Logistical challenges when delivering new leisure boat to customers

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Finland is rated as one of the top countries in the world with most boats per capita. The sales of new leisure boat manufacturers grew over 10% in year 2019 compared to the previous year and the sales numbers have been on a steady climb over the last five years. The aim of this research was to analyze the supply chain when delivering a new leisure boat to the customer from the manufacturer. The purpose was to detect the main deficiencies in the supply chain by focuses on the occurring logistical challenges within the supply chain when delivering new leisure boat from the manufacturer to the customer. This research focused on leisure boat manufacturers and relevant transportation companies in Finland. The method chosen for this study was qualitative research method. The characteristic of qualitative research supports this study proficiently, thus a semi-structured interview was used as the primary research method. Legislation, relevant studies, journals, and other relevant scientific material was used as a secondary data source in this research. The data gathered from the primary and secondary sources were reviewed from the business logistics perspective. Results showed that there were some uniformities in the challenges regarding the size of the boat during road transport. However, the initial expectation was that there would be major issues with the supply chain, but in practical aspects is rather simple especially on the out-bound logistical perspective. Data collection and interviews were conducted during the fall of 2021, and the research was finalized by the end of 2021.

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1 INTRODUCTION

Finland is rated as one of the top countries in the world with most boats per capita. In total there were over 217,000 leisure boats registered in Finland and between January to June in 2019, there were over 2800 new watercraft registered in Finland (Traficom 2019). This number includes only leisure boats with the registration obligation, which means all watercraft over 5,5 meters long and that are equipped with a sail or an engine with more than 15 kilowatts of power. As seen in Figure 1, between 2016 to 2020, there has been a rising trend in first time registration of watercraft in Finland. Clearly, the numbers indicate that there were plenty of brand-new leisure boats that needed to be transported to their customers from the manufacturer.

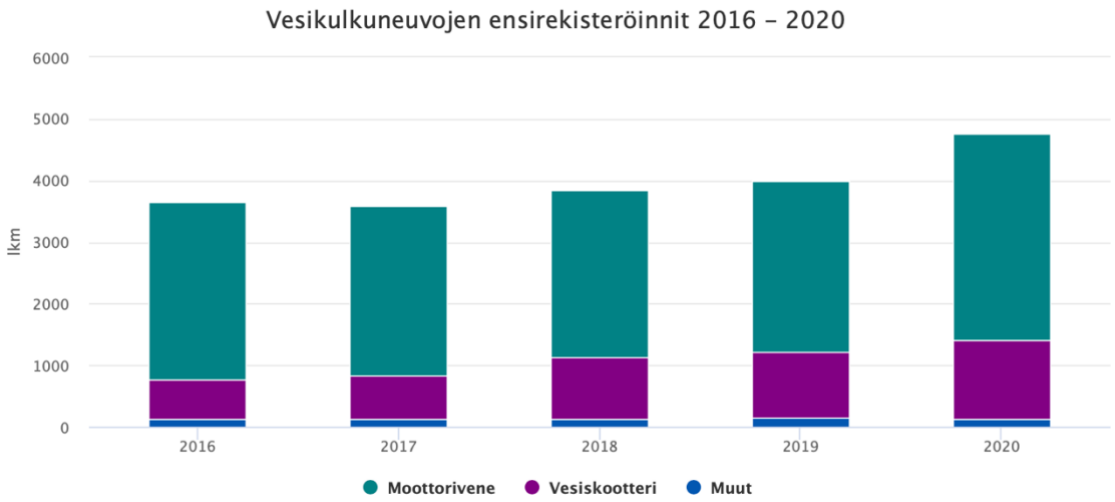

Figure 1 First time registration of watercraft in Finland - 2016-2020 (Traficom 2021)

This topic was chosen as with the COVID-19 pandemic, the interest in boating has been rising (Finnboat 2021) and with that, the possible number of logistical challenges will rise with those numbers.

The boating industry in Finland is thriving. According to the Finnish Marine Industries Federation, Finnboat, the sales of new leisure boat manufacturers grew over 10% in year 2019 compared to the previous year (Finnboat 2020). According to the Finnish

Transportation and Communication Agency, Traficom, there were 3998 new leisure boats registered to Finland in the year 2019 (Traficom 2020).

In the year 2019 over 9000 new leisure boats were exported from Finland to 37 different countries around the world. The combined export volume was 253 million euros in total. About half of the exported leisure boats went to Finland's neighboring country, Sweden, which was 4151 boats in total. A little over 2700 boats were exported to Norway (Finnboat 2020). Figure 2 illustrates the spread in export of new leisure boats in 2019, where as figure 3 shows the export in numbers and export volume in euros.

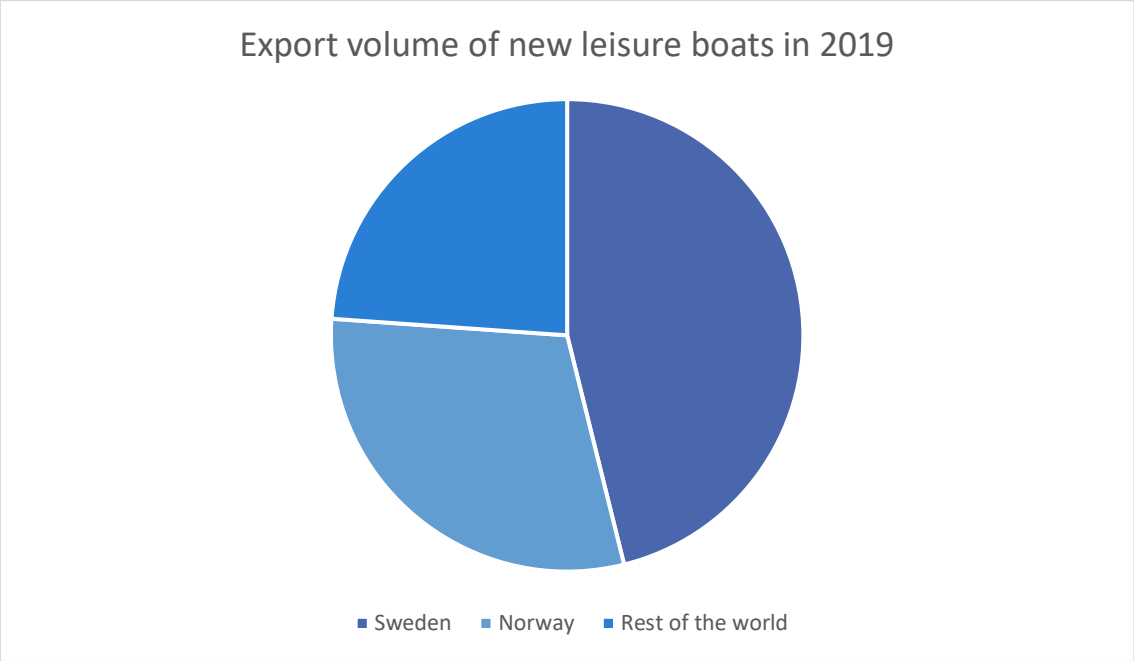

Figure 2. Export of new leisure boats in 2019, (Finnboat 2020)

Country	Million €	Pieces
Sweden	55,1	4151
Norway	48,9	2714
Great Britain	37,2	138
British Virgin Islands	25,2	1
Italy	12,4	4
Germany	11,4	246
Russia	9,2	809
USA	9,1	16
Switzerland	8,8	59
Cayman Islands	6,3	2

Figure 3. Export statistics for the 10 largest countries in January-November 2019, (Finnboat 2020)

Each of these vessels that were built and delivered to their customers have gone through a process where the manufacturer has delivered the ready product to the boat owner. With the sales volumes on a steady climb over last couple years, there is an excellent opportunity to look at the issues within the supply chain, and thus give us the ability to change, streamline and increase the efficiency of the delivery process.

This data gathered from the boat manufacturers and transportation companies can give the much-needed perspective to optimize the supply chain to help save valuable environmental and economic resources.

1.1 Problem statement

Well flowing and properly organized supply chain plays a vital role in cost-saving, environmental effects, and customer satisfaction.

With the growing numbers of new leisure boats registered in Finland, the possible issues with the supply chain also add up, but looking at the flip side of the issue, the possibilities to consolidate, streamline and make the logistical processes more effective,

gain more significance as the numbers arise. This can give the opportunity to gain a significant advantage over competitors on all aspects of the logistical process, since even smallest disruption can have a great impact on the industry.

This research focuses on the occurring challenges within the supply chain of delivering new leisure boat from the manufacturer to the end-customer.

1.2 Aim of the study

The aim of this research is to analyze the supply chain when delivering a new leisure boat to the boat-owner from the manufacturer. The purpose is to detect the main deficiencies in the supply chain.

1.3 Research questions

RQ1. What causes the biggest challenge in the supply chain when delivering a new leisure boat to the customer?
RQ2. Are there any major issues considering the last steps of the supply chain?

As a primary data source this research used semi-structured interviews conducted with selected participants within the leisure boat industry. As a secondary source of data, this thesis used relevant studies, journals, and other available sources of reliable information such as the legislation surrounding the topic.

The data gathered from the primary and secondary sources were reviewed from the business logistics perspective, and in the last section of this thesis, the study includes the outcome of the research.

1.4 Demarcation

This study focuses on the challenges in the supply chain between the manufacturer of leisure boats and the boat-owner in Finland.

This study is focused solely on leisure boat industry in Finland, thus excluding the supply chain of professional boat manufacturer and shipyards from its scope.

1.5 Approach

A qualitative research method was used in this study. The method utilized data gathered from semi-structured interview conducted with multiple Finnish boat manufacturers and boat transportation companies, in which the study was more focused on the words rather than numerical data. That approach gave the researcher a broader perspective within the leisure boat industry, while deepening the relationship between the study and the theory supporting it.

Main source of data was collected through semi-structured interviews with a selected group of leisure boat manufacturers and transportation companies in Finland. During the data collection phase, the author was interacting with the participants of the interviews directly.

2 THEORY

This chapter present the relevant theory and legislation for the study to answer the research questions.

2.1 Logistics

The term logistics came to general use in the early 1970s, however the concept of logistics has been around for much longer, namely for centuries (Visser 2006). The term logistics

describes the planning orientation and framework that is aiming to create a plan for the flow of products and information though the company (Chistopher 2016).

Logistical management activities include inbound, internal, and outbound transportation management as well as warehousing, material handling and logistics network design with lots of other aspects included (Grant, et al. 2017).

The Council on Supply Chain Management Professionals (CSCMP) defines supply chain management so that it works as a path finder for the planning and management of all activitied that are involved in sourcing and producement while including all logistics management activities within. Supply chain management integrates supply and demand management within and across companies involved in the process of producing a product that is then sold and delivered to customer (Counsil of Supply Chain Management Professionals 2021).

2.2 Outbound Logistics

Supply chain is built upon of three different phases of the chain, namely, inbound logistics, internal logistics and outbound logistics. In their book, Logistics and the Outbound Supply Chain, Smith describes the supply chain as a *"*network of processes, resources and enterprises that provides for the supply of goods from raw materials through processing and production to the end customer*"* (Smith 2012).

As seen on the figure 4, the Outbound logistics describes the flow of goods from the manufacturer to the end customer.

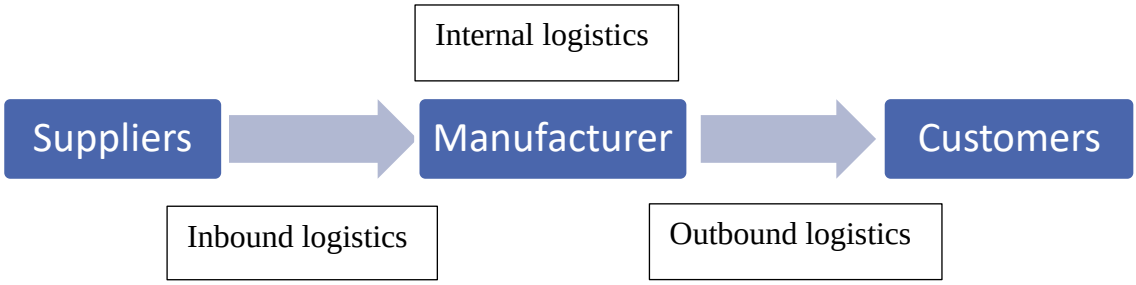

Figure 4, Supply chain, (Smith 2012)

The term "outbound logistics" include all the functions that are needed in order to deliver the finished product to the customer, simply put, outbound logistics defines the action of bringing the product available to the customers (Vainio 2017).

When dealing with outbound logistics, it is rather crucial to keep in mind the possible variables and challenges that can negatively affect the supply chain.

Some examples of the possible challenges with outbound logistics are:

- Delays at collection and delivery points
- Traffic congestion
- Transport equipment breakdowns
- Changes in delivery route

Each of these examples add either cost or then affect the customer satisfaction negatively. For example, the changes in delivery route can lead to additional kilometers driven, which then add to increased fuel costs, wear on the transport equipment and can possibly affect the drivers rest-schedule, thus slowing down the delivery process. (Sharma 2015)

2.3 Transport

The main objective of transport in the supply chain is to move the finished product from the manufacturer to the customer.

According to C&D Logistics, the transport can be divided in to four main categories of transport (C&D Logistics 2021), namely: Road transport, Marine transport, Air transport and Rail transport

There are, however, multiple factors to consider when choosing the propriate method of transport when delivering the product, such as which route to choose? Are there any restrictions considering the size of the cargo transported on road? Is the customer sailing the new leisure boat from the manufacturers harbor with the keel or should the boat be transported to the customer with a lorry? Should there be any brakes during the journey? (Smith 2012).

To answer these questions, we need to take into consideration the specific details of the product that is in the need of transport.

2.3.1 Road Transport

Road transport is most common form of transport of the goods (The World of Logistics 2021). Road transport vehicles are usually relatively small and can thus be transported with other means of transport, for example by ship or a ferry which provides the possibility to transport the product in the same vehicle when other means of transport in necessary during the transportation process.

When considering Finland's geography, the industry and settlements are relatively decentralized which makes road transport easier and faster than other forms of transport, while giving the added benefit of so-called door-to-door delivery (The World of Logistics 2021).

2.3.2 Multimodal Transport

Multimodal transport is used to describe the action during transportation, when the selected mode of transportation can be transported within another type of transportation without having to change the actual mode of transportation itself. A good example of this is when a lorry is transported within a ferry, thus enabling a single vehicle to transport the product to the customer without having to unload the cargo on route (Smith 2012).

2.3.3 Route Planning

Route planning plays a vital role in road transport. When determining the route, there are various objectives that dictate the choice during the planning phase (Smith 2012), such as the size of the cargo, minimizing the impact of traffic congestion, minimizing the distance travelled to save fuel and wear on equipment, maximizing the vehicle utilization and driver utilization and lastly, the start and end destinations (from the manufacturer to customer).

2.4 Finnish Traffic Code

The Finnish Traffic Code dictates the limitations when it comes to road usage and announces the guidelines to boat transportation in road traffic.

In law section §3, the Finnish Traffic Code dictated the general obligations of the road user where it states that to avoid danger and damage, the road user must abide by the traffic rules and must use caution and care demanded by the conditions at hand. The paragraph 3 also states that traffic must not be unnecessarily obstructed or hindered (Finnish Traffic code 2020).

2.4.1 Restrictions on passenger vehicles when towing a boat

According to the Finnish Transport and Communications Agency, (Traficom 2020) towing of a trailer is regulated by two things:

1. Driving license requirement, that dictated the maximum permissible mass of the towing vehicle and trailer
2. Maximum permissible trailer mass

The Finnish Traffic Code (Finlex 2018) dictates in law section 151§ that "the following trailers can be connected to a passenger vehicle or a van:

1. A center-axle trailer with a maximum mass not exceeding 3500 kilograms.
2. A semi-trailer with a maximum mass exceeding 750 kilograms, but not exceeding 3500 kilograms.
3. A full trailer with a maximum mass exceeding 750 kilograms, but not exceeding 3500 kilograms."

However, in the law section 152§ the legislation specifies the restriction even further. The law section states that "The coupling mass of the towed vehicle or towed vehicles to be coupled to the car shall not exceed the following values:

1. If the towed vehicle does not have brakes, half the unladen mass of the towing vehicle, but not more than 0,75 tons.
2. If the towed vehicle to be coupled to a vehicle with a maximum permissible laden mass not exceeding 3,5 tons is fitted with a brake, the maximum permissible laden mass of the towing vehicle or, if the towing vehicle is a passenger car or van, 1.5 times the maximum permissible towed vehicle mass, but not exceeding 3,5 tons.
3. If the trailer to be coupled to a towing vehicle with a maximum permissible laden mass of more than 3,5 tons is fitted with push brakes, 3,5 tons.
4. If the towed vehicle is other than a semi-trailer to be coupled to the towing vehicle, 1,75 times the maximum authorized mass of the towing vehicle for registration and use." (Finlex 2018)

2.5 Maximum dimension of passenger vehicle or a van towing a trailer

Centre for Economic Development, Transport and the Environment is responsible for road maintenance, road projects, transport system management, public transportation, island traffic, traffic safety, traffic management and transport permits and licenses in Finland. Figure 5 illustrates a passenger vehicle towing a leisure boat.

Figure 5 Passenger vehicle towing a leisure boat (Port Annapolis 2020)

In their guideline of the maximum dimensions of special transport according to the decree of the Ministry of Transport and Communication, which do not require a transport permit (Centre for Economic Development, Transport and the Environment 2013) they state that a passenger vehicle towing a trailer is not permittable for a special transport permit. This means that there are limitations of the size of trailer one can tow with their passenger vehicle on van. In the same guideline, they specify the maximum height, width, and length for a boat to be towed:

- Hight maximum of 4,20 meters
- Width maximum of 2,60 meters
- Length maximum of 20,00 meters

A passenger vehicle or a van towing greater size trailer does not get a special transport permit, which in terms means that a trailer greater in size than mentioned above, must be transported by a lorry or tractor.

2.6 Special lorry transport subjected to permission

Special transport is used to describe a transport that exceptionally large and heavy in its dimensions. In their guide of special transports, the Centre for Economic Development, Transport and the Environment describe the special transports as following: “Special transports exceed the dimensions or mass limits of normal traffic. Only limitation here is that the overweight, over-height, over-width or over-length must not be due to the positioning of the objects to be loaded in parallel, one by one, in succession or on top of each other. An excellent example of a special transport would be a heavy crane. Large or heavy load that is practically impossible to move in parts can be transported as a special transport.” (Centre for Economic Development, Transport and the Environment 2020)

In figure 6, we can see that the lorry represents the width and heigh limitations of normal traffic use, the dark green background represents the free measurement limits for special transport and lastly the light green background represents the limitations on special transport subjected to authorization.

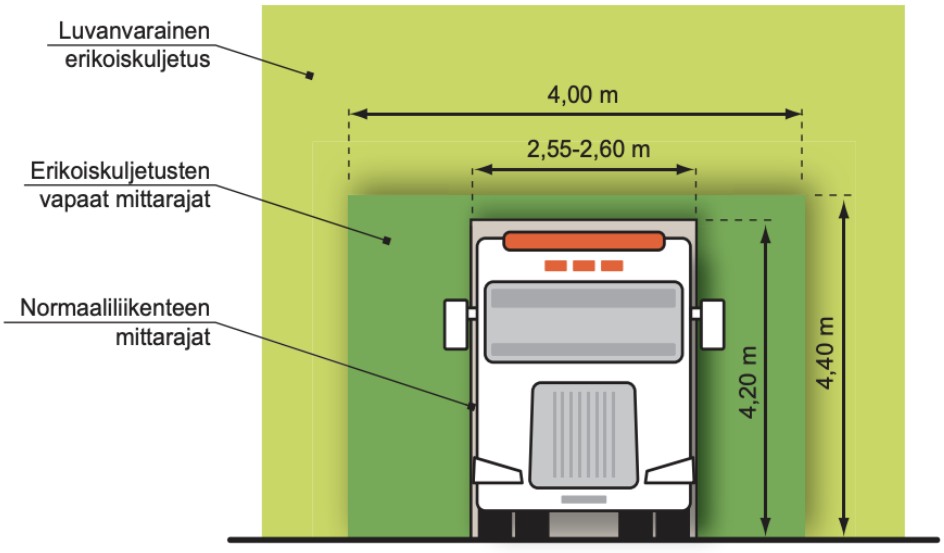

Figure 6 Hight and width limits for normal traffic (Centre for Economic Development, Transport and the Environment 2020)

Figure 7, on the other hand, describes the length limitations in normal traffic use. Here, the grey lorries describe be normal traffic use, and the dark green the free measurement limit of the transport with a trailer attached. The light green describes special transports subject to authorization.

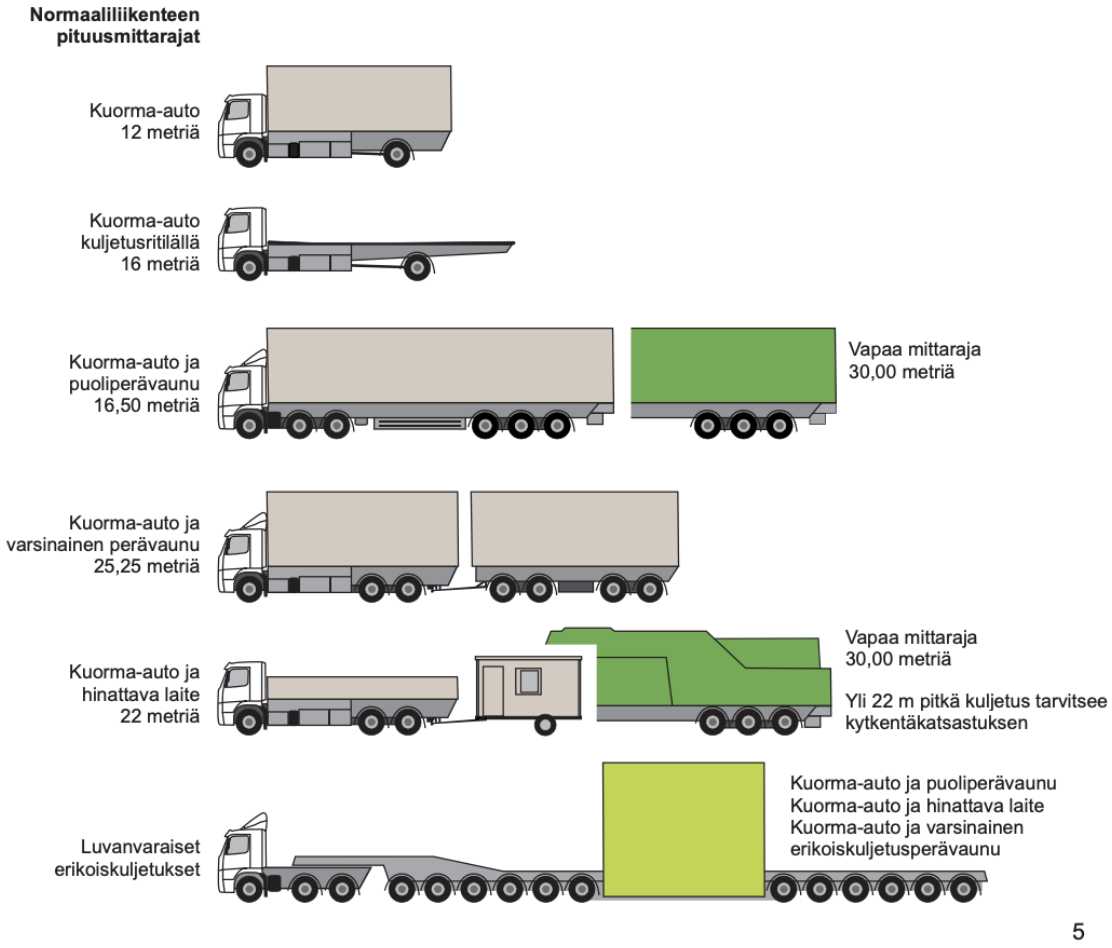

Figure 7 Length limits for normal traffic (Centre for Economic Development, Transport and the Environment 2020)

2.7 Limitations of a leisure boat

The European Parliament and the Council of the European Union define in the directive 2013/53/EU recreational craft as a watercraft of any type, excluding personal watercraft, intended for sports and leisure purposes of hull length from 2,5 m to 24 m, regardless of the means of propulsion (European Parliament and the Council 2013).

2.8 Summary of the theoretical framework

The concept of outbound logistics was chosen as the main theoretical framework in this study, and it includes the methods of transport and legislation about road usage in Finland.

The Finnish Traffic Code and Centre for Economic Development, Transport and the Environment gives us rather clear outlines on how and where a new leisure boat can be transported. These guidelines forces the company to do the extremely important and necessary routeplanning and preparation of the transport, thus giving them an opportunity to communicate with the customer about the expectations and needs before the tranportation takes place.

3 METHOD

According to Cambridge Dictionary, methodology describes system of ways of doing, teaching, or studying a certain subject (Cambridge Dictionary 2021). Research can be defined as systematic investigation to establish facts and the primary purpose of a research is to discover and develop methods for the advancement of knowledge on a variety of scientific matters (Imam 2020). As stated in the book Research Methods for Business Students, Saunders describes research method as an estimation of a plan of how to answer the research questions by containing clear objectives derived directly from the purpose of the study (Saunders, et al. 2019). In figure 8 we can see the choice of method simplified as a threefold pattern.

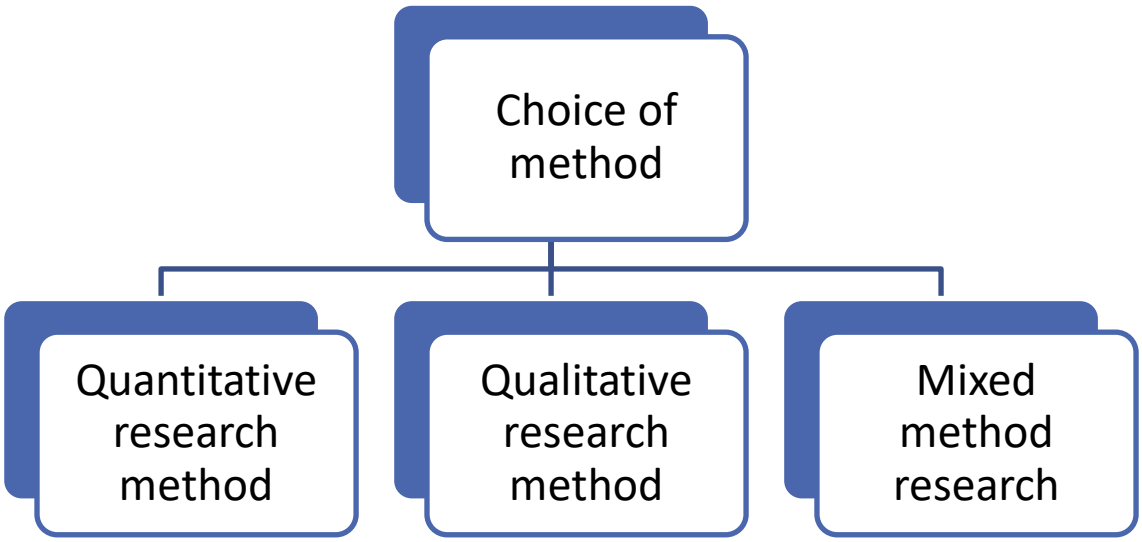

Figure 8 Choice of method simplified (Saunders, et al. 2019)

3.1 Qualitative research

The method chosen for this study is qualitative research, for qualitative research emphasizes words than the numeric data (Richie, et al. 2014). Qualitative research aims to explore a phenomenon by providing the point of view of the participants, while being flexible and open ended in the research design process (Bryman & Bell 2011). Qualitative research is interpretive as researcher must make sense about the subject and the phenomena at hand being studied. One of the most distinguishable patterns in qualitative research method is, that meanings are usually derived from words and images rather than numbers. Often words and sayings have multiple meanings as well as being unclear, it is necessary to clarify and deepen the understanding about these with the participants (Saunders, et al. 2019).

The characteristic of qualitative research supports this study and the research questions excellently, thus providing the researcher sufficient understanding within the field of study.

3.1.1 Interview

The aim of this study is to identify the challenges in the supply chain when delivering a leisure boat from manufacturer to the customer. A qualitative research method was chosen to be most suitable for this study, since the topic is relatively challenging to be studied with numbers first. With the topic in mind, a semi-structured interview was chosen as the interview approach, since the interview could be conducted conversationally with one respondent at a time, thus giving the opportunity to ask open-ended question on topics that respondents might not want to disclose with other peers at the interview (Adams 2015).

In their book Encyclopedia of Social Measurement, Jennings describes semi-structured interviews as: "interviews, which are less formal than structured interviews" (Jennings 2005), thus making interaction between the respondent and the researcher natural, while reflecting conversational exchange like in real-world setting (Jennings 2005). Figure 9 describes the different options when conducting interviews.

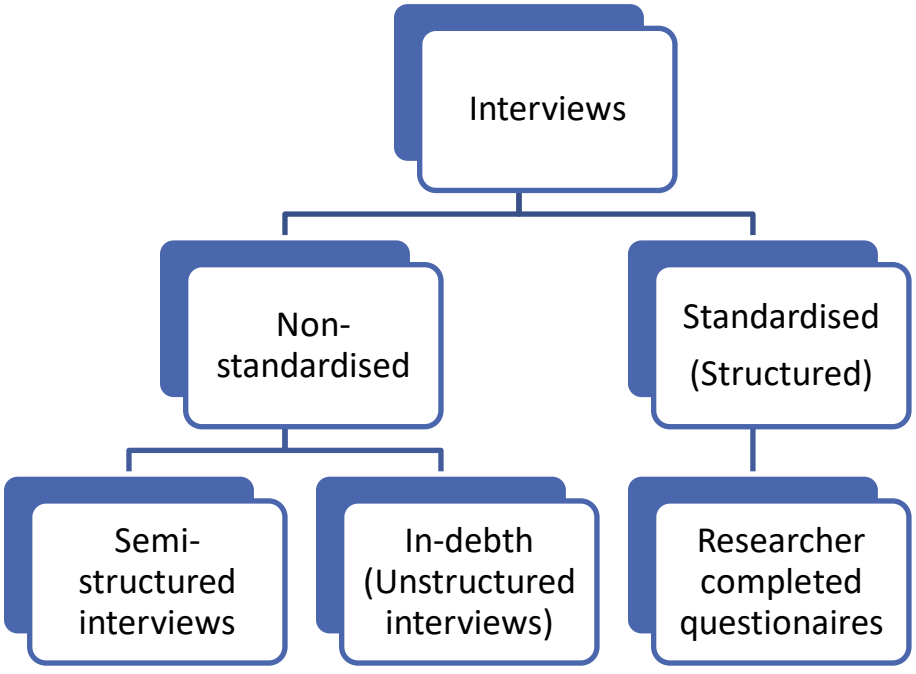

Figure 9 Interview structures (Saunders, et al. 2019)

The semi-structured interviews were conducted with a set list of questions that aimed to answer the research questions, while leaving the possibility to prompt and further discuss themes that arose during the interview (Saunders, et al. 2019). Data from semi-structured interviews was audio-recorded with the consent of the participants.

3.1.2 Interview Guide

The interviews were carried out at distance via Zoom meetings during September to December of 2021, as the COVID-19 crisis hindered the interviews from being held face-to-face. The data gathered from the interviews were audio-recorded with the consent of the participants. On average one interview lasted between 45-60 minutes.

Some of the most important questions asked during the interviews were for example, "What challenges are involved in the supply chain for private individual customers?", "Is there a rush at a certain period of time that may cause inconvenience and additional costs. If yes, how much does that affect delivery prices?" and "What is the single most successful point of the supply chain?"

List of all the question asked and more detailed information about the interviews can be found on the Interview Guide attached in the appendices of this study.

3.2 Respondents

Participation bias is used to describe the phenomena when the interview result in the decline of willingness to part-take by participants, and this can affect the sample from whom the data is collected (Saunders, et al. 2019).

The respondents in this study were leisure boat manufacturers and transportation companies in Finland. The respondents were chosen by their position in the companies where they work directly with the logistical chain so that they could contribute to this study with up-to-date information about the logistical challenges in the supply chain.

This study is focused solely on leisure boat industry in Finland, thus excluding the supply chain of professional boat manufacturer and shipyards from its scope.

3.2.1 Reliability

Reliability can be divided in to three categories, the degree which a measurement that is given repeatedly shall remain the same, the stability of a measurement over time and the similarity of a measurement withing a certain period of time. A relatively high degree of stability in the results indicated a high degree of reliability (Golafshani 2003).

Reliability and reduction of possible bias of the interviews and/or the participants was secured by only including company representants who work directly with the logistical chain as part takers in this study. The interview questions were formulated in the fashion that the answers correlated to the aim of this study.

3.3 Research approach

The invitation to participate in this study was sent to 7 different leisure boat manufacturers as well as 3 relevant transportation companies in Finland. In total, there were 10 companies invited to participate in this research in the form of semi-structured interview. Out of the 10 companies invited, a total of two participated in the interviews.

The interviews were carried out electronically via Zoom meetings during September of 2021, as the COVID-19 crisis hindered the interviews from being held face-to-face. The data gathered from the interviews were firstly done by audio-recording with the consent of the participants from the said interviews, and the audio-recording were then transcribed into text in order to store the information reliably. All the possible company identificatory factors such, as names, brands, and places were removed from the transcribed versions, thus protecting the identification of the companies and their representatives involved in the interviews.

3.4 Analysis of the data

Having gathered the data from by the research methods mentioned previously, the study is conducted to identify challenges in the logistical chain when delivering a new leisure boat from manufacturer to customer. The main goal of the study is to understand the main challenges and flaws in the supply chain and to perhaps identify possible improvement factors based on the findings that were discovered while conducting the research with methods mentioned previously.

A transcript was made of the audio-recordings in such a fashion, that comments that related to RQ1 were marked with a red color and the comments that related to the RQ2 were marked with green color.

4 RESULTS

This chapter presents the data collected through the semi-structured interviews.

The research questions are addressed with the help of columns named: challenges, and successes, describing namely, the major challenges and/or strengths (successes) in the supply chain.

The research was to be held anonymous; thus, the respondents are from here on referred as Respondent A and Respondent B. The interviews were originally held in Finnish and the answers were translated to English. No exact quotations are used in this text summary of the results.

Table 1 RQ1. What causes the biggest challenge in the supply chain when delivering a new leisure boat to the customer?

Challenges	Successes

Respondent A: One thing that has been an issue during COVID-19 crisis, is the fact that there has been some delays when delivering boats with ferries, since the ferry trafic has been extremely crouded, with less ferries in service, thus creating a bottle neck with unexpected and long delays for some deliveries. Second issue comes with the size of the boat being transported. The bigger boats in our selection require either one or two escort vehicles during the transportation convoy, besauce of their width.	**Respondent A:** The competition in the (transportation) industry is relatively high, meaning that the prices of the deliveries are rather stable and low. There are many transportation companies that can offer similar service, creating a possibility to use return freight option for ocational deliveries.
Respondent B: No major issues with the supply chain. Only challenge is that some of the boats are too big to transport with a passenger vehicle, making the use of a lorry transport necessary sometimes.	**Respondent B:** The supply chain (and especially the out bound logistics) is rather simple process for us. Being close to the seashore, most of our customers take the delivery of their boat by driving it from our manufacturing dock to their home harbor with the boats own engine power.

Respondent A:

A minority of our boats, approximately 10% yearly, are delivered to our customers so that the customer is picking up the new boat from our facilities and driving the boat with its own keel (under own propulsion) to home. The boats that have been picked up by the customers have been over 31 foot in length or more, and typically the customers have

combined a holiday trip together with picking up the boat, so they are in no rush with the process. Majority of the boats, however, are being delivered to our customers by a lorry.

All the boats are first test-driven at our facilities, and then they are cleaned and wrapped with plastic in order to deliver the boat to the customer with a lorry. Usually, the customer or the retailer takes care of the transportation, often so that the boat is loaded on to a lorry or lorry-trailer to be transported to the customer.

Most of our boats are so large that they must be transported as a special transport in road traffic. With the bigger boat models we have, the problem is that we need to have either one or two escort vehicles in the convoy.

The ferry service has proved to be challenging lately. There has been an issue during COVID-19 crisis, is the fact that there has been some delays when delivering boats with ferries, since the ferry trafic has been extremely crouded, with less ferries in service, thus creating a bottle neck with unexpected and long delays for some deliveries.

A good aspect of the supply chain is that the competition in the (transportation) industry is relatively high, meaning that the prices of the deliveries are rather stable and low. There are many transportation companies that can offer similar service, creating a possibility to use return freight option for ocational deliveries. Also if the companies have return freight, they can have signinifally lower prices than the competitors.

Respondent B:

We do not have major issues in our way of delivering the boat to customer. The supply chain (and especially the out bound logistics) is rather simple process for us. Being close to the seashore, most of our customers take the delivery of their boat by driving it from our manufacturing dock to their home harbor with the boats own engine propulsion. Most of our customers prefer to pick up the boat straight from our manufacturing dock, since our customers tend to live nearby our facilities.

Some customers, however, must pick up to boat by trailer if their home harbor is for example in one of the big lakes inland in the country (Finland). Only challenge is that some of the boats are too big to transport with a passenger vehicle, making the use of a

lorry transport necessary from time to time. We have outsourced these road transports completely to third parties.

Table 2 RQ2. Are there any major issues considering the last steps of the supply chain?

Challenges	Successes
Respondent A: Some of the bigger boats need minor assembling to their powertrain after transportation with lorry, making it necessary to send team of engineers to finish the assembly of the boats propulsion system at the customers harbor.	
Respondent B: If the customer is unexperienced or is not familiar with the boat, they are buying from us, we need to send an employee with them to their first journey from our manufacturing dock to customers end location, to guarantee that the journey is safe.	Respondent B: When customer picks up the boat from us and is planning to sail it home, we can use this opportunity to educate the customer about the boats systems and features. By doing this we can make sure that the customer is satisfied with quality of the new boat as well as is safe and confident enough to sail it home.

Respondent A:

We have outsourced our outbound logistics to different transportation companies. This decision, combined with the size of our boats can make it difficult to consolidate the cargo. Usually, the transportation companies tend to find cargo for return logistics, but it is not always possible.

An issue related to the size of the boats is that some of the biggest boats have a propulsion system that needs to be disassembled during the road transport phase, thus creating a need for minor assembling to their powertrain after transportation with lorry, making it

necessary to send team of engineers to finish the assembly of the boats propulsion system at the customers harbor. If the boat is equipped with propulsion system that extrudes out of the bottom of the vessel, then the propulsion system is being removed during the transportation to make the boat as low as possible for the transportation, since the bigger boats tend to be rather tall in size.

Respondent B:

Like mentioned, usually our customers pick up the boat from our harbor and drive it home with the boat's own propulsion. This can create some issues, especially if the customer is unexperienced or is not familiar with the boat, they are buying from us. In those cases, we need to send an employee with them to their first journey from our manufacturing dock to the customers home harbor, to guarantee that the journey goes safely.

On the flip side, when the customer picks up the boat from us and is planning to sail it home, we can use this opportunity to educate the customer about the boats systems and features. By doing this we can make sure that the customer is satisfied with quality of the new boat as well as is safe and confident enough to sail it home. Usually, however, most of our customers are already experienced sailors.

We also tend to include the customer to the building and design phase of the boat. This way we can add or remove features from the boat is necessary while still in planning or building phase. When we include our customers to the building process, we have noticed an increase in the customer satisfaction.

5 DISCUSSION

The aim of this research was to analyze the supply chain for the process of delivering a new leisure boat to the boat-owner from the manufacturer, while simultaneously detecting the main deficiencies within the supply chain.

This chapter is used to analyze and discuss the outcomes of the data gathered by the semi-structured interview in relation to the theoretical findings.

5.1 Results discussion

As pointed out in the introductory chapter of this study, Finland is rated as one of the top countries in the world with most boats per capita. The statistics show that the sales numbers of Finnish boat manufacturers grew over 10% in year 2019 compared to the previous years (Finnboat 2020). The Finnish Transportation and Communication Agency, Traficom, seconds this information with the statistics where they state that there were in total, 3998 new leisure boats registered to Finland in the year 2019, whereas in 2018, there were 3844 boats registered (Traficom 2021).

While this study did not focus on the boats being for foreign markets, it needs to be stated that in the year 2019 over 9000 new leisure boats were exported from Finland to 37 different countries around the world, where approximately half of the exported new leisure boats went to Finland's neighboring countries, Sweden, and Norway (Finnboat 2020).

The numbers speak for themselves, there were more than enough brand-new leisure boats to be transported to their customers and this information was also confirmed by the respondents of the interview of this study.

5.1.1 RQ 1: What causes the biggest challenge in the supply chain when delivering a new leisure boat to the customer?

Regarding the RQ1, "what causes the biggest challenge in the supply chain when delivering a new leisure boat to the customer?" there was some uniformity in the respondents answer to this question.

Respondent A stated, that there were two main factors that been a challenging in the supply chain recently. Firstly, there has been the issue of reduced capacity in ferry service, due to the COVID-19 crisis, creating longer and unexpected abruptions to the delivery schedule. Secondly, there has been an issue with the size of the boats being transported, namely, the bigger boats in their selection require the use of either one or two escort vehicles during the transportation convoy, depending on the size of the boat.

Respondent B stated that while there were no obvious major challenges in the supply chain, there has been a challenge related to the size of the boats being transported. The challenge came, when the customer could transport the boat with their own passenger vehicles due to the size and wight constranits but rather, they had to order a lorry transport to get the boat to their selected end location.

Respondent A mentioned that a succesfull factor in the supply chain has been the fact that the competition in the transportation industry is high, thus lowering prices of the deliveries and creating surplus for the choise of tranportation companies. Respondent A also specified, that there are many transportation companies in the industry that can offer similar services, creating the additional value of a using return freight option for ocational deliveries, thus lowering the price of delivery even still.

Respondent B mentioned that their strength in the supply chain has been the fact that their out-bound logistics is a rather simple process, and to add to this their manufacturing facilities are located close to the sea, making the is possible deliver the boat to the customer at their own harbor by using the boats own engine power.

While both respondents A and B stated during the interviews, that there were no major issues in the supply chain, they both confirmed that the size of the boat can bring challenges during road transport.

In the theoretical framework we can see that there are multiple limitations concerning the legislative and regulatory factors when transporting cargo in the road traffic. Namely, most of the restriction have to do either with the height, width, or weight limitations of

the cargo, thus being in line with the statements from the respondents, that most of the issues in the supply chain arise during the road transportation phase.

5.1.2 RQ 1: Are there any major issues considering the last steps of the supply chain?

For the RQ2. “Are there any major issues considering the last steps of the supply chain?” the respondents gave slightly differing answers.

Respondent A mentioned that concerning the last steps of the supply chain, there were some issues with bigger boats needing minor assembling to their powertrain after transportation with lorry, making it necessary to send team of engineers to finish the assembly of the boats propulsion system at the customers harbor. This leads to increased costs of labor during the delivery of the boat.

Respondent B stated that sometimes there have been an issue with the customers inexperience as a sailor during the delivery of the boat. This meant that they needed to send an employee with the customer to their first journey from the manufacturing dock to customers end location, to guarantee a safe journey for the boat and for the customer. However, respondent B mentioned, that they had started to include the customer to the planning and building phase of the boat, thus giving them an opportunity to educate the customer about the boats systems and features as well as to make sure that the customer is satisfied with quality of the new boat, making the customer confident enough to sail it to their home harbor.
Rather interestingly, while both respondents gave differing reasons on what the challenge was during the last steps of the supply chain, both answers had a focus on a negative financial affect as the result of these challenges. The financial affect came from fact that they sometimes required extra labor during the last part of the supply chain, thus increasing delivery costs for the companies.

5.2 Method discussion

This research was conducted by using qualitative research method in the form of semi-structured interviews as the main study method.

While the aim of the study was not met up to the researchers' standards, the methodology was not to blame. Rather, the atmosphere of semi-structured interview where the respondents were able to freely discuss the subject in board terms, made the results of the interviews richer in data and knowledge. Due to economic and time constraints, as well as the effect of COVID-19 pandemic, there the number of respondents in the interviews was surely reduced by the combination of these said factors.

The respondent selection in and of itself was successful and the fact that respondents were professionals in the boating industry, gave this research proper foundation to rely upon the respondents' answers. That being said, the sample of the semi-structured interviews was too small to recognize the industry wide challenges in the supply chain. There were only two participants in the interviews, thus giving the research too narrow sight into the subject being researched. To make any proper new discoveries or findings out of the results, more respondents would have been needed to complete this study up to the researchers' standards. Further investigation into the subject is strongly encouraged, in order to find the possible industry wide logistical challenges in the supply chain.

6 CONCLUSIONS

The aim of this study was to analyze the supply chain when delivering a new leisure boat to the boat owner from the manufacturer. The purpose was to detect the main deficiencies in the supply chain. As a conclusion there were some uniformities in the challenges regarding the size of the boat during road transport. The initial expectation was that there would be major issues with the supply chain, but in practical aspects is rather simple especially on the out-bound logistical perspective.

The surplus of competition in the transport industry has created a fruitful atmosphere for the boat manufacturers, where the manufacturers have multiple option of transportation companies to choose from, creating pressure to lower the transportation costs.

The geological placement of the boat manufacturing facilities makes it also possible that the customer can pick up the new boat themselves, thus rendering the road transport unnecessary, since the new boat can be sailed under its own engine power to the customers home harbor. This has the added benefit of giving the manufacturer and customer a chance to go over the boat during the delivery, and make sure that the boats equipment and features are just like ordered, as well as to educate the customer about the equipment and features before departing homewards.

Perhaps in the future, this subject could be studied in a global setting in order to get more data about the occurring logistical challenges within the supply chain.

6.1 Limitations of the study

This study was not carried out to the expectations of the researcher, due to the time and economic constrains of this research.

Mainly, the issue came down to the small sampling during the interviews. If the sampling had been larger, the outcomes of the interviews would perhaps have shown more uniform and occurring issues and successes in the supply chain. Secondly, due to the lack of research done on this subject previously, finding up to date secondary data to enlighten the research subject was close to non.

6.2 Suggestions for further studies

For further studies regarding this subject, this study suggests that there is room for further research.

Perhaps a more universal standpoint, combined with the lack of time and economic constraint would help to increase the sampling and to truly show the occurring patterns and logistical challenges during the delivery of new leisure boats.

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APPENDICES

APPENDIX 1

INTERVIEW GUIDE

The thesis

I am an International Business student at Arcada University of Applies Sciences, majoring in Business Logistics.

The title of the study is: “Logistical challenges when delivering new leisure boat to customers” and the aim of the research is to analyze the supply chain when delivering a new leisure boat to the boat-owner from the manufacturer. The purpose is to detect the main deficiencies in the supply chain.

Research questions for this study are: RQ1. What causes the biggest challenge in the supply chain when delivering a new leisure boat to the customer? RQ2. Are there any major issues considering the last steps of the supply chain?

The method chosen for this study is qualitative research, for qualitative research emphasizes words than the numeric data. With the topic of this study in mind, a semi-structured interview is chosen as the interview approach since the interview can be conducted conversationally with one respondent at a time.

As a secondary source of data, this thesis uses relevant studies, journals, and other available sources of reliable information such as the legislation surrounding the topic. This data gathered from the primary and secondary sources will be reviewed from the business logistics perspective.

The respondents

The respondents in this study are leisure boat manufacturers and transportation companies in Finland, more specifically the individuals withing those companies who work directly with logistics or oversee the supply chain.

The respondents are given full anonymity and all the confidential information covered during the interview will be anonymized in such fashion, that it is not possible to recognize the respondent from the answer. Before the interview, the consent for recording during the interview was checked with the interviewee.

The interviews will be carried out electronically via Zoom meetings during September to December of 2021, as the COVID-19 crisis hindered the interviews from being held face-to-face. The data gathered from the interviews will be firstly audio-recorded with the consent of the participants from the said interviews, and the audio-recording will then be transcribed into text.

All the possible company identificatory factors such, as names, brands, and places will be removed from the transcribed versions, thus protecting the identification of the companies and their representatives involved in the interviews.

The questions

The questions for the interview are following:

1. Let us go through the general picture of you company, what does the supply chain look like when delivering a ready product to the customer?
2. Are the typical customers private individuals or resellers?
3. What challenges are involved in the supply chain for private individual customers?
4. Does the boat builders own the lorries?
5. Owning the lorry vs. outsourcing the delivery service, which do you prefer?
6. Does the ownership of the vehicle cause inconvenience? If yes, how does that affect the customer satisfaction?

7. What time of the year are the deliveries usually?
8. Is there a rush at a certain period of time that may cause inconvenience and additional costs? If yes, how much does that affect delivery prices?
9. Is there any single large and specific challenge in the supply chain? How you fix that?
10. Is it possible to consolidate the lorry transports?
11. Can a lorry be used on the way back to manufacturer, aka does reverse logistics exist with your company?
12. What is the single most successful point of the supply chain?
13. If you could change anything about the supply chain, what would it be?
14. Do you have anything else to add?

The ending

The respondents will be thanked for their participation to this interview, and they are given the opportunity to get the copy of this study after it is finalized and published.