Vision or illusion

The Northern Sea Route versus Suez Canal Route

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EXAMENSARBETE	
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Sammandrag:

Detta examensarbete undersöker Nordostpassagests framtid och huruvida den arktiska vägen kunde gynna de nordiska länderna. Kunde Norge eller Finland bli en ny hub för frakt från Asien till Europa?
Forskningsfrågor som besvaras i detta examensarbete: Är Nordostpassaget en möjlighet för containertrafik? Kunde Nordostpassaget ersätta Suezkanalrutten? Kan de nordiska länderna ha en mer betydande roll i internationell fraktande tack vare Nordostpassaget?
Data för studien hämtades både från primära och sekundära källor. Primär data samlades in via kvalitativa intervjuer.
Resultaten tyder på att Nordostpassaget marknadsförs som ett kortare och snabbare alternativ, men i verkligheten är det inte så. När det talas om rutten glöms det att nämna de praktiska faktorerna som för tillfället gör det ineffektivt. Möjligtvis när isen har tinat och isförstärkta fartyg inte behövs längre kan Nordostpassaget användas oftare. Nordostpassaget kommer dock inte att ersätta Suezkanalrutten. Att de nordiska länderna kunde bli en hub för last från Asien till Europa är enligt resultaten inte trovärdigt. Det finns vaga teorier om att de nordiska länderna kunde gynnas av Nordostpassaget, men i så fall bör rutten vara isfri.

Nyckelord:	Nordostpassagen, Suezkanal, Hub, Internationell handel
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Abstract:

This thesis studies the future of the Northern Sea Route and whether the Arctic route might benefit the Nordic countries so that Norway or Finland could become a new hub for cargo traveling from Asia to Europe. Research questions answered in this thesis: Is the Northern Sea Route a possibility for containership traffic? Can the Northern Sea Route replace the Suez Canal Route? Could the Nordic countries have a more significant role in international freight forwarding due to the Northern Sea Route?
The data for the study was obtained from both primary and secondary sources. Primary data was collected through qualitative semi- structured interviews.
The results suggest that the Northern Sea Route is being advertised as a shorter and faster route even though in reality it might not be shorter nor faster than the Suez Canal Route. When people talk about the Northern Sea Route they forget to mention the practicalities that currently make the route inefficient. Perhaps once the ice has thawed and ice-strengthened vessels are no longer required to navigate the route, the Northern Sea Route could be used more. The Northern Sea Route however will not replace the Suez Cannal Route. The Nordic countries benefiting from the Northern Sea Route and becoming hubs does not seem likely. There are only vague theories about the Nordic countries benefiting from the use of Northern Sea Route and the theories would work only when the route is ice free.

Keywords:	Northern Sea Route, Suez Route, Suez Canal Route, Suez Canal, International cargo shipping, International trade, Northern Sea Route investments, Europe, Hub, Nordic countries,
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1 INTRODUCTION

1.1 Topic background

An intense topic of debate, globally, during the past few years has been climate change and its increasing and widespread effects on our planet. Governments and individuals are trying to slow down the process of the increasing temperatures, but for now the temperatures keep rising. Since the climate is heating, icebergs and glaciers are melting in the Arctic. Melting ice equals to open water. The open sea has now a bigger surface area than before and therefore new sea passages has opened up in the Arctic.

Valtteri Rintala wrote more in depth about climate change and the Northern Sea Route. His degree thesis is called "Arctic shipping- Climate change effects to the Northern sea route shipping". For further research, Rintala suggested looking into what kind of potential the Northern Sea Route can provide and how shipping companies could utilize the route. In this thesis the author has used Rintala's suggestions as a base and from there further developed the topic. (Rintala, 2017)

There is a lot of discussion around whether the route has a potential use or not. Some say the Northern Sea Route do not stand a chance and some have already invested millions into the future of it. The question is, is the Northern Sea Route a potential vision or just an illusion.

Today cargo between Asia and Europe ships through the Suez Canal, in Egypt. When goods arrive to Europe, countries such as the Netherlands and Germany act as the receiving logistic hub countries. (Kiprop, 2018) Could it however be turned around? If the Northern Sea Route were to be used more frequently, maybe the Nordic countries could benefit from it and become the new receiving hubs for European cargo?

1.2 Research aim

The aim of this thesis is to study the future of the Northern Sea Route and whether the Arctic route might benefit the Nordic countries so that Norway or Finland could become a new hub for cargo traveling from Asia to Europe.

1.3 Research questions

This thesis has two research questions, which one has a sub question. The research questions studied in this thesis are:

1. Is the Northern Sea Route a possibility for containership traffic?
    a. Can the Northern Sea Route replace the Suez Canal Route?
2. Could the Nordic countries have a more significant role in international freight forwarding due to the Northern Sea Route?

1.4 Limitations

The Northern Sea Route is not the only Arctic route. Northwest Passages, Transpolar Sea Route and Arctic Bridge Rout are also considered as arctic routes. The other routes are however out of bounds since it would otherwise be too big of a scope. There is an existing work on climate change and its effect on the Northern Sea Route, therefore it is not included in this work. A few key political discussions as well as investments plans related to the Northern Sea Route are introduced but the aim is not to focus on them and therefore, they are not described in more detail.

1.5 Research method

As research methods the author used secondary and primary data. Secondary data are articles, statistics and publications. Primary data was collected via qualitative interviews. The interviewees consisted of professionals within the area of research or people who work closely with it.

1.6 Glossary

Table 1. Vocabulary definitions

Hub: The central part of something where most activity is. (Cambridge Dictionary, 2020) A transportation hub is a place where cargo or passengers change vehicles or transport modes (Definitions, 2020).
Polar Ship Certificate/ Polar code: A certificate launched by the International Maritime Organization. The certificate is for vessels that are designed for polar waters. It covers the "design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles". (IMO, 2020)
Transit: A transit on the Northern Sea Route is when a vessel navigates/ sails between Atlantic Ocean and the Pacific. (Pame, 2020)
Voyage: A voyage is a long journey travelled by water (Cambridge Dictionary, 2020a). Vessels that voyage on the Northern Sea Route travel from one Northern Sea Route port to another. In other words, navigate domestically in Russia. (CHNL Information Office, 2018 c)
ARA: An abbreviation for the area of Amsterdam, Rotterdam and Antwerp. (Halling, 2016)

2 THEORETICAL FRAMEWORK

This chapter covers the theory of the thesis. The chapter begins with a general introduction of the Northern Sea Route and continues to explain different parts of it in more detail. The chapter then goes on to cover different opinions of the Northern Sea Route and to introduce the Suez Canal Route. The chapter finishes off by presenting investments regarding the route.

2.1 The Northern Sea Route

The Northern Sea Route is an arctic waterway between the Atlantic Ocean and Pacific Ocean (Keltto, 2017). It connects Europe, more specifically Northern Europe, to Northeast Asia (Gordon, 2019). The sea route starts off the north coast of Norway, runs all

the way along the coast of Siberia and eventually curves southwards just before Alaska (Keltto, 2017). The Northern Sea Route crosses five Arctic seas: the Barents Sea, the Kara Sea, the Laptev Sea, the East Siberian Sea and the Chukchi Sea (Arctic Bulk, 2020). From Rotterdam, in the Netherlands to Yokohama, in Japan the Northern Sea Route is 40 % shorter than the traditional Mediterranean route via the Suez Canal (Keltto, 2017). In English the route is called the Northern Sea Route. In Russian is it "Severnyi Morskoi Put" (Kiiski, 2017). See Figure 1 on page 11 for a map of the Northern Sea Route and the Arctic seas.

For centuries, the Northern Sea Route was impassible. Now due to climate change and the rising temperatures the thick ice has thawed enough to make sailing possible during summer. Every year more and more ice is melting and therefore Russia has invested billions into the Northern Sea Routes future. Russia hope to make the route accessible during all seasons. (Proby, 2019)

According to Russia's President Vladimir Putin, the country's goal is to increase the traffic along the route to 80 million tons a year by 2024. The amount would be four times more than what it was in 2018. To reach the goal Russia has reconstructed and built facilities and infrastructure along the Northern Sea Route. The goal is to make the route accessible year- round. (Proby, 2019)

Figure 1. The map shows The Northern Sea Route and the five Arctic seas it crosses. (Arctic Centre, University of Lapland, 2020)

"Russia's control over the route means that companies who use it must abide by the rules the country sets as well as pay any transit fees it decides to charge" (Proby, 2019).

As the Northern Sea Route is primarily in Russia, the transiting vessel need to abide by the Russian legislation. Before sailing on the Northern Sea Route, a permission, or a so-called navigation permit, must be granted. The application should be done at least 15 days before entering. To apply for the permission the ship master, the ship owner, or a ship owner's representative can send a digital application through the Northern Sea Route Administration website or send a pdf version via email. In the application general

information such as the vessel name and type are required. Some of the documents needed are listed below:

- A certificate of the vessel's classification
- Copies of insurance documents, in case pollution damage or other damage is caused by the ship
- Copy of approved Polar Ship Certificate

(The Northern Sea Administration, 2018)

The Northern Sea Administration issues the permit after processing the applications. In the end of July 2015, The Northern Sea Administration had issued 547 navigation permits, which of 84 were vessels under foreign flags. (Kotlyar, 2015)

The passing vessel is obliged to give a notice, 72-hours before their approach to the Northern Sea Route Administration. They are also obligated to report daily on the vessel's progress and condition and weather conditions. (Kotlyar, 2015)

2.1.1 Statistics

As mentioned, the Northern Sea Route is 40 % shorter than the Suez Canal route, so almost half of it (Arctic Bulk, 2020). From the west coast of Russia, St. Petersburg, to the east coast of Russia, Vladivostok, the route via the Northern Sea Route is 14 280 km. Via Suez Canal to the same destination the route is 23 200 km. (Kotlyar, 2015)

Table 2 on page 13, illustrates distances from port Kirkenes, in Norway and port Murmansk, in Russia to Shanghai, Busan and Yokohama. Kirkenes and Murmansk are 140 nautical miles away from each other and by road around 220 km (Ports.com, 2018). According to Arctic Bulk (2020) the sailing days do not change depending on the port. However, they can change due to weather conditions. To Shanghai 18 days are saved when using the Northern Sea Route and to Yokohoma 22 days are saved. On average 20 days are saved with the Northern Sea Route.

Table 2. Distance and time depending on Suez Canal or Northern Sea Route. Departure ports are Kirkenes and Murmansk. (Arctic Bulk, 2020)

	Via Suez Canal			Through Northern Sea Route			Days saved
	Distance Nm.	Speed Knts	Days	Distance Nm.	Speed Knts*	Days	
Shanghai, China	12050	14	37	6500	14	19	18
Busan, Korea	12400	14	38	6050	14	18	20
Yokohama, Japan	12730	14	39	5750	14	17	22

To give more perspective of the distances on the Northern Sea Route here is an example. The distance between Cape Zhelaniya and Cape Dezhnev is 4000 km (Pame, 2020). Figure 2 displays a visual map of the distance between Cape Zhelaniya and Cape Dezhnev.

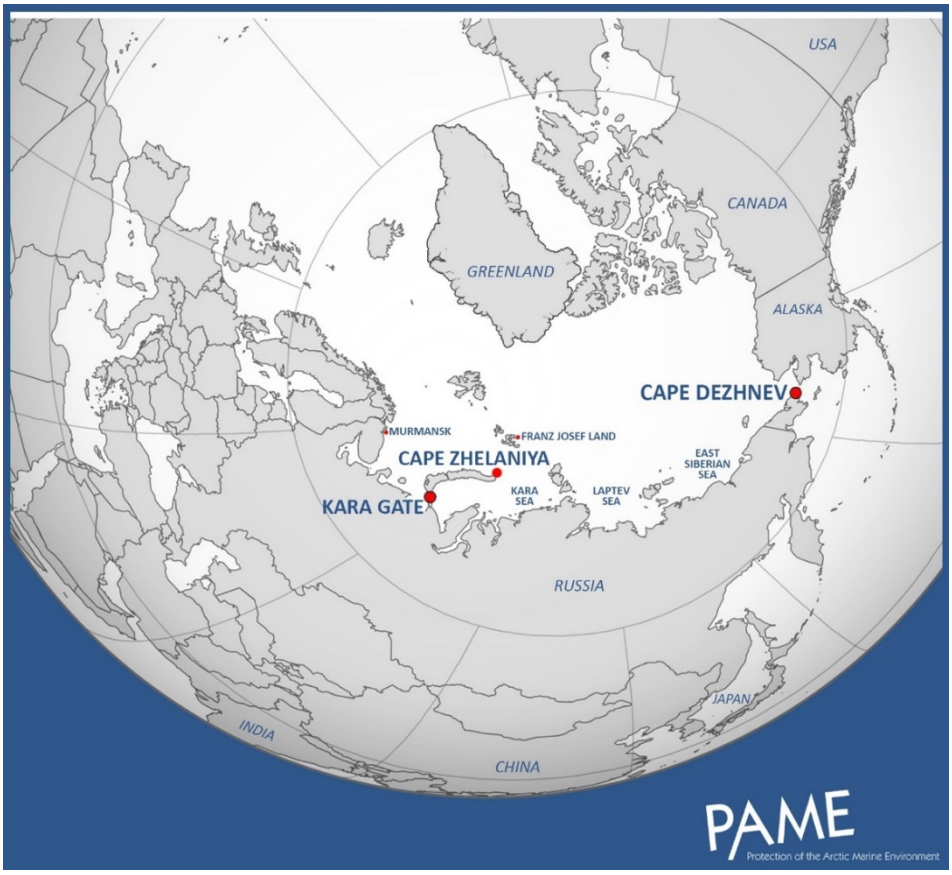

Figure 2. Cape Zhelaniya and Cape Dezhnev shown on a map. (Pame, 2020)

Maritime activity on the Northern Sea Route can be divided into two, transit and voyage. Transit refers to navigation through the entire length of the Northern Sea Route, between Atlantic Ocean and Pacific Ocean. A transit is done without port calls. A voyage refers to activity within the Northern Sea Route borders. There are only a few vessels that transit through the full length. Majority of the vessels navigate nationally in Russia. (CHNL Information Office, 2018 c)

In October 2018, 261 voyages were made. In October 2019, 348 voyages were made and 5 transits. There is a lot of traffic on the Northern Sea Route but as said, only a few transits through the whole. (CHNL Information Office, 2018 c). See Figure 3 below.

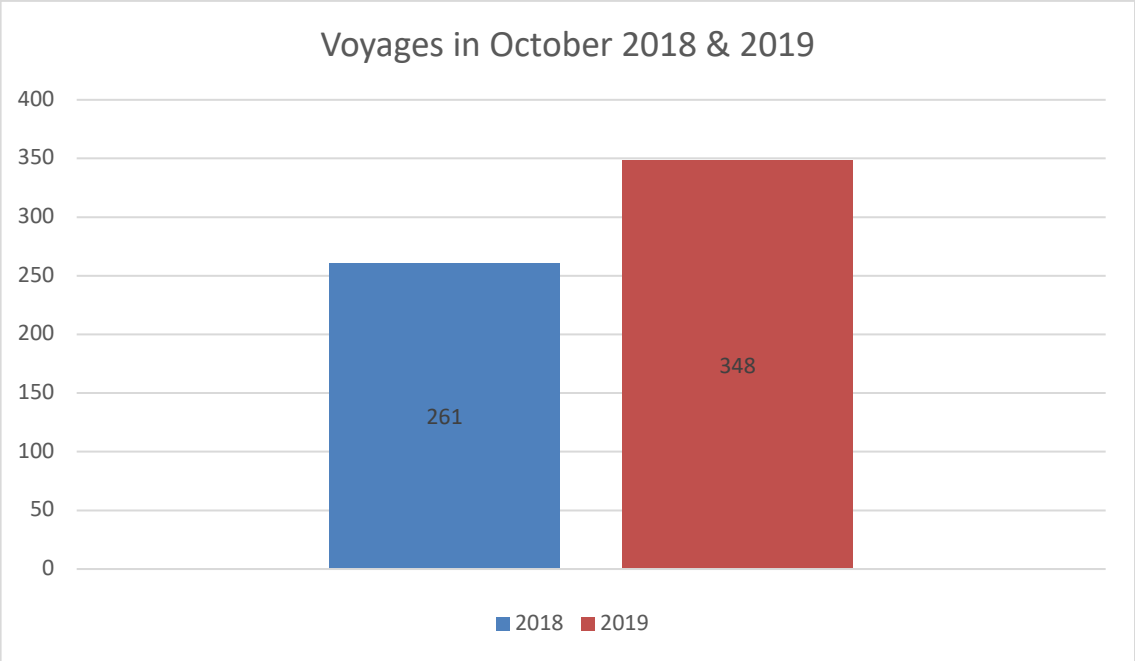

Figure 3. Northern Sea Route voyage one-year difference (CHNL Information Office, 2018 c)

In 2018, in total 27 transit through the Northern Sea Route were made (CHNL Information Office, 2018 a). One of the vessels was under the Finnish flag. The vessel, Viikki, sailed from Sakaide, in Japan to Hammerfest, in Norway in 24 days. (CHNL Information Office, 2018 b) See Figure 4 on page 15.

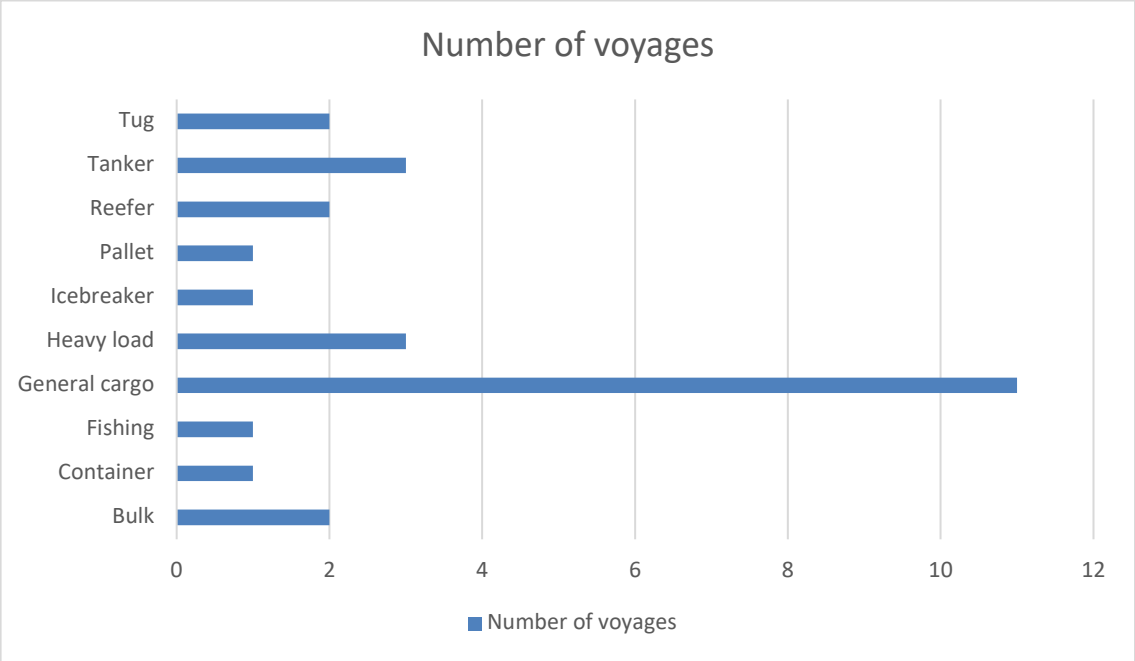

Figure 4. 27 transits were made during 2018. The table brakes down the different types of vessels that transited. (CHNL Information Office, 2018 a)

In December 2019, 148 voyages were made. Which is significantly lower compared to the previous month, mentioned above. The start of the winter period begins during December, and therefore not too many voyages on the Northern Sea Route takes place. (CHNL Information Office, 2018 d)

2.1.2 Routes

The most frequently used routes on the Northern Sea Route follows the north coast of Russia. This route has been researched the most. The area has a large scale of maps available and navigational aid at hand if needed. (Bambulyak, 2019)

There are however limitations on what kind of vessels can use this route. Around Sannikova Strait and Madvezhyi island the waters are shallow; this means vessels with more than 12 meters draft cannot sail through. (Bambulyak, 2019)

If a bigger vessel wishes to navigate through the Northern Sea Route, routes that run north of the Siberian Islands are recommended. The Northern Sea Route has several other

routes as well, but not all the higher latitude routes have been surveyed yet. (Bambulyak, 2019)

2.1.3 Political

Russia, China, USA and Norway are all interested in the Northern Sea Route. All of the countries want a piece of the Arctic and have therefore invested into the Northern Sea Route. (Koroma, 2018) Naturally, when several counties have their eyes on the same thing political debate and international relations get involved.

What are Russia's political moves? Russia focuses on the natural resources the Arctic has to offer. They also focus on making the route accessible for everyone. In December 2019 Russia's Prime Minister Dimitry Medvedev signed the countries official Northern Sea Route development plan. The development plan states that the target for shipping cargo on the Northern Sea Route is to reach 80 million tons annually by 2024. A lot of capital will be put on infrastructure, such as building new railways from the inland to the coastal area and information infrastructure. New ships and icebreakers will be built and more research on natural resources will be done. (Government.ru, 2019)

Russia has a head start in the Arctic natural resources. Yamal LNG project was started in 2013 and was made to capture north Siberia's, Sabetta's, liquefied natural gas. The project was finished in 2018 and is now the world's largest natural gas plant. It is said that the Yamal LNG plant produces more than 5 % of the world's natural gas. (Alten, 2019)

A lot of gas and oil lays underneath the Arctic ice. Prior to the ice thawing there were no access to the natural resources. With climate change and melting ice the natural resources are more accessible. Naturally, this also leads to different countries being interested in the Arctic area. (Arruda, 2015) Figure 5 on page 17 shows the extent of natural resources in the polar area.

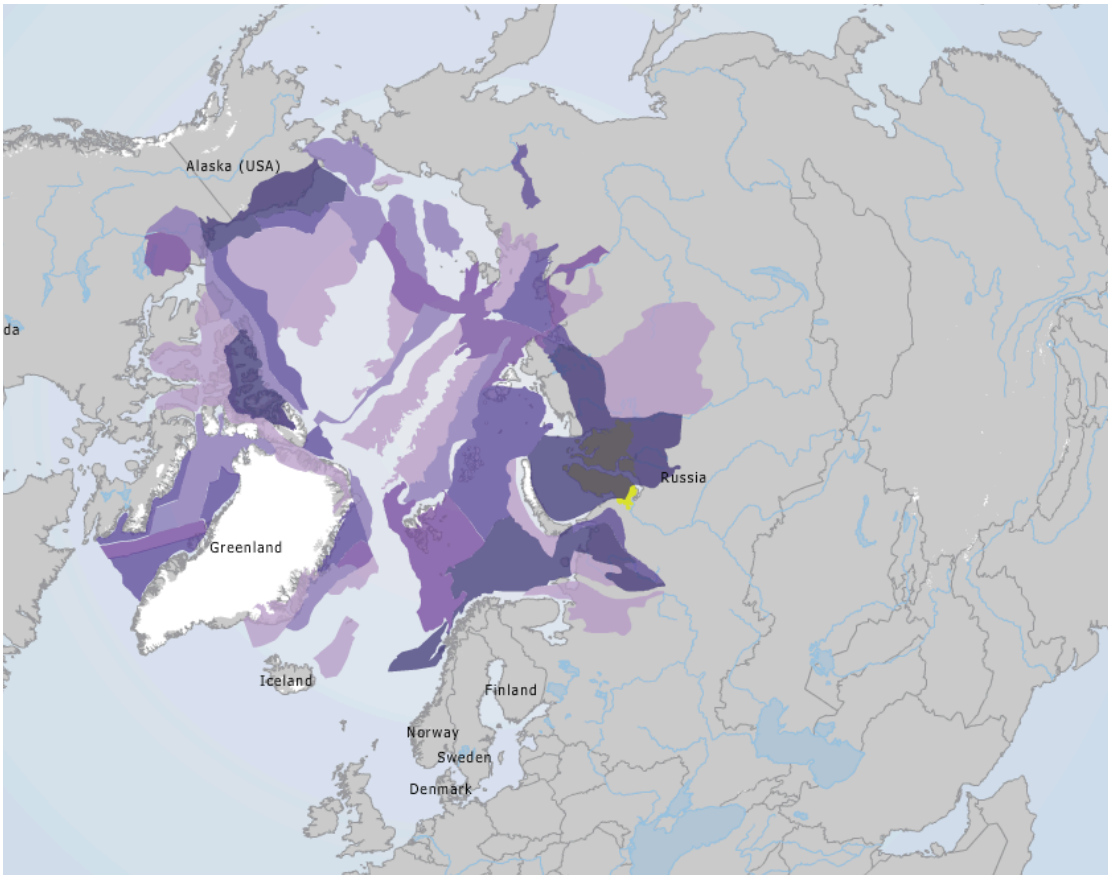

Figure 5. An overview of the Arctic oil and gases. Oil and gases are marked with purple, yellow is where the Yamal gas plant is located. (Arctic Portal, 2020)

What are People's Republic of China's political moves? One Road One Belt or also known as Belt and Road Initiative is Chinas move. Their Silk Route development strategy was started in 2013. The strategy is about building the country's economic, political and logistical connections to Europe and Africa (Nortio, 2018). The aim of the project is to restore the old Silk Route by building a large network of infrastructure: ports, roads, rail-roads, pipelines etc. (Sobhit, 2020) In 2018 China had already invested over 90 billion USD into the project (Merics, 2018) The Belt and Road Initiative also include an Arctic strategy: Polar Silk Road. The Polar Silk Road is an Arctic sea version of the Silk Road that goes on land. The aim with Polar Silk Road is the same as in the Belt and Road initiative: connect Europe and Asia via logistic networks. The motives behind Chinas moves are however speculated. Is this Chinas way to gain geopolitical power or are they trying to dominate the area? (Woon, 2019)

The United States of America is also interested in Arctic sea routes. They, however, are slightly late compared to Russia and China who have already started their investment

projects in the region. USA's big move was the attempt to buy Greenland. Donald Trump received a lot of derisive comments about the attempt, but many missed to see the point. "it wasn't really about Greenland. Rather it was about announcing America's intentions to gain a strategic foothold in the Arctic". (Gordon, 2019)

2.1.4 Vision or illusion

A wide range of opinions exist about the potential of the Northern Sea Route, "both by research and practitioner communities". (Middleton, 2020)

Tuomas Kiiski, from Turku School of Economics, did his doctoral thesis on Arctic shipping. In the thesis, he stated that the use of the Northern Sea Route will be low for years to come. He says the circumstances and the facilities does not support international transit. (Kiiski, 2017)

Maersk, a global shipping company, stated in 2018 that for now the company will not use the Northern Sea Route. The company does not see the Arctic route as an alternative to the Suez Canal or Cape Route. (Maersk, 2018)

In October 2019 Mediterranean Shipping Company, MSC, announced that they will not start using the Northern Sea Route either. The company stated that "Shipping lines should focus on reducing environmental impact of existing shipping trade routes" (MSC, 2019)

While China and Russia have invested millions into the Northern Sea Route, there is a lot of negativity and doubt towards the future of the route.

2.2 Suez Canal

One of the current routes used for shipping cargo between the Pacific Ocean and Atlantic Ocean is the Suez Canal Route. The Suez Canal Route name comes from the canal which it passes, the Suez Canal. (Suez Canal Authority, 2019 a) Some articles use the name Suez Route while some use Suez Canal Route.

The Suez Canal is an artificial made waterway in Egypt. The canal connects Mediterranean Sea, via Red Sea, to the Indian Ocean. Suez Canal was built to able more effective sailing between the continents and avoid circumnavigating Africa. (Suez Canal Authority, 2019 a)

The canal was opened in mid-November 1869. In 2015 an expansion of the canal was finished. Now the canal has two lanes which allow vessels to pass each other in both directions. (History.com Editors, 2018)

2.2.1 Statistics

Today the Suez Canal is the world's most heavily used shipping lanes (Suez Canal Authority, 2019 a). Around 10 % of the global maritime traffic passes through the canal (Leinonen, 2015). Daily, the average number of ships navigating through is 50. (History.com Editors, 2018)

Through the Suez Canal the travel from Singapore to Rotterdam, Netherlands is 15 349 kilometers and from Tokyo, Japan to Rotterdam is 20 727 kilometers (Suez Canal Authority, 2019 b).

The Suez Rout is about 7000 kilometers shorter than the Cape Route or also called the Cape of Good Hope Route (Leinonen, 2015). When using the Suez Route instead of the Cape route from Singapore to Rotterdam 29 % of the length will be saved. Likewise, from Tokyo to Rotterdam 23 % is saved with the Suez Route. (Suez Canal Authority, 2019 b).

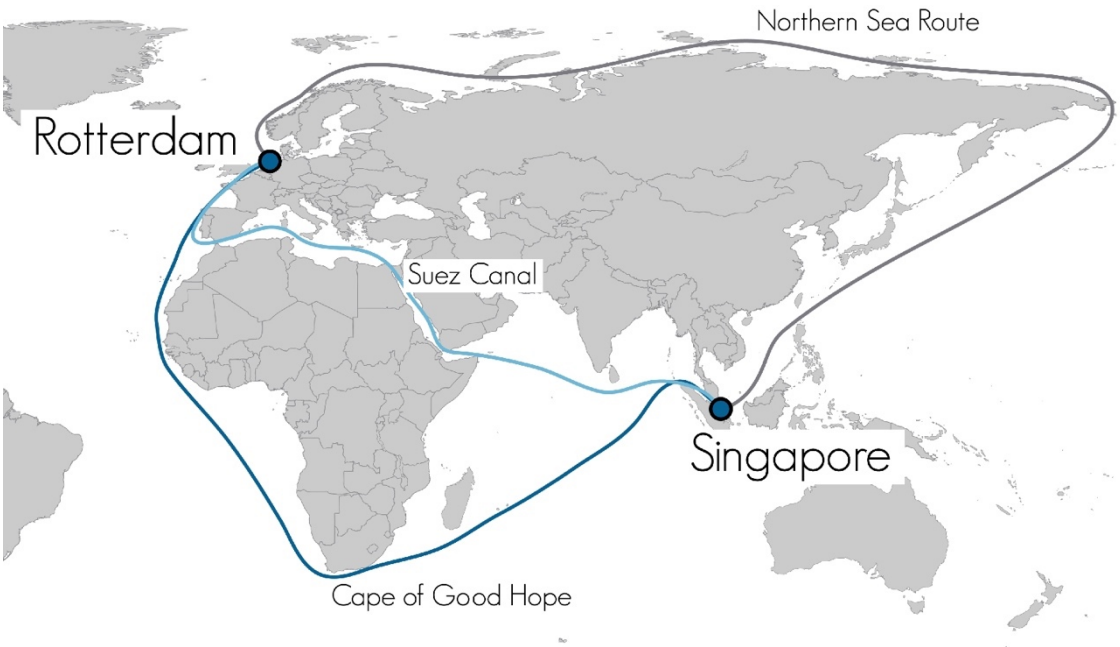

Figure 6. Northern Sea Route, Suez Canal Route and Cape Route on a map. (SeaNews, 2016)

2.2.2 Europe as a hub

The main mode of transport in international trade is sea transport. Primarily Eurasian trade moves in a shipping chain. Sea transport as said is the main mode and the longest, at ports the mode is change to for example to rail or road transport. Ports have a key role in international trade because they connected the network to continental logistics. (Expert Group Report, 2016)

Below are listed Europe's busiest cargo ports, measured by tonnage (Kiprop, 2018). As seen, north west of Europe has a big role in receiving cargo from the world. Belgium, the Netherlands and Germany are key countries.

1. Port of Rotterdam, the Netherlands
2. Port of Antwerp, Belgium
3. Port of Hamburg, Germany
4. Port of Amsterdam, the Netherlands
5. Port of Marseille, France

(Kiprop, 2018)

As seen above Europe's hubs are concentrated in southern or western Europe. The Nordic countries does not have a big role in receiving cargo from Asia.

2.3 Nordic countries as a new hub

What if the Nordic countries were to play a bigger role in European trade? If the Northern Sea Route in the future will be used more often, would it open up an opportunity for the Nordic countries?

An existing plan is the Arctic Corridor. Link between the Northern Sea route and Europe. More about Arctic Corridor in 2.3.3 Finland's arctic policy. (Arctic Corridor, 2020)

Figure 7. The Arctic Corridor on a map. (Arctic Corridor, 2020)

2.3.1 Norway's Arctic policy

Norway has a port on the Northern Sea Route, Port of Kirkenes. "This is the center of Norway … This is the closest Norway comes to something that is important regarding foreign policy. Nothing is happening in Oslo" according to Rune Rafaelsen, Mayor of Kirkenes town. (Borshoff, 2019)

Rafaelsen believes strongly that Kirkenes could become a big receiving port. The port would be part of a network. Kirkenes would be connected to a railroad to Finland and a tunnel to Estonia (Brzozowski, 2020). However, Norway in general does not seem to agree. Norway's Foreign Minister Ine Marie Eriksen Søreide said in an interview: "As far as I can see, the NSR has serious problems with everything, from search and rescue operations and insufficient infrastructure throughout the route to an extremely harsh climate," (The Moscow Times, 2019)

In the Russian development plan, a plan is to make port of Murmansk a logistic hub (Middleton, 2020). Murmansk is close to the Norwegian border, could there be a collaboration opportunity?

2.3.2 Finland's freight forwarding position

In global traffic Finland is seen as an island. Because of Finland's geographical location Finland is far from the rest of the world and difficult to access. (Koroma, 2018). In the coming years Finland should decide how they want to connect themselves with the rest of the world's cargo traffic. According to former Minister of Transport and Communication Anne Berner, Finland could become a global freight hub. (Liikenne- ja Viestintäministeriö, 2018)

In aviation Finland has already managed to do so. Finnair has successfully made Helsinki to a hub for Europeans travelling to the Far East. (Henttinen, 2018) Helsinki airport is also a hub for people travelling from Asia to Paris. (Koroma, 2018)

Finland's former prime ministers Esko Aho and Paavo Lipponen has demanded that Finland would activates its position as the global Nordic hub. The thawing ice in the arctic would give a possibility to end talking about Finland as an island. (Koroma, 2018)

2.3.3 Finland's Arctic policy

The Finnish government and private investors have taken initiatives towards Finland's Arctic policy. Nothing has however been done. Projects below are all still plans.

One investment that was researched and then rejected by the government was the Arctic railroad. In 2019 the idea was picked up again by a private investor and is now called the Arctic Corridor. The plan is to build a railroad from Rovaniemi, in Finland to Kirkenes, in Norway to strengthen Finland's position in the global economy and to accelerate the development of the north region (Nortio, 2018). The project was originally rejected, partially because there were a lot of opposition from indigenous Finno-Ugric people, Sami's, and because of financial reasons. The railroad was estimated to cost 3 billion EUR. (Nortio, 2018) Currently there is not an answer to whether the railroad is going to be built or not.

Part of the Chinese Polar Silk Road project is to invest in projects that support the Northern Sea Route (The State Council the People's Republic of China, 2018). Chinese investors invested 10 billion EUR to a planned rail tunnel from Helsinki, Finland to Tallinn, Estonia. The tunnel would be a Finnish version of the Swedish/Danish Öresund bridge. (Henttinen, 2018)

The railroad from Rovaniemi to Kirkenes and the Helsinki Tallinn tunnel are linked together. When cargo would be transported from Asia to Europe, the vessel would arrive to Kirkenes port. In Kirkenes port the cargo would be loaded on a train which then would go via Rovaniemi to Helsinki. From Helsinki the tunnel would be used to Estonia and from Estonia the good could be transported further to Europe. (Henttinen, 2018)

The Arctic Corridor and the Helsinki Tallinn tunnel would both support Finland's national interests. However, neither of these can be done alone. Finland needs EUs funding and strategic planning. The northern railroad has received a small amount of funding from the EU already. (Henttinen, 2018)

3 METHOD

This chapter is about the empirical part, how data was chosen, collected and analyzed.

3.1 Qualitative and quantitative research

When conducting a research, a research approach must be selected. There are two approaches to choose from: qualitative and quantitative research. Roughly, the two can be differentiated from each other by thinking that a qualitative research explores with words while a quantitative research uses numbers. (Bryman, 2001 s.380)

A qualitative research is inductive while a quantitative research is deductive. This means a quantitative research, deductive research, is started with a theory which then forms the researcher's assumptions. Based on the assumptions a study is done. An inductive, or a qualitative research, is the other way around. First data is collected and based on the data a theory is made. (Bryman, 2001 s. 24-26)

Words that can be associated with a qualitative research are for example- motivation, reason and opinion. The purpose of qualitative research is to acquire a deep and rich knowledge. Usually a quantitative research might not give as much detail as a qualitative research. The results of a qualitative research can become a hypothesis. The hypothesis can then be used in a quantitative research. (DeFranzo, 2011)

3.2 Interview as a research method

As presented earlier, the aim of the research is to study the future of the Northern Sea Route and whether the Arctic route might benefit the Nordic countries so that Norway or Finland could become a new hub for cargo traveling from Asia to Europe.

A qualitative research approach was chosen to be the most suitable one to study this particular matter as the topic is not really something that can easily be studied with numbers. Regarding this topic, a semi-structured interview would give rich and detailed data. An unstructured interview, which can almost be compared to a conversation, seemed to be

too difficult for a first-time interviewer, therefore a semi-structured interview was chosen. (Bryman, 2001 s. 471)

Conducting an interview in a qualitative research is quite common, maybe even the most used method. The flexibility of it makes it attractive. There are diverse types of interview methods but to refer to them all the term qualitative interview is commonly used. Qualitative interviews tend to be less structured than quantitative interviews. An interview as a method can be time-consuming. The actual interview must be conducted as well as transcription and analysis. (Bryman, 2001s. 469)

A semi- structured interview, as the name says, is an interview structured to some extent. The interviewer usually has an interview guide in which questions and topics are listed. The questions do not have to follow a specific outline, rather they can be asked when the interviewer thinks they best suit. The questions should however be asked in the same way in every interview. This way the data obtained via interviews can be compared to each other. In a semi-structured interview, the interviewee has also a freer perspective. He/she can answer the questions with more leeway. The interviewer can also ask follow-up questions if he/ she pick up something interesting the respondent says. (Bryman, 2001s. 471)

3.3 Information retrieval

This thesis draws from a variety of data sources and data collected by the author. Secondary sources used in this thesis are books, articles, internet sources and statistics.
To find a broad selection of the material different keywords were used. The keywords were either in English, Finnish or Swedish. Examples of keywords in different languages in Table 5.

Table 3. Keywords in different languages

English	Northern Sea Route, Suez Canal, European transportation flow
Finnish	Koillisväylä, Suezin kanava, Arktinen politiikka, Helsinki Tallinna tunneli
Swedish	Nordostpassage, Norges arktiska politik

Primary data was collected by semi-structured interviews, as mentioned above. The interviews were based on an interview guide, which is included as an appendix at the end of the paper (Appendix 1). However, every interview had slightly different questions, or questions formulated in another way to best suit the respondent. Respondents received information about the study prior to the call.

In total data was collected from four respondents. The interviews were planned to be held in person but due to the situation at the time, coronavirus (COVID-19), all interviews were held via online video calls. Interviews lasted from 20 minutes to an hour. The interviews were recorded and transcribed.

3.4 Validity and reliability

The term validity refers to whether the "measure of a concept really measures that concept" (Bryman, 2001s.170). Reliability, in turn, means that the same result is obtained at every measurement (Bryman, 2001s 47). To ensure the validity and reliability of the thesis only respondents who knew about the research topic were chosen. The interview questions were sent to be approved by the supervisor to ensure that the questions were formulated in a way that the answers correlated to aim of the study.

3.5 Data analysis

All interviews were transcribed. This allowed the author to easier analyze the data. While analyzing, the author was looking for similarities, differences and highlights in the collected data.

3.6 Data interpretation

The empirical data is interpreted to the theoretical framework in the discussion section. Are there differences in data, do they complement each other or some other findings.

4 RESULTS

This chapter is a summary of the collected data. The chapter is built up around the research questions. After each research questions the results of each interview are addressed. The tables have two columns, vision and illusion. The respondents who think the Northern Sea Route is a possibility are listed under vision. Those who do not see the Northern Sea Route as a possibility are listed under illusion.

The interviews are classified which means the interviewees are held anonymous, all except one. Respondent C is Tom Ekegren from the Finnish ice breaking company Arctia.

4.1 Interview results

The interviews are translated from Finnish to English. No exact quotations are used.

Table 4. RQ 1- Is the Northern Sea Route a possibility for containership traffic? Can the Northern Sea Route replace the Suez Canal Route?

Vision	Illusion
	Respondent A: The Northern Sea Route is not suitable for container ship traffic but rather for valuable natural resources. The Northern Sea Route will not replace the Suez Canal Route.
Respondent B: The Northern Sea Route is suitable for container ship traffic and it has a lot to offer. The Northern Sea Route will not replace the Suez Canal Route, but they can complement each other.	
	Respondent C: "I do see a potential in the Northern Sea Route ". It is more for single trips, not for containership

	traffic. The Northern Sea Route will not replace the Suez Canal Route.
	Respondent D: Right now, the Northern Sea Route does not have potential. Perhaps with less ice, container ships can use it.

Respondent A:
The Northern Sea Route is not open all year around which means the transit time is seasonal. Due to the climate conditions special ice equipped vessels are required to be able to navigate along the route. Ice- strengthened vessels are however expensive to build. Currently, there is not a lot of transit traffic, only a few single trips are made.

There is no necessary support infrastructure along the Northern Sea Route unlike the Suez Route. When sailing on the Suez Route from Asia towards Europe there are several stops and HUBs along the way. The people and the market are spread along the Suez Route. On the Northern Sea Route, when starting from east to west, the first bigger stop is at the end, Murmansk. There is no people or market along the Northern Sea Route. To build infrastructure for small volumes of cargo is not profitable.

Russia has admitted that the Northern Sea Route is primarily for their domestic natural resource traffic. There was a time when a lot of western companies went out and tried the Northern Sea Route because there had been a lot of discussion around it. Conclusion was that it is not worth it.

Lately different countries, especially China has become interested in using the Northern Sea Route for possible transit. Other countries being interested in the Northern Sea Route is a positive thing for Russia since now countries will help with funding of the route. Is it however smart for China? China does not have ice. They do not have knowledge of how to run a winter shipping system.

What most of the people do not understand is that sea ice conditions are a very variable phenomenon. The Nordic countries do have ice, but it is one-year ice. One-year ice is

nothing compared to the multi-year ice in the polar region. The ice in the polar regions is much more difficult to work with.

The Northern Sea Route is not as fast as it is being advertised. According to statistics the amount of time on average that was spent on waiting for icebreaker's assistance was long.

The world does not run out of money and money always finds potential. Money is not put into the Northern Sea Route because it is not profitable to operate there.

The Northern Sea Route will not replace the Suez Canal Route. At some point with more ice melting some goods transits will increase. It does not have to be ice free but there has to be a lot less ice than what there is now. There will also not be big HUBs built along the Northern Sea Route like there is along the Suez Canal Route. Transits and voyages are also increasing because of natural resources. Yamal LNG plant and other plants are in full production and need transportation to reach the people, the market.

Is it worth it? Is it worth it to ship cheap goods from Asia to Europe through ice?

Respondent B:
The climate is warming, and ice are melting, that leads to the Northern Sea Route being open for a longer period. The route being open means potential to utilize it. If the route would be ice free all year around it would make the Northern Sea Route even more competitive since ice-strengthened vessels would not be needed anymore. The Northern Sea Route would probably not replace the Suez Route, but it would complement it. The Northern Sea Route would speed up freight transport.

The Northern Sea Route is suitable for container ship traffic and there is already traffic along the route. Russia has invested a lot into the ports along the Northern Sea Route.

Physical connections are not the only big potential the Arctic route has to offer. Data cables are also important possibilities that shall not be forgotten.

Respondent C:

The route is not suitable for container ship traffic or even for big volumes of cargo. One reason is because it is difficult to anticipate the travel time. Container ship traffic in general is strictly schedules but due to difficult ice conditions an estimate of travel time on the Northern Sea Route cannot be made. This means the Northern Sea Route is not reliable when it comes to delivery time and can therefore not compete with scheduled containership traffic that operates for example on the Suez Route.

Polar codes are requirements for vessels that operate on the polar code areas. Vessels without special equipment and crew knowledge cannot navigate on any of the arctic routes. The polar codes prune off a lot of vessel which do not have the right ice condition equipment. Through the Suez Canal Route, several vessels pass by daily. Most of them do not have ice equipment, which means most of the vessels used today in transporting cargo could not be used on the Northern Sea Route. To build a vessel with ice-strengthening frame can be 20 % more expensive than building one without. Due to ice-strengthened vessels frames they cannot carry as much cargo as a normal container ship can. The goal is to transport as much volume as possible, so why would someone change to a vessel that cannot carry as much cargo, needs ice- strengthening and is not reliable with schedules.

When talking about the Northern Sea Route replacing the Suez Route respondent C says it is unrealistic to think the Northern Sea Route would replace the Suez Route. There must be an economical driver to make all this possible.

Of course, there are single trips made on the Northern Sea Route but not in big volumes. There is usually a heavy reason why someone would choose the Northern Sea Route for transportation. Maersk, the Danish logistic company did an experiment trip through the Northern Sea Route. It was made to show that it is possible to navigate through the route but that it is not beneficial.

A good thing to point out is that the waters of the Northern Sea Route belong to Russia. It is important to understand it and recognize potential risks that involve around it. During the past few years Russia has made it more difficult for international vessels to use the

Northern Sea Route. A new legislation forbids international icebreakers to break ice. Only under the Russian flag is ice breaking allowed on the Northern Sea Route.

Hong Kong's port is the most active port in container ship transports. Most of the world's goods come from the area close by Hong Kong. The good then spread across the world. Some come to Europe and some are left in areas along the Suez Canal Route. The Northern Sea Route is advertised as being shorter that the other sea routes, but it is only shorter from different parts of the world. From the area around Japan, Vancouver in Canada or Seattle in the Unites States to the ARA- area, the Northern Sea Route is shorter. From these areas there are however not a lot of goods that need to be transported. From the Persian bay it is obviously a shorter option to take the Suez Canal Route. There is no need for the Northern Sea Route.

The Northern Sea Route should be ice free before it could become a route for containership traffic. The vessels should be able to navigate through without ice- strengthening. The Northern Sea Route becoming ice free is however unlikely for years to come. Even if we would follow the most severe global warming curves it would take years. Currently our mankind is trying to stop the global warming so the likelihood of the Northern Sea Route being ice free is small.

The Northern Sea Route is not a replacer for the Suez Canal Route, but the Northern Sea Route is something else. There can be business for someone else.

Respondent D:

As how the Northern Sea Route operates today, there is not a lot of growth potential. It is also not suitable for container ships today. In the near future the Northern Sea Route will not replace the Suez Route. The reason is because on the Northern Sea Route the ice conditions are very difficult. The conditions require ice- strengthened vessels which are expensive. Ice- strengthened vessels also have smaller capacities of transporting cargo which is not good if the idea with container ships are to transport as much cargo as possible. Delays may also occur on the route. It is not particularly good if container ship traffic is not on schedule.

During the past few years, the Arctic has had good summers. Navigating from the Pacific Ocean to Atlantic Ocean has been done in almost open water. However, the problem is the rest of the year when things are difficult. During wintertime ice breaking is needed and that is expensive.

There is traffic on the Northern Sea Route, and especially traffic regarding the Yamal LNG gas plant. For the project big gas vessels were built. The vessels are highly ice strengthened and can therefore navigate alone in the ice during the entire year.

Mostly logistic companies want to transit along the Northern Sea Route just to show they can do it. However, they are not planning to start a containership line on the Northern Sea Route. Theoretically it could be possible to use the same container ships during summer on the Northern Sea Route and during winter on the Suez Route.

The Northern Sea Route is only shorter from certain parts of the world. From northern parts of Far East such as Japan, China and Korea there might be savings in travel. Singapore, which is further south, does not have savings in travel.

According to the international maritime law United Nations Convention on the Law of the Sea (UNCLOS), paragraph 234, states which have a coast to ice-covered areas have a right to set laws and regulations for vessels in that area. The area is 200 nautical miles from the cost. On the basis of this, Russia controls the waters of the Northern Sea Route. If the Arctic would be ice free, can this law still be implemented. If it could be and the waters were ice free could vessels sail further away from the coast so that it would not be under Russian legislation anymore. Perhaps the price of transit would decrease. In any case, if the Northern Sea Route would be ice free it would be more competitive. In only a decade the average temperature can rise so that the route is ice free.

Table 5. RQ 2- Could the Nordic countries have a more significant role in international freight forwarding due to the Northern Sea Route?

Vision	Illusion
	Respondent A: Most likely not. Perhaps in theory when the Northern Sea Route is open year-round. It would be Norway who would benefit.
Respondent B: The growth potential for the Nordic countries and the Northern Sea Route over all is big.	
	Respondent C: Currently not. In theory perhaps Norway could benefit from the Northern Sea Route but Finland not so much.
Respondent D: Perhaps if the ice conditions are easier	

Respondent A:

Norway is the only Nordic country who has a coast on the Northern Sea Route. Norway's waters are open waters, nothing freezes. Theoretically maybe a working system would be one where the Northern Sea Route ice parts are navigated with ice vessels and the open water areas are with normal vessels. Normal vessels as in vessel that are used in ice free waters. An example of the system: an ice vessel would sail from Vladivostok to Murmansk and a normal, cheap and efficient vessel would sail from Murmansk further. Most of the goods that are being transported are affordable in value which means it is not economical to trans-ship the cargo for too many times. An open water port could be built in Norway, but the port would have to be a very modernized automated container port. Lifting a single container would have to be very efficient. So that this would be worth doing the Northern Sea Route would have to be more ice free than it is today. The prognosis for ice free future would also have to be promising. If the ice would melt only for a period, building such massive and expensive infrastructure for only 30 years would not be worthy. With all this perhaps then this theory could be utilized.

Iceland could theoretically become a HUB for cargo to Americas east coast.

When it comes to Finland and Finland benefiting from the Northern Sea Route it is more about it sounding nice than it being practical. The Finnish railroad system is a few centimeters narrower than the European. The Arctic track would be a problem size wise. Train transportation is also often difficult, expensive and not energy efficient although it is said to be ecological and energy efficient.

The goods transported from Asia go primarily further down to Europe. Not much comes to Finland. Why would it be worthy to transport the goods through an empty country? The Northern Sea Route waters belong to Russia. If goods come through Russia's waters why would they be transferred to Finland? Russia has their own transmission capacity why move it to Finland? From Finland the goods would have to be trans-shipped in Hanko again to a vessel to reach Europe.

Ships beat trains in efficiency. Why would you drop of cargo in Murmansk and move to another system with worse transmission capacity since it is possible and more profitable to sail from Murmansk to Hamburg, Rotterdam or anywhere. The European market starts from Hamburg south. It is all about money and where it is most beneficial to spend it.

It helps to look from a different point of view. What is the cheapest way to get an item to the consumer.

Respondent B:
Russia is building a connection between Murmansk and St. Petersburg. It is good to have alternatives and therefore it is good for the Nordic countries to utilize the Northern Sea Route.

Ice- strengthened vessels can be used on the Northern Sea Route but they need to be changed to more efficient vessels at some point. Around Murmansk or Kirkenes for example. If the vessels will be changed anyway why not change to a train. A railroad from Kirkenes to Helsinki and a tunnel to Tallinn are solutions on how to get cargo from the

Northern Sea Route down to Europe and vice versa. With a port in Norway and a route in Finland, the Nordic countries can benefit and gain a bigger role in freight forwarding.

Finnish pulp mills and Norwegian salmon farms would benefit from the Finnish infrastructure projects. A lot of pulp mills ship their productions to Asia. With the Finnish railroad system to the Northern Sea Route, shipping production would be faster. In return a lot of goods from Asia come to Europe. For profit reasons it is important that there are cargo flows both ways. Fish farming has been moved to open seas and therefore fish farming has grown. From Norway hundreds of trailers with salmon are transported weekly to Europe. Several of them come to Helsinki airport and from there they are flown to Asia. This is one reason why the train tracks and a tunnel between Helsinki and Tallinn is important. To be able to ship fish from Norway to Europe and to get good from Asia to Europe. Both projects are also considered for passengers. A lot of tourist travel to the north.

The most beneficial and logical investment to build first is the tunnel to Tallinn. After that different connections options to the Arctic can be looked into. If everything goes as planned the investment should be finished in 2030.

When something new is available there will always be demand and innovations around it.

Respondent C:

Norway could theoretically benefit from the Northern Sea Route. There would have to be ice vessels that sail only on the ice parts and a normal vessel that would continue the route from a trans- ship port forward. Norway could have a port and a similar port, where the ice vessels would be changed to normal vessels, would have to be at the other end, in the Far East. Russia has planned on doing something similar, it would be risky to start competing with them because again it is their waters. These are all still plans with nothing moving forward yet.

Finland seems to be extremely interested in the opportunities the Northern Sea Route might offer. The idea sounds cool but in reality, the plans that has been discussed are

unrealistic. Finland as a country has not been part of transportation between Asian and Europe and now all of a sudden, we would be.

Respondent D:
In theory perhaps Norway and Finland could benefit from the Northern Sea Route. When the ice condition become easier for year around it could be possible for northern Norway to become a hub. If the Arctic still has some ice, the ice-strengthened vessels could be used where they are needed, on the Northern Sea Route, rather than continue all the way to Central Europe. If it is easier to get cargo from Northern Norway to Europe via Finland, then why not.

5 DISCUSSION

The purpose was to determine the future of the Northern Sea Route and whether the Arctic route might benefit the Nordic countries so that Norway or Finland could become a new hub for cargo traveling from Asia to Europe. The result suggest that the future of the Northern Sea Route varies depending on the respondent.

Respondent A, C and D believes the Northern Sea Route is not suitable for container ship traffic as long as there is a lot of ice and vessels need ice -strengthening. Once the route has less ice than it has now, transit can increase slightly but it will not replace the Suez Route. The Northern Sea Route is however suitable for natural resources traffic or something else than container ships. Respondent B believes the Northern Sea Route has a lot to offer and that it can be utilized in the near future.

Respondents A, C and D mentioned the ice conditions being very difficult in the polar regions. All the respondents mentioned the need for ice-strengthened vessels to be able to transit along the Northern Sea Route. This is something that was not mention in the theoretical framework but would have been good to bring up. It would have made understanding the difficulty of the navigation easier. However, the existing work written by Valtteri Rintala covers everything relevant to climate and weather on the Northern Sea Route.

As respondent A mentioned, there is no support infrastructure along the Northern Sea Route. It will also not be profitable to build big infrastructures for small volumes of cargo. This was brought up in the theoretical framework as a theory by Tuomas Kiiski. In his doctoral thesis he debated that the Northern Sea Route lack infrastructure and can therefore not be used for commercial traffic.

The market for goods traveling from Asia is along the Suez Route and along the route are multiple stops where a vessel can stop. In Europe, the market starts from Hamburg south which I find to be a good point.

In the theoretical framework it was suggested that the use of the Northern Sea Route will increase because a lot of investment to enhance it has been made. Russia even has a plan to increase transit by 2024. The interviews however revealed that Russia is mainly using the Northern Sea Route for national shipping and that they have mentioned it themselves. This is something that should have come up during the theoretical framework.

Respondent A and C do not believe the Nordic countries can benefit from the Northern Sea Route. Respondent A, C and D did however suggest a similar theory about Norway building a port. This would only be a theory and therefore should not be understood as a fact. Norway could theoretically build a port in the north. Ice-strengthened vessels would be used on the Northern Sea Route and by the Norwegian port the vessel would be changed to a normal one. Respondent B believes that instead of continuing with a normal vessel from Norway to Europe the cargo could be loaded on a train and transport through Finland to Europe. It seems as there is no clear answer to this. The Nordic countries becoming a hub could be studied again once the Northern Sea Route becomes open all year around.

Respondent B mentioned data cables running across the Arctic. This could have been mention in the chapter which covered investments regarding the Northern Sea Route since it is relevant to the topic.

A semi-structured interview was a good method for this thesis. The method captured the aim well and if I would have to write the thesis again, I would still use the same method.

The respondents were able to answer freely and this way the answers were broader and richer. The COVID-19 virus changed plans along the way. Preferably the interviews would have been conducted in person in the hope of them being more natural. Nonetheless, everything worked out well with the video calls.

6 SUMMARY

The purpose was to determine the future of the Northern Sea Route and whether the Arctic route might benefit the Nordic countries so that Norway or Finland could become a new hub for cargo traveling from Asia to Europe. As a conclusion the Northern Sea Route is being advertised as a shorter and faster route even though in reality it might not be. When talking about it we forget to mention the practicalities that currently make it inefficient. The route is only shorter from the Northern parts of Far East Asia and most of the world's goods leave from Hong Kong area. Where the relevant goods are, the Suez Route is shorter. The Northern Sea Route also require ice- strengthened vessels which are more expensive and smaller in size and the ice conditions makes navigating slow causing delays. Russia likes to advertise the Northern Sea Route in hope of other countries getting interested and help them fund something they would have to fun anyway on their own. All this indicates that the Northern Sea Route is an illusion.

The Nordic countries benefiting from the Northern Sea Route and becoming a hub does not seem likely. Perhaps once the ice has thawed Norway could build a port for cargo. But the time for that is not here yet and it is too far away to know if it would work or not. There are vague theories about the Nordic countries as a freight forwarder. However, for now they remain only as theories and therefore the Nordic countries becoming a hub due to the Northern Sea Route is an illusion. The Nordic countries point of view could be studied again further in the future when the Northern Sea Route is ice free.

6.1 Further research

Below are listed topics that could be studied in the future:

- Are there similar plans for the other Arctic routes, Northwest Passages, Transpolar Sea Route and Arctic Bridge Route.

Respondent C suggested looking into the Northwest Passages. Northwest Passages and The Northern Sea Route has a lot of similarities but also differences. What is good and bad in each of them. Northwest Passages does not have similar ice break assistance infrastructure as the Northern Sea Route has.

- Russia's development plan. What they plan to do and if they managed to do them by the years, they said they would.
- Natural resource possibilities. How to utilize them?
- Norway's perspective of the Northern Sea Route.

REFERENCES

Alten, 2019. Available from: https://www.alten.com/yamal-lng-project-gas-arctic-ano-tech-energy/ Accessed 17.2.2020

Arctic Bulk, 2020. Available at: http://www.arcticbulk.com/article/186/NORTH-ERN_SEA_ROUTE Accessed 29.1.2020

Arctic Centre, University of Lapland, 2020. Available at: https://www.arcticcen-tre.org/EN/arcticregion/Maps/Seaways# 29.1.2020

Arctic Corridor, 2020. Available at: https://arcticcorridor.fi Accessed 23.2.2020

Arctic Portal, 2020. Available at: http://portal.inter-map.com/#mapID=49&groupID=&z=1.00&up=-324575.3&left=-783987.9 Accessed 22.2.2020

Arruda, G., 2015, *Arctic governance regime: the last frontier for hydrocarbons exploi-tation*, International Journal of Law and Management, Vol. 57 No. 5, https://doi-org.ezproxy.arcada.fi:2443/10.1108/IJLMA-09-2014-0054

Bambulyak, 2019. Available at: https://www.kbnn.no/en/article/shipping-and-the-north-ern-searoute Accessed 1.2.2020

Borshoff, 2019. Available at: https://www.politico.eu/article/norway-kirkenes-china-in-fluence-arctic-shipping-opportunity/ Accessed 23.2.2020

Brzozowski, 2020. Available at: https://www.euractiv.com/section/arctic-agenda/news/norways-northernmost-chinatown-eyes-beijings-arctic-investments/ Ac-cessed 23.2.2020

Bryman, A., 2001, *Social Research Methods*, 4th edition, Oxford

Cambridge Dictionary, 2020. Available at: https://dictionary.cambridge.org/diction-ary/english/hub Accessed 11.2.2020

Cambridge Dictionary, 2020a. Available at: https://dictionary.cambridge.org/diction-ary/english/voyage Accessed 4.3.2020

CHNL Information Office, 2018 a. Available at: https://arctic-lio.com/nsr-shipping-traf-fic-transits-2018/ Accessed 4.2.2020

CHNL Information Office, 2018 b. Available at: https://arctic-lio.com/transit-statistics-2018/ Accessed 4.2.2020

CHNL Information Office, 2018 c. Available at: https://arctic-lio.com/nsr-shipping-traffic-activities-in-october-2019/ Accessed 4.2.2020

CHNL Information Office, 2018 d. Available at: https://arctic-lio.com/nsr-shipping-traffic-activities-in-december-2019/ Accessed 4.2.2020

Definitions, 2020. Available at: https://www.definitions.net/definition/transport+hub Accessed 8.3.2020

DeFranzo, 2011. Available at: https://www.snapsurveys.com/blog/qualitative-vs-quantitative-research/ Accessed 9.3.2020

Expert Group Report, 2016. Available from: http://www.unece.org/fileadmin/DAM/trans/doc/2016/sc2/ECE-TRANS-SC2-2016-id02e.pdf Accessed 24.2.2020

Gordon, 2019. Available at: https://www.raconteur.net/finance/northern-sea-route Accessed 23.2.2020

Government, 2019. Available at: http://government.ru/docs/38714/ Accessed 20.4.2020

Halling, 2016. Available at: https://www.genscape.com/blog/ara-bunkering-ports-amsterdam-rotterdam-antwerp Accessed 24.4.2020

Henttinen, M., 2018, Hypeä vai muutoksen mahdollisuus, *Osto & Logistiikka,* 1.2018

History.com Editors, 2018. Available at: https://www.history.com/topics/africa/suez-canal#section_8 Accessed 7.2.2020

IMO, 2020. Available at: http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx Accessed 1.2.2020

Keltto, 2017. Available at: https://www.steveco.fi/fi/index/ajankohtaista/blogi/qt8dd5e3i.html Accessed 29.1.2020

Kiiski, 2017. Available from: https://www.utupub.fi/handle/10024/130546 Accessed 17.2.2020

Kiprop, 2018. Available at: https://www.worldatlas.com/articles/the-busiest-cargo-ports-in-europe.html Accessed 11.2.2020

Koroma, J., 2018, *Koillisväylä on kiinalainen juttu*, Osto & Logistiikka, 5.2018

Kotlyar, 2015. Available at: https://russiancouncil.ru/en/northernsearoute Accessed 31.1.2020

Leinonen, 2015. Available at: https://yle.fi/uutiset/3-8205142 Accessed 11.2.2020

Liikenne- ja Viestintäministeriö, 2018. Available at: https://www.lvm.fi/-/ministeri-berner-suomi-ihmisten-tavaroiden-ja-datan-liikenteen-globaaliksi-solmukohdaksi-967871 Accessed 25.2.2020

Maersk, 2018. Available at: https://www.maersk.com/news/2018/09/28/maersk-concludes-trial-passage-of-northern-sea-route Accessed 23.2.2020

Merics, 2018. Available at: https://www.merics.org/en/bri-tracker Accessed 17.2.2020

Middleton, 2020. Available at: https://www.highnorthnews.com/en/northern-sea-route-speculations-reality-2035 Accessed 23.2.2020

MSC, 2019. Available from: https://www.msc.com/fin/press/press-releases/2019-october/msc-rules-out-arctic-exploration-on-environmental Accessed 23.2.2020

Nortio, J., 2018, *Jäämerelle vai eikö sittenkään*, Osto & Logistiikka, 3. 2018

Pame, 2020. Available at: https://pame.is/index.php/projects/arctic-marine-shipping/259-projects/arctic-marine-shipping/northern-sea-route-shipping-statistics Accessed 4.2.2020

Ports.com, 2018. Available at: http://ports.com/sea-route/#/?a=2635&b=640&c=Port%20of%20Kirkenes,%20Norway&d=Port%20of%20Murmansk,%20Russia Accessed 4.2.2020

Proby, 2019. Available at: https://www.wartsila.com/twentyfour7/environment/conquering-the-northern-sea-route Accessed 30.1.2020

Rintala, 2017. Available at: https://www.theseus.fi/bitstream/handle/10024/122405/Rintala_Valtteri.pdf?sequence=1&isAllowed=y Accessed 28.1.2020

SeaNews, 2016. Available at: https://www.seanews.com.tr/suez-fails-to-win-back-usec-far-east-backhauls-from-old-cape-route/160992/ Accessed 23.2.2020

Sobhit, 2020. Available at: https://www.investopedia.com/terms/o/one-belt-one-road-obor.asp Accessed 17.2.2020

Suez Canal Authority, 2019 a. Available at: https://www.suezcanal.gov.eg/English/About/SuezCanal/Pages/AboutSuezCanal.aspx Accessed 11.2.2020

Suez Canal Authority, 2019 b. Available at: https://www.suezcanal.gov.eg/English/About/Pages/WhySuezCanal.aspx Accessed 11.2.2020

The Moscow Times, 2019. Available at: https://www.themoscowtimes.com/2019/08/26/norway-russia-dispute-arctic-shipping-route-a67013 Accessed 23.2.2020

The Northern Sea Route Administration, 2018. Available at: http://www.nsra.ru/en/rassmotrenie_zayavleniy/zayavlenie.html Accessed 31.1.2020

The State Council The People's Republic of China, 2018. Available at: http://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm Accessed 23.2.2020

Woon, 2019. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0962629819303464 Accessed 23.2.2020

APPENDICES

APPENDIX 1

Interview Guide

General:

1. What do you do for work?

2. For how long have you worked for the company?

Topic questions:

3. For how long have you been following the progress of the Northern Sea Route?

4. What was you first impression about the Northern Sea Route?

5. Has your first impression changed?

6. What do you think about the Northern Sea Route?

Core questions:

7. What is the company's opinion on the Northern Sea Route?

8. Under which circumstance would the use of Northern Sea Route be interesting?

9. Is the Northern Sea Route suitable for container ship traffic?

10. Could the Northern Sea Route replace the Suez Route?

11. Would the Suez Route still be more competitive even if the Northern Sea Route was functional?

12. Have you followed Finland's Arctic policy?

13. What is your/ company's opinion on it?

Complementary questions:

14. Could the Nordic countries become a freight forwarder with the help of the Northern Sea Route?

15. Could Finland become a freight forwarder with the help of the Northern Sea Route?

Since you did not see a future with the Northern Sea Route …

16. If the Northern Sea Route however were to be used, do you think the Nordic countries could become a new HUB?

17. Why do you think there is a lot of discussion about the Northern Sea Route even if it necessarily does not have a chance?

18. Anything to add? A perspective or point of view which I did not cover?