CHALMERS

The Beneficial Cargo Owners' Credibility in the Work of Sustainability

A case study within containerized liner shipping

Bachelor thesis for Shipping and Logistics Program

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CHALMERS UNIVERSITY OF TECHNOLOGY
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PREFACE

The study was conducted as the final part of the bachelor's degree in Shipping and logistics at Chalmers University of Technology during the spring of 2021. The thesis was written for the department of Mechanics and Maritime Sciences.

We would like to extend our gratitude and appreciation to our external supervisor Lars Green for his inspiring expertise, and for his engagement that guided us to the right topic.

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Gothenburg, May 2021
Amanda Andersson & Julia Nilsson

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SAMMANDRAG

Sjöfarten står för en stor del av den internationella handeln, vilket har lett till ökade utsläpp. Dessutom har MARPOL och nationella lagar utformats för att reglera utsläppen från sjöfarten. Detta har påverkat linjerederier när det kommer till dess strategier gällande miljö, exempelvis som val av bränsle där investeringar i alternativa drivmedel blivit en del av agendan. Fortsättningsvis har varuägare fått en allt viktigare roll vid val av transport, där de insett vikten av hållbarhetsarbete och marknadsföringens påverkan på affärsnyttan.

Syftet med studien är att undersöka hur viktigt hållbarhet är för varuägare vid val av transportsätt, samt att klargöra deras trovärdigheten i hållbarhetsarbetet. Rapporten bygger på kvalitativa metoder, främst kurslitteratur och tidigare examensarbeten samt relevant vetenskaplig litteratur. Semistrukturerade intervjuer har genomförts med varuägare. Studien har avgränsats till globala linjetrafik transporter och varuägare inom Sverige.

Resultatet indikerar att hållbarhet är en viktig faktor för varuägare, dock visar studien på att transportkostnad fortfarande är den viktigaste. Slutsatsen påvisar att majoriteten av företagen inte är lika trovärdiga som de marknadsför sig, vilket beror på bristande kunskap och incitament.

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ABSTRACT

Shipping accounts for a large part of international trade, ultimately contributing to increasing emissions. Moreover, regulations have been created such as MARPOL and other legal instruments to regulate the emissions from the shipping industry. This has affected the shipping companies' attitude regarding environmental strategies, of which the choice of bunkers plays a major role. Liner shipping companies invest in alternative fuels, as BCOs become more interested in reducing the environmental impact of the transport mode of their choice. Indeed, they have realized the business benefits of emphasizing sustainability toward their customers. As such, BCOs play a major role in the development moving forward, depending on whether they chose an environmentally friendly mode of transport or not.

The aim of the study is to analyze how important sustainability is for the BCOs when choosing mode of transport, as well as investigate the credibility in their work of sustainability. The report is based on qualitative methods, mainly through literature books and theses as well as relevant scientific literature. Semi-structured interviews have been conducted with beneficial cargo owners. The study has been delimited to global liner shipping transports and beneficial cargo owners situated in Sweden.

The result indicates that sustainability is an important factor for the beneficial cargo owners, yet cost is the ruling factor for the transportation. It is concluded that the companies' credibility is damaged, due to their general lack of knowledge and interest, ultimately due to lack of external incentives.

Keywords: Sustainability, Beneficial Cargo Owner, Marketing, Greenwashing, Credibility, Liner Shipping, International Trade, Shipping.

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ACRONYMS AND TERMINOLOGY

BCO	Beneficial Cargo Owner
CO_2	Carbon dioxide
CSI	Clean Shipping Index
CSR	Corporate social responsibility
ECA	Emission Controlled Areas
EEDI	Energy Efficiency Design Index
ESI	Environmental Ship Index
HFO	Heavy Fuel Oil
IMO	International Maritime Organization
LBG	Liquid BioGas
LNG	Liquified Natural Gas
NECA	NOx Emission Control Area
NOx	Nitrogen Oxides
MARPOL	The International Convention for the Prevention of Pollution from Ships
SECA	Sulfur Oxide Emission Control Area
SOx	Sulfur Oxides
TEU	Twenty-foot Equivalent Unit
UN	United Nation

1. INTRODUCTION

There are sustainability challenges ahead, as climate threats are growing. Not to mention within the global supply chains, since the consumption is increasing (Boström et al., 2015). Therefore, laws and regulations have been introduced, forcing companies to become more sustainable (Boström et al., 2015). There is an ongoing discussion about the environmental effects that the production of a product has. It has become important for companies to market themselves as sustainable since they are being pressured to report the raw materials that are used during manufacturing (Mariadoss et al., 2011). However, being sustainable is much more than the actual manufacturing of a product. For example, a product cannot be moved from one place to another without transportation, and the transport sector is a prerequisite for a well-working logistic chain. Yet, transport has, in itself, a negative impact on the climate, as combustion of fossil fuels is a major contributing factor to the greenhouse effect around the world (Naturvårdsverket, 2021). Approximately 90 percent of all goods transported globally are at sea (Christiansen et al., 2020). According to the Swedish Transport Administration (Trafikverket, 2020), the emissions from shipping have significantly increased over the past 30 years, largely due to the increasing demand for freight. One contributing factor is due to the containerization. Since the middle of the 20th century cargo has been shipped in containers. The containerization makes the loading discharge and the transportation easier and accessible and more profitable for beneficial cargo owners (BCO). It reduces costs, transit times and the goods are provided with protection (Institute of Chartered Shipbrokers, 2018).

As the amount of goods increases, so does the transportation, ultimately negatively affecting the climate. In effect, laws and regulations regarding emissions have been clarified, tightened, and becoming an increasingly important issue. The United Nations (The UN) have adopted rules and regulations to prevent climate change. One example is the 2030 Agenda for Sustainable Development, where one of the goals is to reduce the emissions from the transport sector, and the universal global climate agreement in 2015 (The United Nations n.d).

As a result of the climate change, customers have begun to make demands against suppliers wanting more sustainable products. This means that BCOs need to change their strategy to meet the request of the customers as well as the laws and regulations. However, a company may appear outwardly to be sustainable, but when examined further, aspects of the sustainability work are forgotten, and transportation excluded in its entirety. Sustainable transportation within the maritime industry is costly, but important for the future. BCOs need to rethink their choices within their sustainability work and invest in greener transports, which could be, for example by choosing a vessel with better percentage of emission spillage. The main focus of the BCOs has generally been the most profitable alternative, which has led to environmental impacts of transportation being overlooked. However, as the pressure increases the BCOs might have to reconsider their choices and start taking action by choosing sustainability before profitability.

1.1 Background

The debate of climate change places responsibility on companies. Sustainability actions are seen as expensive (Företagarna, 2019). Yet, if firms start integrating environmental choices it may result in an advantage instead of a disadvantage, since modern day consumers have higher expectations of firms to be sustainable (Företagarna, 2019).

A company can claim to be sustainable. However, when they report their sustainability work, they do exclude transportation, by choice or mistake. The transport sector stands for 23 percent of the global emissions every year, where two to three percent are coming from the maritime shipping industry (Street, 2020). Approximately 90 percent of the international trade transports with vessels (United Nations Conference on Trade and Development [UNCTAD], 2020) and according to Lee et al. (2017), 52 percent of the cargo are by container vessels.

The globalization as well as the containerization has resulted in a rapid growth within liner shipping in the last decades. In 2013, vessels carrying containers transported 651 million twenty-foot equivalent units (TEU) with an annual growth rate of 9.3 percent. This can be compared to the year 1990 when the container traffic was "only" 85 million TEUs (Lee et al., 2017).

The container has become more than just a practical and solid loaded carrier. The complex system provides international trade with transport options and is a solution-oriented product that has become part of the infrastructure of modern society (Stopford, 2009). There is nearly one container for every occasion. The uniqueness of the container is the standardized dimensions, which make it easier to use throughout the transport chain (Institute of Chartered Shipbrokers, 2018).

1.2 Aim of the study

The aim of the study is to analyze how important sustainability is for the BCOs and what influences their choices, when choosing mode of transport, since the transport sector has a negative effect on the climate. Also, what factors are of importance when negotiating freights will be studied. Furthermore, the credibility of the BCO's sustainability work will be investigated and how they market themselves regarding the environment.

1.3 Research questions

To answer the aim of the study, the report will address to the following question:

- How important is sustainability for the beneficial cargo owners when choosing mode of transport?

- How credible are the beneficial cargo owners in their commitment to sustainability?

1.4 Delimitations

The study will mainly focus on BCOs sustainability work when it comes to choosing mode of transport within liner shipping. Sustainability is described on the basis of three aspects: social, economic and environmental (Maon et al., 2020). However, the study is delimited, and will focus on sustainability through an environmental perspective, and will therefore not include the social and economic perspective. This is, in order to keep focus and answer the research questions. The emphasis on the environment will primarily include emissions to air from vessels, such as carbon dioxide (CO_2), nitrogen (NOx) and sulfur (SOx). There is a delimitation of BCOs working within Sweden, which was recommended through the external supervisor and private contacts, and therefore, the decision of only interviewing Swedish BCOs were made. To cover a suitable part of the industry, the interviewed BCOs were of different sizes and categorized by their annual turnover as small, middle or large sized companies. Furthermore, the method has been delimited to a case study, with semi structured interviews due to lack of time. On the basis of the study's time limit, it was decided to not develop the result with a quantitative method. In addition, the report is aligned towards containerized liner shipping to get a delimited group of BCOs, that focus on similar types of transports.

2. THEORY

This chapter concerns theory around the study. It gives a deeper understanding of how liner shipping affects the environment, as well as how BCOs work towards a sustainable future. The facts presented throughout the chapter are of relevance for the study.

2.1 The impact of shipping on the environment

The transport sector stands for 23 percent of the global emissions every year, where two to three percent are from the maritime shipping industry (Street, 2020). The global shipping industry is growing, since the amount of cargo is expected to increase due to population growth (Andersson et al., 2016). Approximately 90 percent of the international trade transports with vessels (Hoffmann, 2010)

This indicates that emissions will increase, which leads to environmental impacts since there will be more vessels operating (Havs och vattenmyndigheten, 2018).
The industry, therefore, has an important role contributing to a carbon-neutral economy by 2050 as well as staying below the two-degree Celsius goal compiled from the Paris Agreement (ITF, 2018).

Shipping contributes to emissions into the air that are harmful to the environment. CO_2, SOx and NOx are the three general emissions that vessels emit (Havs och vattenmyndigheten, 2018). According to Naturvårdsverket (2020), the vessels' fuel makes up the majority of CO_2 emissions. In 2019 it was measured up to 9.6 million tons of CO_2 equivalents, which can be compared with 1990, where an increase of 159 percent can be seen (Naturvårdsverket, 2020).

SOx are a naturally occurring argon that is also found in fossil fuels. However, during combustion processes SOx is constituted and thereafter spread in the air through combustion gases. According to the Swedish Transport Agency (2020), "*shipping accounts for a significant proportion of global sulfur emissions*". The emissions contribute to acid rain that affects vegetation and freshwater bodies. Also, particulate emissions that are harmful to the human respiratory system (Clean Shipping Index, 2020).

CO_2 occurs just as SOx, during combustion of fuels. The greenhouse gas has a substantial impact on global warming (Fridell et al., 2014). Furthermore, the CO_2 emissions from shipping currently aggregates to approximately 940 million tons annually, which sums up shipping to 2.5 percent of total greenhouse gas emissions globally (European Commission, 2021). The emissions contribute to climate change. This in turn leads to an increase in the earth's average temperature and affects, among other things, the rise of sea levels (The Intergovernmental Panel on Climate Change, 2014). CO_2 is one of the most significant greenhouse gases (Clean Shipping Index n.d).

Emissions of NOx occur through combustion processes (Fridell et al., 2014). This leads to acidification of the rain which affects vegetation and freshwater bodies. Furthermore, just like SOx, NOx is harmful to the human respiratory system as it creates smog and tropospheric ozone formation (Clean Shipping Index n.d).

2.1.1 Environmental shipping index

The environmental index is used to show the vessels' environmental performance to get an overview of the conditions in the various ecosystems. By using environmental index, different benefits can be distributed to the vessels that have higher environmental performance and with a lower impact on the environment. This entails a long-term reduction in emissions from vessels (Environmental Ship Index [ESI], 2021).

Table 1
Environmental shipping indexes

The Environmental Ship Index	The Environmental Ship Index (ESI) is one of several indexes that measure the environmental impact of vessels. The index is based on the ship's emissions of SOx, NOx and CO_2 into the air, but also particulate emissions and the decibel level from the ship. Depending on the index value of the vessel, this can lead to reduced port charges, the less emissions from the vessel then lead to a better index value (Environmental Ship Index [ESI], 2021).
The Clean Shipping Index	The Clean Shipping Index (CSI) is an environmental index that is independent and helps the transport buyer to choose more sustainable shipping alternatives. CSI is used by the Swedish Maritime Administration and measures emissions from ships to the air and water. There is an advantage of having a good index value where the shipping companies provide discounts on port and fairway fees (Sjöfartsverket, 2021).
Energy Efficiency Design Index	Energy Efficiency Design Index (EEDI) measures the ship's environmental performance by measuring its energy efficiency. The IMO introduced a set of rules in 2013, which means that they require newly built vessels to have a calculation of EEDI together with the classification society during its test trip (IMO, 2021). Thanks to this, emission reduction targets are set, and the idea is that over time, vessels will work towards becoming energy efficient (Transportstyrelsen, 2021).

2.2 Alternatives to lower emissions from vessels

Since the most commonly used fuel today, heavy fuel oil (HFO), has a negative impact on the environment, new alternatives have been introduced to meet the requirements that are set for the vessel's emissions. HFO is, as mentioned, the most common and the fuel that most vessels are adapted to. It has a high durability and a low price; however, the sulfur concentrations are higher than 3.5 percent, which means that it does not meet the global regulations (Yi et al., 2020). Due to the requirements set, alternative fuels, as well as other various types of resources have been designed for vessels to emit cleaner exhaust gases. Examples discussed below are Liquid Natural Gas (LNG), Liquid Biogas (LBG), methanol and scrubbers. However, there are other fuels on the market that also have a positive impact on the environment. One problem that plays a major role in the investment of environmental fuels, is the matter of expense (Xing et

al., 2020). This is since vessels are built and adapted to HFO, which leads to greater costs to implement a completely new system adapted to other fuels or for example, scrubbers to reduce emissions (Xing et al., 2020).

2.2.1 Liquid Biogas

Liquid biogas is fossil-free and a natural gas that is formed when organic material is broken down, such as food waste and manure. It consists mostly of methane but also carbon dioxide and it is becoming more common as fuel for vessels (Khan et al., 2017). When cooling the gas to minus 161 degrees Celsius, the formula is changed to liquid. Furthermore, it compressed 600 times compared to its gaseous state, making it easier to handle as it takes up less space (Khan et al., 2017).

2.2.2 Liquefied Natural Gas

Liquefied Natural Gas (LNG) is a natural gas, i.e., a gas mixture with a high concentration of methane gas, which is used, among others, as fuel for vessels and trucks (Speirs et al., 2020).

When it comes to fossil fuels, LNG is one of the environmental fuel alternatives and the reason for that, is the emissions benefits that follow. LNG contains less carbon atoms compared to oil, which for many years has been the main fuel for ships. Fewer carbon atoms help to reduce the carbon dioxide concentration in the exhaust gases from combustion. Up to 25 percent, carbon dioxide emissions are reduced compared to oil (Siyuan Wang & Theo Notteboom, 2013). Environmentally harmful substances such as nitrogen oxides, heavy metals and sulfur oxides are also reduced during the combustion of LNG. According to Song et al., (2017), in China, the switch from diesel to LNG on heavy vehicles showed a reduction in greenhouse gas emissions by eight percent.

The fuel can be both gaseous and liquid, but in order to be used as a propellant, the gas must be cooled to minus 162 degrees Celsius and compressed to convert it to liquid form. In liquid form, the volume of the LNG decreases to about 600 times, which means that its transport becomes efficient, and it is only in this form LNG can be used as fuel (Ammar, 2019).

Not only due to reduction of environmental impacts, by using LNG instead of oil, fuel costs are reduced. The cost of LNG compared to oil has not risen to the same level for a long time. This has had a contributing factor in LNG receiving greater demand over the years (Svensson, 2015).

2.2.3 Methanol

Methanol is a sulfur-free liquid alcohol fuel, with lower exhaust emissions and carbon footprint than conventional marine fuels (Xing et al., 2020). According to Svanberg et al. (2018) it is seen as a useful technical fuel for the shipping industry.

Methanol emits no SOx and markedly reduces NOx (Ming Liu et al., 2019). Furthermore, there is renewable methanol that is fossil-free as well as conventional methanol (Xing et al., 2020). Methanol can remain liquid at ambient temperature and pressure. However, there are disadvantages as it requires approximately twice as much storage since it is not as energizing as other fuels (Xing et al., 2020).

A mixture of methanol and diesel can also be used to reduce carbon dioxide emissions. Methanol-diesel blends have a typical methanol proportion of 5–30% and additives are required to prevent phase separation (Xing et al., 2020).

2.2.4 Scrubber

A scrubber is used to clean the exhaust gases and is an aid that is installed on board the vessel. The scrubber makes the exhaust gases emitted from the ship to a primarily lower proportion of sulfur oxides, which means that they can be run on a fuel that has higher sulfur emissions but still not emit more than 0.1 percent (Fridell et al., 2014)

A scrubber is used by purifying exhaust gases by spraying seawater. This means that the pollutants do not accompany the exhaust gases into the air (Fridell et al., 2014). The contaminants then remain in the so-called washing water on board the vessel. Then there are two options depending on whether it is a closed or open scrubber. The closed scrubber stores the washing water on board and is then emptied at a facility that disposes the water and purifies it. (Winnes et al., 2018). The open scrubber instead releases it directly into the sea (Fridell et al., 2014).

2.3 Organizations and Regulations

The following section presents organizations that play a significant role in shipping as well as its impact on the environment.

2.3.1 The United Nations

One of the main missions for the United Nations is promoting sustainable development which includes protection of the environment. Rules and regulations have been adopted to prevent climate change, such as the 2030 Agenda for Sustainable Development as well as the universal global climate agreement in 2015 (United Nations n.d).

The UN developed sustainability goals to support sustainable development at a social, economic, and environmental level, and are to be achieved by 2030. There are 17 goals that were adopted by the member states in 2015 to support the agenda. According to the UN, progress has been made. However, it does not meet the schedule since the changes are too slow to achieve the goals by 2030 (United Nations n.d).

In 2015, 196 countries adopted the Paris Agreement. The goal with the agreement, according to the United Nation Climate Change (UNFCCC, n.d) secretariat, “is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels”. The Paris Agreement is legally binding and exists for the 196 countries to work together against climate change (United Nation Climate Change [UNFCCC], n.d).

2.3.2 International Maritime Organization

The International Maritime Organization (IMO) is an organization under the UN, established in the middle of the 20th century. IMO creates laws and regulations regarding the safety and prevention of pollution from ships at sea. There are currently 174 member states. The member states have the obligation to implement the proposals and conventions that the IMO creates, in other words, it is the member states own responsibility to enforce the proposal into law and to some extent decide how it should be worded. It is the responsibility of the member states to implement the conventions into national legislation (IMO, 2021). For example, in Sweden, there are two methods to implement the conventions; to transform or incorporate. Transformation is a reformation of the law into Swedish legal text and incorporation is a reference to the convention or the law (H. Tiberg, 2016, s. 25).

Furthermore, the IMO works actively towards the global goals and describes on their website that "the goals will only be accomplished with a sustainable transport sector that supports world trade and facilitates the global economy" (IMO, 2021).

2.3.3 MARPOL

MARPOL is an international convention adopted by the IMO. The convention is based on six annexes, where Annex VI works to prevent pollution in the sea area from ships. The purpose of Annex VI is to limit emissions to the air from the vessels; sulfur oxides (SOx), nitrogen oxides (NOx), ozone-depleting substances (ODS) and volatile organic compounds (VOC) (Institute of Chartered Shipbrokers, 2018).

IMO, through MARPOL, is responsible for the regulations of the emissions and have established c such as Sulfur Emission Control Area (SECA) and NOx Emission Control Area (NECA). In 2015 value limits were established of how much SOx content the emissions can contain within the SECA area, which means that the SOx content should not exceed 0.10 percentage by weight (Transportstyrelsen, 2021). The SECA includes the Baltic Sea, the North Sea and the English Channel. For the remaining parts of the sea, the IMO has regulated from January 2020, the new SOx directive which means that the SOx content should not exceed 0.5 percent compared with the previous that was 3.5 percent (Transportstyrelsen, 2021). In the beginning of January 2021, NECA came into force to reduce NOx emissions from vessels in the Baltic- and North Sea. This prevails only when the vessel is in traffic within the area. The emissions of NOx have a limit value that is regulated by different tiers, these are based on the vessel's year of construction and the age of the engine. Furthermore, it can also depend on different technical components that affect the NOx emissions (Transportstyrelsen, 2021).

2.4 Beneficial Cargo Owner

A beneficial cargo owner (BCO) is the party that owns the cargo that is being shipped (Young, 2019). Moreover, it is a company who manufactures or wholesales and purchases frights from a transporting company (Styhre et al., 2019).

According to Wu et al. (2014), when BCOs and stakeholders choose the mode of transport it is determined by "monetary costs, lead time, and other intangible factors like customs policies and quality of services". Furthermore, Styhre et al. (2019) states that through an economical view, the choice of mode of transport is controlled by costs, as well as the quality of the transport.

BCOs have an important role in selecting the mode of transport when setting service requirements whilst purchasing transport (Wu et al. 2014). Previous studies show that the BCOs do not have the driving force to develop the transportation arrangements, as well as they do not see the need for it (Styhre et al., 2019). There are measures proposed, for example that management teams should develop distinct goals and policies regarding sustainability as well as their choices around mode of transport (Styhre et al., 2019). Moreover, increase the knowledge of shipping and additionally, collaborate with transport suppliers. By addressing the measures, the BCOs can manage the obstacles and act towards a sustainable shipping industry (Styhre et al., 2019).

There are five trends that affects the BCO according to Styhre et al. (2019);

- Trend 1: Globalization is declining
- Trend 2: Consolidation of transoceanic liner shipping
- Trend 3: Vertical integration
- Trend 4: Digital standardization and the establishment of new digital systems
- Trend 5: Fossil-free and energy efficiency

These trends affect the BCO since they ultimately have an impact on the cost of transportation (Styhre et al., 2019).

Furthermore, Styhre et al. (2019) conclude what affects the BCOs choice while choosing mode of transport. It is presented that the environment is not a priority and of importance such as reliability, geographical coverage, infrastructure, suitability for the cargo's characteristics and flexibility. However, it is stated that there is an upgoing trend showing that sustainability is becoming more important for companies. For example, environmental requirements within transport procurements set up, suppliers' environmental work are challenged, and calculations of the transport's environmental impact are followed. Overall, Styhre et al. (2019) argue that companies that set environmental requirements on the shipping industry as well as having the will to pay for sustainable transportation could influence the industry itself.

2.5 Corporate social responsibility and marketing

Recent years there have been changes in business attitude, which have led to firms having to become more responsible towards society and the environment. Furthermore, businesses have realized the importance of having a better insight about "wider social considerations and environmental effects arising from their activities". In other words, there has been a realization within firms' that corporate social responsibility (CSR) is of value (Brennan et al., 2020). CSR concerns the economic, environmental, and social aspects within a firm and is necessary since it ensures that firm's work towards the 2030 Agenda for Sustainable Development. The sustainable actions within a firm are crucial factors for reaching the environmental goals. Firms can throughout their sustainable work contribute to a better environment both on a national and international level (Regeringskansliet, 2013).

Marketing is part of companies' strategy and the four P:s; Product, Price, Place and Promotion, are often used when making a marketing plan. Business to Business (B2B) companies use the four elements to identify the market foundation; how to interact with customers, what the customers want, if the product meets the needs, if the product or service asserts itself and how it is perceived by the market. The P, Product's primary objective is to formulate a solution in order to create value for the customers (Lexa & Berlin, 2006). According to Brennan et al.

(2020) companies competing within the same industry, with the same product, most likely have the same core benefit. Furthermore, the challenges for B2B organizations are to have an advantageous competitiveness. However, to be competitive, firms can create added value for customers and at the same time ensure that the social and environmental effects are considered (Brennan et al., 2020). By adopting sustainable marketing techniques, a firm's sustainability practices can impact and improve sustainable consumer behavior (Mariadoss et al., 2011). It is argued by Kumar et al. 2014, that sustainability should be something that firms are committed to be part of their core. Furthermore, the author states that "*managers can build their brand by explaining the impact of their sustainability actions for helping the planet and mankind*". Governments should be a part and reward companies that display good sustainability actions. Sustainability needs to become competitive for it to be something that companies take seriously. Kumar et al. 2014 claim that sustainability practices and the outcomes of it can generate benefits for the firm's brand when communicating to customers and stakeholders.

2.5.1 Greenwashing

Marketing has an impact on sustainability which leads to companies needing to find good sustainability routines to strengthen the company and its attitude around sustainability. For companies to succeed with their sustainability strategies, it must convince customers in a positive manner which requires both knowledge and facts around the question. A company might succeed in building up a positive image of their sustainable actions (Brennan et al., 2020). However, there are still companies that will choose the profitable option when it comes to transportation and shipping of the goods instead of taking the more expensive and sustainable option (Schmuck et al., 2018). There are also companies that report and claim to be sustainable, yet in the end they will still choose the profitable and non-sustainable option. This phenomenon is called greenwashing which also can be explained as an environmental claim where companies advertise their product or service with a confusing truth and lack of information of the real environmental impacts (Schmuck et al., 2018).

2.6 Greener choices within liner shipping

Liner shipping companies have introduced offerings for their customers to make their cargo carbon neutral.

CMA CGM is one of them and has launched a value-added service called ACT+. The service implies several solutions which will help customers' environmental impact and make the cargo carbon neutral. CMA CGM describes on their website that it "*comprises four services, enabling its customers to analyze, reduce and offset the environmental footprint of goods' transport"*. The four services are called Cleaner energy LNG, Cleaner energy biofuel, Eco monitor and Positive offset. The intention with ACT+ is that customers have the opportunity to make their cargo carbon neutral as well as helping to strive for the shipping sector to become sustainable (CMA-CGM, 2020).

Another company within the liner shipping industry has introduced a product, which is a sustainable biofuel and a carbon-zero ocean product replacing conventional bunkers. The biofuel originates from used cooking oil (Street, 2020) and according to the company, it is a sustainable way to transport goods. Furthermore, the company has also invested in carbon neutral vessels, where the first vessel will be launched in 2023. The vessels will be powered by green methanol and have the capacity of 2000 TEUs. This will, according to the company, help customers, as well as the supply chain to decarbonize.

There are also companies within the transport sector that offer greener alternatives. One of them is a global third-party logistics company who offers to their customers to send their cargo fossil free.

3. METHOD

The following section describes how the study was conducted and the approaches used regarding literature research, interviewing method and the selection of interviewees. The analysis and the processing of information obtained is also described.

3.1 Research approach and strategy

The study is based on a case study on how Swedish BCOs work with sustainability when it comes to choosing mode of transport within liner shipping, with the purpose to explore their credibility. A case study was chosen since it provides a deeper understanding within an area, the factors and how it relates to each other (Denscombe, 2019) and in this case, to get an understanding and insights on BCOs sustainability work. The BCOs in the study are defined as companies active in Sweden who transports their cargo with a liner shipping company. The study fulfills the definition of a case study since it is a contemporary issue where the conducted factors can be of importance depending on its context (Denscombe, 2019).

The case study is based on a qualitative method, where information has been conducted from the interviews with six BCOs active in Sweden, to answer the research questions. The qualitative method was motivated by gaining a deeper understanding, knowledge, and different points of views on the subject. Furthermore, a qualitative method was chosen since a case study is often linked to a qualitative research method (Denscombe, 2019). In other words, a balanced selection of convenience was carried out. The interviewed BCOs were categorized after their annual turnover, and depending on the sizes of the companies, they were categorized as small, middle, or large sized companies. The BCOs were also within various industries, which gave a more suitable coverage. Throughout the study the BCOs are anonymous and referred to as BCO1, BCO2, BCO3, BCO4, BCO5 and BCO6. The study is based on two issues that would make it difficult to draw conclusions without interviewing BCOs (Yin, 2009). The interviews are therefore conducted to gain an understanding and knowledge of their work and why they make the choices they do. The research questions were formulated after a case study to get a detailed and comparable result. The questions are formulated as “how important” and “how credible”, and to answer these questions a case study is needed (Yin, 2009). Furthermore, the research questions are difficult to measure in a, for example, survey where the answers from the BCOs would have not been as detailed as during the interviews. This is to get a richer result which makes the answers more comparable (Yin, 2009).

3.2 Collection of data

Primary- and secondary data are two ways of collecting data. Primary data is information that has not been compiled before but is collected through research. For example, it could be through surveys, interviews, or observations (Frisk, 2018). Secondary data is information that has been collected from other research, in other words, it is data that already exists (Frisk, 2018). The primary data, in this study, is the data collected from the interviews and the secondary data is the information gathered from scientific research papers, websites and books.

3.2.1 Collection of literature

The collection of literature was conducted prior to the interviews, in order, to be as prepared as possible. When collecting data for the deepening of the area and for evidence for the study, different platforms were used. The information was retrieved through Chalmers library and Google Scholar to obtain relevant information from scientific papers and articles, as well as, from books. There has been an effort to use articles that have been peer-reviewed. The articles' references have been used for the search of information, statistics and for gaining a deeper knowledge. Furthermore, previous bachelor's theses, primarily about the environmental impact of shipping and its fuels, have been read to broaden knowledge in the subject area. In the source selection, CRAAP tests have been done. CRAAP stands for currency, relevance, authority, accuracy, and purpose, which helps to scale and determine if a website is credible or not (Wichowski & Kohl, 2013). The study contains data from websites, such as the Swedish Transport Agency, the UN's official website and among others. The organizations are well known and have an announced expertise which makes it a convenient choice. The ambition during the writing of the report has been to gather sources that are as recent as possible.

The keywords below have been used to find articles within the same area and were selected through our research questions. Summaries were read to sort out the articles who were not considered to support the report, entire articles were then read to bring out those who made the scientific basis of the report.

Keywords when searching for data:

Greenwash, Sustainability, Environmental Shipping, LNG, LBG, CSR

3.2.2 Collection of data during the interview

Interviews with the BCOs was held, thereafter the collected data was transcribed and thematically analyzed, which developed the result. The collection of data, during the interviews, derives from semi-structured telephone interviews with the BCOs. During a semi-structured interview, the interviewer has a complete list of topics and questions to be asked of the interviewee. A semi-structured interview means that the interviewer is flexible while asking the questions and allows the interviewee to develop ideas and thoughts around the issue (Denscombe, 2019). The interviews included ten questions, which gave time for the interviewees to develop, as well as express their own view and opinion around the topic. Also, the interviewer can be flexible when asking the questions and deviate from the list of completed questions as well as invite the interviewee to a discussion (Denscombe, 2019). This resulted in a more profound result. Also, through an interview it is easier to get an understanding of the interviewees view on the topic by hearing the way they speak. Semi-structured interviews fit greatly for this study, since it is a difficult topic to discuss, as well as it contains personal opinions which would not be possible to get through, for example, a survey. However, a survey could have been a good complement to improve and strengthen the result, yet due to the time limit it was not possible to implement. Due to the prevailing circumstances with Covid19, the interviews were held through platforms on the internet. Furthermore, it made it easier to schedule an interview since the interviewee could participate from where they were that specific day, as well as it was easier to record the interview for transliteration (Denscombe, 2019).

3.3 Selection of BCOs for the interviews

It is a debated topic and companies have it on their agenda. When interviews are to be conducted, a selection of representatives occurs. However, it was difficult to get hold of BCO's to participate in an interview. At the same time there has been a lack of contacts, due to only two students and a pressure of time. Therefore, the chain method was chosen since a whole population could not be covered. It is an effective selection process that begins with a few people who then grow by the already prospective people recommending additional people who are relevant for the research (Denscombe, 2019). The six BCOs were selected through a recommendation from the external supervisor, who has expertise and knowledge within the industry, and a balanced selection of convenience was carried out. The chain method is an effective technique to build a reasonable large selection. According to Bryman & Bell (2013), there is a challenge with the chain method. The method is not representative of the population since the sampling is not random and it is not possible to ensure what the population looks like. However, the advantage of using this method is that the growth of people goes quickly since the selection recommends others to be interviewed (Denscombe, 2019).

3.4 Implementation of the study

The initial phase of the study was to formulate the purpose and research questions by finding relevant materials to further design the theory section. The materials and information were reviewed and valued with the help of a CRAAP test. This is done to be able to take further assumptions established on a theoretical framework with essential information based on the issue.

3.4.1 Elaboration of interviews

The interview questions were formulated with the help from the external supervisor, in order to get a broader perspective that covered large areas and collected appropriate information. Several BCOs were contacted through email and telephone, with a request for an interview. Unfortunately, the proportion of BCOs that was planned to be included from the start was not succeeded. Even after several emails and phone calls, with the emphasis that it was a shorter interview adapted to their schedule. Some BCOs did not answer at all, while others at first seemed positive but withdrew when the issue was presented. In the end, six BCOs agreed to an interview. The interviewees came from different industries and varied in size. Section 3.5 describes the method of selection.

3.4.2 Conducting interviews

The interviews conducted were semi-structured and were held over telephone. All interviewees were allowed to take part of the questions in advance, which resulted in structured interviews where interviewees had time to develop their answers. According to Bryman & Bell (2013), that is the purpose since it gives the interviewee the possibility to formulate well-structured answers. The interviews were recorded to provide the opportunity to use correct quotes and to check the answers to the questions. All interviews lasted an average of 30 minutes. During the interviews there were two interviewers, one asking the questions and one taking notes.

3.4.3 Analysis method & Compilation

The interviews were transcribed without delay. Thematic analysis was used to find patterns in data and to be able to distinguish the answers to the respective prepared questions and to simplify the analysis (Denscombe, 2019). Bryman (2011) mentions that thematic analysis is one of the most common approaches for qualitative data. The method aims to organize data. The key topics and sub-themes identified, consist of repeated motifs in the text used on the data. When sub-themes have developed, by finding repetitions, categories, similarities, and differences as well as linguistic connections. The sub-themes were created by manual coding, where the sub-themes were highlighted. When the data was arranged, it was divided into central themes. Discussion and conclusion were formulated at the end of the work to provide a holistic perspective of the study. The validity of the interviews is difficult to ensure, however, the interviews gave an understanding of the interviewees view of the topic by hearing them speak freely. What was supposed to be examined was examined through the interviews. Yet, the validity could have been strengthened with more research and interviews, such as, with a survey. A survey could have been a complement to improve and strengthen the result even more.

3.5 Ethics

All six interviews were noted, recorded, and transcribed. It was communicated in advance due to ethical principles, which Bryman & Bell (2013) consider important when conducting interviews. Five ethical principles are described by Bryman & Bell (2013) that were used during the interviews. Such as, informing the interviewee with information that is not false or misleading, having the interviewees approval, that what they say is confidential and that they are anonymous as well as declaring to the interviewee the purpose of the study. These five principles were used during the interviews due to the ethical approach of the study. The choice to keep the company's confidentiality and anonymity is due to the interviewee being able to speak freely. Also, since publication of names does not add or change the result of the study.

4. RESULT

The following part of the report presents the result of the study.

To answer the question formulas, six BCOs within various industries and of different sizes, have been interviewed to get an insight in their sustainability work. Sustainability is the theme of the interviews, where BCO1-6 answers and describes how their sustainability work and strategies are composed. We have interviewed six BCOs within various industries and of different sizes. The chapter firstly presents a brief summary of the interviews to get an overview, thereafter the interviews are presented in detail and divided into six headings with associated answers.

Table 2

The interviewed companies and the size of their business

Company	Size
BCO1	Middle-sized
BCO2	Middle-sized
BCO3	Small-sized
BCO4	Small-sized
BCO5	Large-sized
BCO6	Large-sized

Table 3

Summary of the interviews

Theme	Category	Summarize
Company strategy	Priority	Five companies except one state that sustainability is a priority within their strategy and that it is an important issue.
	Not a priority	One company said that it is not a priority, however, they explained that it has become an important issue recently and that they are trying to implement it in their strategy.
Transport policy	Have a dedicated transport policy	None.
	Do not have a dedicated transport policy	All the BCOs do not have a dedicated transport policy that contains sustainability issues.
Sustainable choices of transport	Important	Only two of them mentioned it as their main focus.
	Not important	Four of them did not mention it as their main focus, however, it is still a factor and in the back of their head when choosing transport
Impact factors on sustainability transport	Important	According to four of the BCOs, it is important that the transporter has sustainability work. Two companies of these four were even requiring reports and numbers of emissions from the transporter.
	Not important	Two companies did not see it as important.
Greener choices of transports	Priority	Three BCOs are choosing environmental transport.
	Not a priority	Three BCOs has not a greener choice of transport as a priority.
Customers impact on the company	Have an impact	Five of the BCOs claim that their customers care.
	Do not have an impact	One BCO says that their customers do not have an impact.
Decision making within the company	Influences decision making	All of the interviewed are able to make decisions regarding the environmental work within the logistics of the company.
	Cannot influence decision making	None.

4.1 The strategy and policies of the Companies

When asking the six BCOs if they have a strategy within their organisation regarding sustainability, all companies except one stated that sustainability is a priority within their strategy and that it is an important issue. BCO3, a small-sized company, was the only company that said no, however, they explained that it has become an important issue recently and that they are trying to implement it in their strategy.

Furthermore, none of the BCOs have a dedicated transport policy that contains sustainability issues. All of them seem to have an ambition of sustainability when it comes to transportation. Yet, no one has a policy around the question that they need to follow.

4.2 The impact factors of the choice of transportation

Four of six companies said that costs are an important factor when choosing transports. Furthermore, BCO1 and BCO3 mentioned that lead time is of importance and BCO1 and BCO4 also said availability and service. BCO3 stated:

> The main focus is money, lead time and of course the environment. But in the end, when you have to make the decision, it will still be money that it is about.

All six BCOs said that sustainability is a factor and is always in the back of their head when choosing transport, but only BCO5 and BCO6 mentioned it as their main focus. BCO4 declared that they choose shipping companies that have sustainability work and that it is a prerequisite for them to even start a negotiation in the first place. Furthermore, BCO2 mentions sustainability as a factor when choosing transport, yet the heavy cargo and the low value means that there will not be many crowns per tonne and therefore while negotiating it is the price that matters. BCO2 stated:

> The main focus is money, lead time and of course the environment. But in the end, when you have to make the decision, it will still be money that it is about.

4.3 The factors when choosing sustainable transports

According to four of the BCOs, except for BCO3 and BCO5, it is important that the transporter has sustainability work, and they declare that they deselect companies without it before even starting a negotiation. However, only two of them were specific about requiring reports and numbers of emissions from the transporter, and these two companies are middle and large-sized. BCO3 did not think of sustainability at all when it comes to transportation, this is since they have worked with the same companies for many years and therefore, they do not negotiate new freight rates. BCO5 only thinks about price while negotiating freights.

4.4 The greener choices of transports

Overall, none of the BCOs are choosing an environmental transport except BCO4 and BCO6. One gave an example of a transportation service with lower climate impact and the other one stated that they have invested in electric vehicles. Both companies also showed and gave examples of numbers on how much more they pay every year. BCO4 said:

> Yes, we do. We have just started using a product offered from a third-party logistics company where we pay a higher price for all packages we send.

Furthermore, BCO5 mentioned that they chose an environmentally friendly transport choice, but they did not have any evidence of it. Even though almost none of the BCOs choose a green product with a better percentage of emissions today, for example CMA CGMs value-added service ACT+. BCO1, BCO3 and BCO4 stated that they could do it. BCO2 and BCO5 states that they can do it, yet that the cost is still important. BCO5 said:

> We can imagine buying the service, but it cannot cost as much since it must be a business benefit.

None of the BCOs could give a number of how much more they can pay, except BCO4 and BCO6 who referred to how much extra they pay for the transportation service that they already use. The BCOs had difficulty answering and only BCO4 and BCO6 were positive about paying more for sustainable transport. BCO1 stated:

> It is difficult to say, but over 10% will hurt.

To clarify, none of the BCOs could give a number of how big the reduction in emissions must be for them to switch to a greener transport choice. Therefore, the BCOs could not give an answer to how many percent extra they could imagine paying, except for BCO4 and BCO6 who were the only companies positive about paying 5-10% or higher.

4.5 Customers impact on the company

All the BCOs except for BCO2 claim that their customers care. However, only two of them see that their customers care a lot about their actions within sustainability. All BCOs except one see a greater demand from their customers.

4.6 Decision making within the company

All people interviewed from the BCOs have a higher position within the company and are a part of the management team. They consider themselves being able to make decisions regarding the environmental work within the logistics of the company. According to BCO5:

> I am a part of the management team, and I can probably get through with most things.

5. DISCUSSION

The following chapter discusses the result of the study (5.1), as well as the choice of method (5.2).

5.1 Discussion of result

According to the United Nations Conference on Trade and Development (UNCTAD, 2020), shipping accounts for a large part of all international trade, which also has led to increased emissions. Moreover, regulations have been created such as MARPOL and national legislations to regulate the emissions from the shipping industry. This has affected the shipping companies' attitude regarding bunkers as well as their overall strategies. Liner shipping companies are making investments for the future and have the 2030 goals in sight, for example the shipping company CMA CGM, who invested in LNG and carbon neutral vessels. The companies investing in environmental alternatives place great emphasis on marketing in order to also influence BCOs to strive for the 2030 goals. BCOs also receive pressure from their customers who are engaged to see that they choose sustainable alternatives, and that sustainability work is a part of the strategy.

The study shows that almost all BCOs have set up a sustainability strategy and that there is an awareness. This is considered to be due to the pressures mentioned, the BCOs have no other choice but to implement sustainability in their strategy to not lose customers. However, it is perceived that even though the awareness is there and written down in a strategy, how their organization is built to promote the environment, it turns out that there is a lack of knowledge within the subject. This, because all the interviewees stated that they are able to implement decisions regarding environmental transports, although the majority do nothing to take advantage of their position. Furthermore, the lack of knowledge can also depend on poor internal communication and resources that creates gaps within organizations since what is determined by the management might not reach the entire company. This might be due to the fact that there are no follow-ups from the management team making sure that the sustainability work is done correctly by everyone within the organization. Even though the BCOs have sustainability in their strategy, it does not mean that they do the outermost to promote the environment. In other words, the companies might have a high level of ambition overall to be sustainable, yet the gaps within the organizations can cause misdirection. It may not be intentional to prevaricate, yet it is seen as a lot of talk and no action.

Styhre et al. (2019) mentioned that BCOs have an important role in the choice of transport, yet they do not have the urge to develop the transportation arrangements. This has been noticed during the interviews, as the majority do not use an environmental transport choice today but are willing to consider making the choice in the future. However, when and how much it is allowed to cost, when asked, none of them had an answer. This is considered as a lack of incentives and to postpone the problem. If they lose market shares, a change will probably take place. It is deduced from the interviews that currently it is of importance to be competitive and that there are no economic benefits of being sustainable. According to Styhre et al. (2019) an increasing trend is seen, showing that sustainability is becoming more important for companies, which is also proven by the fact that all BCOs, as mentioned above, could consider making environmental choices in the future. Yet, at present there is a lack of incentives to choose the environmental alternative.

The majority of the BCOs also say that cost is a huge factor when it comes to choosing mode of transport, which is interesting since environmental transports today usually means a higher price. In other words, the BCOs want to change the behavior, but are still not willing to pay what it takes. At the same time, they say that they strive to become as climate neutral as possible, which then should mean that the cost should not play as big of a role as it currently does. It can be assumed that the BCOs easily stare blindly at numbers instead of seeing the whole. picture If you want to achieve the goals, you must be prepared to pay and the more people who do, the more profitable it will be. Governments must begin to make demands in order for a change to take place and for climate change to reverse. This, in turn, will lead to that the BCO will be able to avoid the costs. As previously mentioned, Styhre et al. (2019), there are five trends that affect the BCO since they have an impact on the cost of transportation. For example, trend 5, fossil-free and energy efficiency, which means that vessels need to modify to achieve environmental goals. This in turn leads to large costs for rebuilding vessels, which then affects the freight costs and the BCOs since they are the ones paying. Therefore, as mentioned, the costs will not be avoidable.

Even though the majority mentions that they do not negotiate with companies that do not have sustainability in their strategy, it does not mean that they generally pay more for a sustainable transport. In addition, a lack of knowledge is noticeable since the majority could not state a concrete example of transport where a higher freight price with less emissions is being paid. Only two BCOs could actually show figures and give examples of how they work to promote the environment. The similarity between these companies is that both are big actors within their industry, which then probably means that they must be credible since they have greater demands and more people observing their work.

As mentioned, CMA CGM place great emphasis on marketing. However, none of the companies interviewed had heard of the investments of LNG and carbon neutral vessels, which then can indicate poor marketing or ignorance from the BCOs. This is seen from the interviews since the majority of the BCOs answered that they do not make an environmental choice even though there are options on the market. Nevertheless, everyone was interested in choosing environmental transports, such as CMA CGM's new value-added service, which will be costly, yet have a smaller climate footprint. However, cost and business benefits were still one of the important aspects for the majority of the companies. Therefore, how credible are they when they allow cost to be the deciding factor? All while marketing themselves as sustainable?

Most of the BCOs see an increasing demand from its customers, which has led to the environmental issue becoming a bigger part of the company's strategy and marketing. This is interesting in the sense that companies' market themselves as sustainable but in the end, it is still, for some, the costs that matter. According to Schmuck et al. 2018, it is an environmental claim where companies advertise their product or service with a confusing truth and lack of information of the real environmental impacts. Many companies front themselves with a strategy and policy that in reality has no real substance other than nice words. The question must be asked; how much work is actually done? The BCOs are not willfully misleading their customers, but the BCOs lack of knowledge and incentives for sustainability indicate a lack of credibility.

5.2 Discussion of method

The source selection has been carefully valued and evaluated according to the CRAAP test, which has made the statements of the report's being grounded on a scientific basis. Sources from both national and international organizations have been used and are therefore considered reliable since they have created the laws and regulations that the report is based on.

The effects of Covid-19 resulted in interviews not being conducted in physical form. All six interviews were held digitally and may have had an impact on the outcome, due to missed body language and shifted mood, which is a major disadvantage. However, it had a positive effect since the BCOs did not have to take their time to have a visit and could therefore manage an interview in a shorter period of time. This may have affected more BCOs to stand up for an interview. What also might have had a negative impact, due to Covid-19, is that many companies have had to dismiss and therefore the workload for these companies have increased, which might have made it difficult for them to find time for an interview.

The choice to use case study and qualitative methods with semi-structured interviews has led to a broader collection of data, as the people interviewed have been able to speak freely with a connection to the issues. It contributed to thoughts and opinions being mixed with fact-based information. This leads to greater reliability and provides a broader perspective due to the verbal conversation. The disadvantage of this method is that it is time consuming and requires many resources, as there is a lot of information to process and analyze.

The choice of method could have been quantitative, with a survey, which would have been timesaving. However, this would have made the data increasingly narrower and more difficult to interpret. A survey could also be misleading since the answers would not be as developed as well as they could choose the alternatives in the survey that are of advantage for the companies.

5.2.1 Reliability and Validity

The concepts of reliability and validity are important in research when discussing to what extent a study is reliable and credible (Bryman & Bell, 2013). Reliability shows the study's authenticity and validity refers to whether the researchers have measured what is intended to be measured correctly by identifying and observing correct factors. The interviews were chosen to be recorded to strengthen the reliability. It enabled the use of accurate quotes by transcribing the interviews afterwards. To ensure the interpretations of the respondents' answers, the transliteration was performed followed by a discussion of the answers.

The intention was to interview more BCOs to strengthen the reliability, to cover a larger part of the population and to get a secure result. However, it indicates that the results and conclusions that have been drawn would look similar regardless of how much of the population that would be covered. Due to the report's research questions and the fact that the subject is not measurable in numbers, the material has been analyzed through a subjective evaluation. Collected qualitative data describes the subject instead of measuring it, which sometimes makes it difficult to relate objectively to the result, since as a human being there are understandings and prejudices.

The concept of replicability refers to whether the study is reliable where the results of the study should be similar at a later time if the conditions are similar (Bryman & Bell, 2013). In a qualitative study, it is impossible to replicate since the authors together with the interview

respondents create something unique. The semi-structured interviews were based on an interview template and therefore, the interviews were formed in a similar way.

In order to achieve a scientific value with the study, validity is important and aims at whether the authors have measured what is intended to be measured correctly by identifying and observing correct factors. There are different types of validity, for example internal and external, where internal validity is that the authors' observations are the same as the research and theory that already exists in the subject. External validity is instead the credibility of the data used and the result of how this can be generalized (Bryman & Bell, 2013).

What is intended to be measured in the study, has been measured and the observations correspond to research and theory that already exists in the subject. In the report, only BCOs within Sweden were interviewed. However, the data collected indicates similar answers and results as already existing facts, which makes it easier to generalize. Even if the population of interviewers increases, the result will probably be consistent.

The reliability and validity could have been strengthened with more research and interviews, such as with a survey, that complies with the interviewing questions. This would have given the study a more measurable result, since it would have highlighted the essentials from the interviews. Furthermore, the results of the interviews are considered to have a strong saturation, however, a survey would have narrowed the answers even more, which would have led to a more comparable result. A comparable result would give the study a higher reliability and validity. The result of the study could look different depending on who the interviewee is, where it is located and within what business they are active in.

5.2.2 Non-response

The proportion of BCOs that was planned to be interviewed in the beginning of the study was not met. This may be partly due to the fact that the BCOs have been under pressure during Covid-19. Furthermore, it can also be an insulting topic since most BCOs only withdrew when the issue was presented. Why it may have been perceived as insulting can depend on various things. However, one reason could be that they are aware that their sustainability work is not credible and are therefore frightened to participate in case they say something that will influence the company image negatively.

5.2.3 Qualitative research

The result of a qualitative study cannot be considered to represent a population. It is therefore agreed that more qualitative surveys were needed in the form of interviews from BCOs as well as a further quantitative survey with follow-up questions, based on the first interviews.

Semi-structured interviews were a method choice that complemented the literature search. However, this led to a large amount of data, which was time consuming to transcribe and to analyze. As a result of the interviewees not speaking in written form, it entailed extra work where reformulation and structural change in the text was required (Denscombe, 2019). The choice of letting the interviewee take part in the questions in advance, may have influenced since it gave an opportunity to study the subject.

With a relatively limited time frame, the decision was made to collect thoughts and analyzes from the BCOs during the first period of writing. However, this was affected as it took longer

than expected to get hold of companies who wanted to participate for an interview, which meant that the time period in which the data was collected became widespread. This caused time pressure towards the end of the report.

6. CONCLUSION

In the following, the report's conclusions are presented. It is based on the research questions as well as the results. Lastly, recommendations for further research are introduced.

The aim of the study was to analyze how important sustainability is for the BCOs and what influences their choices, when choosing mode of transport, since the transport sector has a negative effect on the climate. Also, what factors that were of importance when negotiating freights were studied. Furthermore, the credibility of the BCO's sustainability work was investigated and how they market themselves regarding the environment. This was to see how important sustainability was for the BCO when choosing mode of transport, as well as study how credible they were in their commitment to sustainability.

The report shows that sustainability is an important factor for BCOs when choosing mode of transport as well as that BCOs are having an important role in the development of more sustainable transportations. It is seen that customers and governments are demanding sustainability. Nevertheless, the majority of the BCOs do not use an environmental transport today but are willing to do it in the future, yet when and how much it is allowed to cost, no one could give an answer to. This is considered as a lack of incentives and to postpone the problem.

The companies strive to reduce the carbon footprint, but the costs and business benefits are still a huge factor for the majority when negotiating freight. The BCOs want to implement more sustainability in their transports but are not prepared to pay the price. This indicates that sustainability is not that important for the BCOs when choosing mode of transport, instead it is the price and business benefits that matter.

The BCOs credibility of their sustainability work is difficult to measure. It is observed that company's market themselves as sustainable, which the study shows are inaccurate since they do not do the utmost to promote the environment. It is also questionable why companies interviewed consider themselves to be able to implement decisions regarding environmental transports but do nothing to make an effort to take advantage of their position. This is considered as lack of knowledge and incentives which could be due to the gaps within the organizations. Another observation is the poor marketing of the available sustainable transport services, since it does not reach the BCOs as well as the BCOs do not do any research themselves, which can imply ignorance from the BCOs. Furthermore, during the interviews the majority could not state a concrete example of environmental transports, where a higher freight price was being paid to decrease emissions. This indicates, once again, lack of knowledge, which results in a doubt on the BCOs credibility. It may not be intentional to prevaricate, yet it is seen as a lot of talk and no action. Another interesting aspect that doubts the credibility of the BCOs is the fact that many companies chose to reject the interview after the issues were presented.

In conclusion, it is indicated through this study that sustainability is an important factor for the BCOs, yet in the end it is still the costs for the transportation that are of value. Furthermore, the majority of the BCOs are seen to be not as credible as they market themselves. This is due to lack of knowledge and incentives as well as ignorance from the companies.

7. RECOMMENDATIONS FOR FURTHER RESEARCH

During the study, areas have been encountered that have been interesting, but have not been relevant and have deviated from the issue.

The study is based on transports at a global level. Therefore, it would have been interesting to study and go deeper into transports within Sweden, as these transports have come further in the development of alternative fuels.

The report includes actors within Sweden who are considered to take the environment seriously. Therefore, further research with a broader perspective and a greater inclusion of BCOs would have been interesting. This, to get a larger spread and better material to be able to strengthen the reasoning.

Another interesting part for continued research work is to investigate why gaps exist within organizations and how it can be bridged.

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APPENDIX

Attachment 1.

1. Is sustainability a priority issue in the company's strategy?

2. What factors are the most important in your choice of transport?

3. Do you have a transport policy that contains how sustainability issues are prioritized?

4. What are the most important issues regarding sustainability that guide you while negotiating freights?

5. Do you choose an environmental transport choice today?

   5a. Can you give an example of a transport where you pay a higher freight price with lower emissions and where does the tolerance level go?

6. If there were a green product or service with a better number of emission percentages, would you consider choosing it?

   6a. How big of a reduction in emissions can it be for you to be able to switch to it?

   6b. Could you imagine paying 5% or 10% higher for it? Why?

7. How much do you think your customers care about how you act in your sustainability work?

8. Are you alone or in a management team, and how is your position in this group perceived? Can you make a decision yourself? If not, do you need the CEO approval to get decisions through?

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