</li> <li>• Partnerships with other actors*</li> <li>• Joint development of similar operating practices *</li> </ul>	<ul style="list-style-type: none"> <li>• Information exchange on terminal management</li> <li>• Sharing of information on port development</li> <li>• Exchange of experts</li> <li>• Joint studies</li> </ul>
<b>Administrative</b>	<ul style="list-style-type: none"> <li>• Port representatives participating in other ports</li> <li>• Joint investments in hinterland infrastructures</li> <li>• Joint management of port expansion</li> <li>• Formation of (inter)national cooperative organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Technical assistance in port management</li> <li>• Common positions at international fora</li> </ul>
<b>Regulatory</b>	<ul style="list-style-type: none"> <li>• Joint environmental protection initiatives</li> <li>• Coordinated investment in safety and security</li> </ul>	<ul style="list-style-type: none"> <li>• Information sharing on environmental programs</li> </ul>

Note: \* These cases might also develop in a less formal format (i.e. a formal agreement or contract might not be present)

Table 7: Brooks et al. (2010:38), "Table 3. A typology of port cooperation activities" Canadian Journal of Transportation, issue 1, vol. 4, 2010.

Both ports are in possession of excess capacities (Flogstad, 2013; Jonas, 2013) which in cooperation might have served as complementarities. Port infrastructure and equipment are costly and should have had a higher rate of utilization (Risholt, 2013). A rearrangement of practices and operation, working towards specialization is a possible solution. All participants did mention specialization as a future arrangement (Flogstad, 2013; Skarding, 2013; Jonas, 2013, Caspersen, 2013; Risholt, 2013, Brooks et al.2010).

### **Regional authority**

The regional authority represented by the county municipality of Vestfold and Telemark initiated a process suggesting an inter-regional plan for intermodal cargo transport. The mandate to prepare an inter-regional plan was approved by both county councils and was intended as a mutual strategic tool for the region. The work involves many stakeholders to secure professional and political foundation (Caspersen, 2013). The regional task during the process is to facilitate and to provide the stakeholders with an optimal opportunity to design a

sustainable plan to ensure economic development in the region. Interference related to guiding rules or similar will not be provided by the authorities, it is regarded necessary the process is left undisturbed.

### SWOT analysis

During the study many aspects of cooperation have been evaluated and investigated. Cooperation between the Port of Grenland and the Port Larvik is as we know non-existing, and an effort to seek out possible opportunities might prove valuable in a long-term perspective. A SWOT analysis can be a method to identify pros and cons:

Strengths	Weaknesses
Terminals and areas	Ownership
Equipment	Barriers, traditional
Vicinity	Incentive shortage with respect to politics
Overland infrastructure	Overland infrastructure
Competence	
Economy	
Opportunities	Threats
Attractiveness (to major operators)	Ownership (municipal)
Demand for increased sea transport	Authorities
Overland infrastructure development	Political willpower
Jutland corridor	Unprofessional boards (too many politicians)
Specialization	Railway
Co-ownership	Other port alliances
Inter-regional planning process	

Table 8: SWOT analysis. Berg (2013), authors own compilation based on evidence acquired

### Strengths

If we are to describe the mutual strengths of the two ports, terminals and areas should prove more than sufficient and plentiful (see page 40, 41) to serve as a future regional hub. In collaboration the different terminals could serve as complementarities (Besanko et al. 2010; Notteboom, 2009; Jakobsen and Lien, 2001) and create a strategic fit as a regional hub. Currently there is no shortage of equipment, Larvik is in the middle of a process of acquiring another ship to shore gantry crane which will provide a substantial increase during container loading and discharging operations. Distances between the two ports and their different terminals are approximately forty kilometres in average. Time wise, distances in the Vestfold –Telemark region are being reduced by the construction of a new motorway (E18) and a new



railway which is estimated to be operative in ten to fifteen years (Caspersen, 2013). Until now, both ports are presenting adequate economical results (Caspersen, 2013).

### **Weaknesses**

The ownership models must in this case be regarded as weaknesses because the ports are owned by the municipalities. What causes the disadvantage is the fact that there are no incentives for the municipalities, so far, to seek cooperation with another port (Flogstad, 2013, Caspersen, 2013; Risholt, 2013). Barriers, often unnoticeable to external can obstruct a potential collaboration due to traditional thinking, may be for the protection of local interests. However, there are examples that new infrastructure can reduce barriers (Flogstad, 2013). Current overland infrastructure will most likely appear as a weakness because there is a large lack of railway capacity and an inferior track into Revet terminal in Larvik. (Jonas, 2013; Skarding, 2013) Additionally, an accommodation road from the E18 to Revet terminal is preferred (Jonas, 2013).

### **Opportunities**

There should be no doubt viewing statistics, that both Grenland and Larvik have acquired a fair share of the volume of cargo (Caspersen, 2013; SSB, 2012) which should prove their attractiveness. On a long-term perspective the ever increasing focus on sea transport and environmentally friendly transport will probably strengthen sea transport. European strategies also focus on sea transport (Caruso, 2009) and increased transport on electrical powered trains (Caspersen, 2013). The improvement of the Jutland corridor will absolutely offer great opportunities when the infrastructure in the Vestfold-Telemark region is capable of receiving the goods volumes anticipated (Caspersen, 2013). Cooperation could provide a desired complementarity and specialization. A cultivation and streamlining of the services (Jonas, 2013) would prove valuable. It has been asserted that companies should outsource aggressively to achieve efficiency (Porter in Segal-Horn, 2004). Co-ownership in the respective ports will probably strengthen economy and contribute to specialization and improved services and efficiency. The inter-regional plan for intermodal cargo transport initiated by the municipal county of Vestfold and Telemark is an excellent opportunity for both ports to consider areas and forms of cooperation. The scenario workshop will provide a valuable tool for an investigation and evaluation of different opportunities without any binding demands (Caspersen, 2013; Risholt, 2013).

## **Threats**

The ownership models can very much appear as an obstacle to cooperation among the two ports (Caspersen, 2013; Flogstad, 2013; Risholt, 2013) unless there is a political will and drive (Skarding, 2013). Authorities might well become a threat expressing indecisiveness, not fulfilling promised grants and thus creating uncertainty which will impose a disfavour on the industries concerned (Jonas, 2013). The question of ports' boards' competence can also be viewed as a threat because politicians not necessarily decide from a port's point of view. There is also some scepticism related to the somewhat blurry plans for the railway in the area (Jonas, 2013) which makes planning doubtful. If Larvik and Grenland continue to compete, other port alliances may occur and compete for the goods of the region.

## **Conclusion**

The research question of this thesis is "*How can cooperation between neighbouring ports within the Oslofjord area become reality*"?

Two neighbouring ports; the Port of Grenland and the Port of Larvik were studied in an effort to investigate opportunities of future collaboration between them. Currently, there is no cooperation, only competition.

Evidence from the data that was sampled pointed at several approaches of cooperation, and the ports have an opportunity to choose from a wide selection. In a long-term perspective neither of the ports will benefit from a competitive situation like they experience to day. Competition might prove tiring to both.

A suggestion for a further study is to continue this investigation presenting a series of factual activities and measures to the ports, and then monitor the process over time in conjunction with the inter-regional process.

The first opportunity to start a cooperative process is to actively and open minded attend to the scenario workshop of the inter-regional planning programme. Results achieved in the workshop are non-binding and informal.

The second opportunity is to abandon the issue of substitutability and work for complementarity. The two ports possess in total sufficient resources for professional and specialized inter-regional hub.

The third opportunity to be seized is to approach the political environment and urge forward an idea of mutual investments in the two ports. The advantage is the creation of a regional, professional corporate model with long-term qualities to satisfy future requirements.

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## APPENDIX 1

### Questions to be asked in relation to the study of cooperation and coordination of Norwegian ports in the Oslofjord area:

1. How is the utilisation of the Norwegian ports?
2. What type of ports do we find in Norway?
3. What is the importance of the roads?
4. What are the consequences of road quality, seen in a sea transport versus road transport perspective?
5. Questions to be asked:
  - a. How many and which categories ports does Norway need (try to compare with B & al.'s description of the Canadian phenomenon)?
  - b. How can the ports best serve the Norwegian society?
  - c. Which requirements must be fulfilled to achieve this goal?
  - d. What is the port authorities' role?
  - e. How will port authority possibly react if instructed to either;
    - i. expand,
    - ii. stagnate, or
    - iii. close down?
  - f. How can one port become a stakeholder in another port?

(Look at the example of the ports of Borg and Moss and their cooperation)

6. Is this formal or is it informal?
7. Where can we find other examples of cooperation within the Norwegian port system?
8. What is the aim of this study?
9. Can Norwegian ports be better logistics providers through cooperation and coordination?
10. What methodology?
11. Norwegian authorities and planning of infrastructure?
12. It is well known that each actor (port) wants to develop and expand his own business, often without regard to neighbouring competitors instead of cooperating.
13. Which measures must be taken to prevent this individualistic thinking?
14. Should local communities/municipalities improve their cooperation in general, also across county borders and share each other's strengths for mutual success?

15. The ideal solution is where sea, road and rail are united within one optimal area and where efficiency is at focus.
16. What is a “gateway/corridor paradigm” and is this essential in this discussion?  
(Notteboom and Rodrigue (2005) “Port regionalization: Towards a New Phase in Port Development”, Maritime Policy and Management, vol. 32, no. 3, pp. 297-313.)
17. Port regionalisation and the development of the land/sea interface.
18. Which activities do you regard as relevant collaboration arenas?
19. What are the crucial criteria for successful cooperation and coordination?
20. What activities do you think could be a problem in terms of cooperation?
21. Do you consider it likely that there may be conflicts between the decision technically practical and politically emotional?
22. How could collaboration between ports strengthen the power of influence with respect to the authorities?
23. With reference to the current plans for the conveyance of goods, what would you change with respect to the planning of infrastructure?
24. Hypothetically, how would you describe the optimal transport solution for Oslo fjord area?
25. What benefits would you point out keeping the port operations and administration locally?
26. What disadvantages would you point out keeping the port operations and administration locally?
27. What benefits would you describe of a regional cooperation?
28. What disadvantages do you think of a regional cooperation?
29. What is your primary geographical area for business?
30. Are there any geographical areas in which you want to expand, in that case, where?
31. What about your business areas?
32. Which barriers seem to get in the way of collaboration between two or more ports?
33. What level in the decision-making process may be considered as the major bottleneck?
34. How can these obstacles be overcome?
35. What contribution can your organization be included in such a process?
36. Which view is the mutual ownership between such two neighbouring ports?
37. What key interfaces in decision making at the strategic level there?



Norwegian questions:

SAMARBEID HAVNER IMELLOM – SPØRSMÅLSLISTE

1. Hvordan ser du på samarbeid mellom nabohavner?
2. Hvordan ser du på at din havn eventuelt har eierskap i en annen havn og viser versa (gjensidig eierskap)?
3. Hvilke ulemper og hvilke fordeler tenker du umiddelbart på ved et samarbeid?
4. Hvilke barrierer mener du står i veien for et samarbeid mellom to eller flere havner?
5. Hvilket nivå kan anses som den største flaskehalsen?
6. Hvordan tror du disse barrierene kan overvinnes?
7. Dersom et samarbeid skulle innledes, hvor ville det være lønnsomt å begynne?
8. Hvilke avgjørende grensesnitt i beslutningsprosesser finnes på strategisk nivå?
9. Hvilket bidrag kan din organisasjon komme med i en slik prosess?

Author's notes prior to the interviews:

The following questions will form the basis for a series of Qualitative Research Interviews. The questions are meant as guidelines within a semi-structured interview in a conversation-like manner according to Kvale, (1996). The number of questions will be reduced for the interviews, but shall act as a guide to ensure the completeness of the data required for the study.

Start with grouping the questions, then start with the questions beginning with why and what, finally do the how-questions. May be, the interviews can be some sort of exploratory and hypothesis testing? Possible hypothesis:

*“Cooperation and coordination will strengthen port attractiveness (in the supply chain)”.*

(This means that the ports must consolidate, utilize and develop their respective strengths and bring forth complementarity into their modus operandi in order to offer more and improved services. Try to compare this hypothesis with the assertions found in the Brooks et al. (2010) article) Also look at Notteboom, he has produced much research on ports viewing cooperation, competitiveness, location, etc.

A reflection:

Attractiveness in this relation is synonymous with increased throughput of the port (port cluster). Growth is synonymous with requirements of increased capacities, not only within port area(s). Port activities are primarily characterized by moving goods and passengers. Intermediate stops are often required for shorter periods as the goods or the passengers await further transportation. Access to relevant modes of transport is often dependent of sufficient infrastructure, at sea and on land. Overland transportation, either by road or rail, or both, is crucial for the port. Infrastructure on land will very much determine the accessibility of the port is from the land side. Attractiveness and growth cannot be unnoticed when the Government make plans for communication and transport, nationally, regionally and locally. Therefore, the ports' roles as premise providers will be strengthened in a longer perspective, and may also provide governmental resources.