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Sustainable Transportation's Value to the End-Customer

Heini Mäkelä

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Abstract

Sustainable development in its many forms has gained an ever-increasing role in the business decisions of modern companies. As the end-customers of different products and services want to know in more depth what they are both supporting and paying for, companies need to be more open about their processes and show continuous willingness to develop their practices.

Transportation has created a major share of the emissions that are one of the biggest causes behind climate change. The development of transportation modes and services has established its place as an important part of sustainable development and green logistics practices.

A study was conducted to answer the following question: *What is the value of green transportation to the end-customer?* The two supporting questions provided the subject with the viewpoints of transportation's visibility and marketability to the end-customers.

The theoretical basis was divided into three categories: Sustainable development, transportation and marketing. These categories were directly connected to the viewpoints the study was based on.

The study was conducted using qualitative research, a case study and a survey, which supported the viewpoint on the end-customers. The study methods, and the findings gained from them, were then combined to answer the research questions.

The results answered the research questions. Furthermore, the results provided insight into the current state of transportation's value for companies, logistics professionals and the end-customers of these services.

Keywords/tags (subjects)

Sustainable development, green logistics, sustainable transportation, transportation modes, marketability

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Tiivistelmä

Kestävä kehitys monissa muodoissaan on saavuttanut jatkuvasti kasvavan aseman nykyaikaisten yritysten päätöksenteossa. Samalla kun tuotteiden ja palveluiden loppuasiakkaat haluavat tietää tarkemmin mitä he tukevat ja mistä maksavat, yritysten täytyy olla avoimempia menetelmistään ja näyttää jatkuvaa halukkuutta kehittää toimintaansa.

Kuljetukset ovat saaneet aikaan merkittävän osan päästöistä, jotka ovat yksi suurimmista syistä ilmastonmuutokseen. Kuljetusmuotojen ja -palveluiden kehittäminen on vakiinnuttanut paikkansa tärkeänä osana kestävää kehitystä ja vihreää logistista toimintaa.

Tutkimus toteutettiin, jotta saataisiin vastaus seuraavaan kysymykseen: *Mikä on vihreiden kuljetusten arvo loppuasiakkaalle?* Kaksi tukevaa kysymystä lisäsivät aiheeseen näkökulmat kuljetusten näkyvyydestä ja markkinoitavuudesta loppuasiakkaille.

Teoreettinen pohja jaettiin kolmeen kategoriaan: Kestävä kehitys, kuljetukset ja markkinointi. Nämä kategoriat liittyivät suoraan näkökulmiin, joihin tutkimus perustui.

Tutkimus toteutettiin käyttämällä laadullista tutkimusta, tapaustutkimusta sekä kyselyä, joka tuki näkökulmaa loppuasiakkaista. Tutkimustavat ja niillä tehdyt löydökset yhdistettiin tutkimuskysymyksiin vastatessa.

Tulokset vastasivat tutkimuskysymyksiin. Tämän lisäksi tulokset tarjosivat näkemyksen kuljetusten arvon nykytilanteesta yrityksille, logistiikan ammattilaisille ja palveluiden loppuasiakkaille.

Avainsanat (asiasanat)

Kestävä kehitys, vihreä logistiikka, kestävä kuljetus, kuljetusmuodot, markkinoitavuus

Muut tiedot (Salassa pidettävät liitteet)

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Vocabulary

CEO: Chief Executive Officer. The head of a company, in charge of the highest-level of decision-making. (What is a CEO (Chief Executive Officer)? n.d.)

CO_2: Carbon dioxide. One of the greenhouse gases that cause climate change when released to the atmosphere. (A blanket around the Earth n.d.)

CSR: Corporate social responsibility. The combination of economic, social and environmental values in business. CSR reports follow international sustainability reporting principles, led by the European Union. (Iatridis & Schroeder 2016, 31; Corporate Social Responsibility (CSR) n.d.)

End-customer: In the Thesis, the term is used to describe all consumers who purchase and use different products and services.

EU: European Union. Comprises of 28 European member countries. (Corporate Social Responsibility (CSR) n.d.)

GHG: Greenhouse gas. Gases, such as methane and carbon dioxide, are released to the atmosphere, which prevents heat from escaping Earth's atmosphere, causing global warming and climate change. (A blanket around the Earth n.d.)

Global Compact: Ten principles by the UN, meant as the basis for responsible decision-making in companies (The Ten Principles of the UN Global Compact n.d.).

Green logistics: Used to describe the sustainable, or environmentally friendly, development of logistics, which includes sustainable transportation (McKinnon, Browne, Piecyk, & Whiteing, 3–5).

Green transportation: In the Thesis, the term green transportation is used interchangeably with sustainable transportation to further describe the connection it has with green logistics.

ISO 14000 -series: A set of international standards regarding the environment. ISO 14001 is the standard used for environmental management systems. (ISO 14000 family – Environmental management n.d; ISO 14001:2015 2015.)

Market value: The monetary price, accepted by the seller, which the customer is willing to pay for each product or service (market value n.d.).

Scope emissions: Scope 1 emissions are controlled by the company, scope 2 emissions are indirect and come from the production of the energy the company purchases, and scope 3 emissions are indirect and come from the rest of the life cycle, such as transportation and storage (FAQ n.d.).

SDGs: Seventeen Sustainable Development Goals created by the UN. The goals are for 2030 and were set in place in 2015. (The Sustainable Development Agenda n.d.)

Shareholder: Anyone who owns shares in a company and has the right to be a part of its decision-making process (shareholder n.d.).

Stakeholder: Includes any parties, such as the employees and customers, interested in the company's status (Bragg 2018).

Supply chain: Consists of the suppliers, resources and services behind the manufacturing and delivery of the product (Nawrocka 2010).

Sustainable development: A process that supports the growth of society with changes that allow both the current and future generations access to the same or improved living conditions and environmental balance (Sustainable Development 2013).

UN: United Nations. Founded in 1945, the UN has 193 Member States that work together for principles such as climate change and human rights. (Overview n.d.)

Value chain: Consists of the decisions made at every step of the production and its supply chain, from design and manufacturing to after-sale support (Keegan & Green 2017, 25–26).

1 Introduction to the Thesis

The subject was chosen due to its importance to the author. In the ever-increasing conversation around **sustainable development**, and its efforts to improve the environmental balance, the author has noticed a lack of consideration regarding the value transportation has to the end-customers (Sustainable Development 2013).

Logistics includes transporting, storing and handling raw materials and products. **Green logistics** is a term used for the environmentally friendly development of sustainable logistics, which **sustainable transportation** is a part of. (McKinnon et al. 2015, 3–5.)

The impact tranportation has on the environment can be seen from the share of emissions that come from it. In 2016, transportation (excluding international maritime) caused 29.3% of the total CO_2 emissions in the European Union (EU Transport in Figures – Statistical Pocketbook 2018, 143).

Furthermore, in Finland in the year 2013, many transportation companies closed down because they could not keep up with competitiveness while they were expected to invest in bigger equipment. Even in 2017, although there was improvement in the demand of transportation, the challenges in profitability remained. (Polamo 2018.)

Following the trends of sustainable development, and the prementioned impact emissions from transportation have on it, the author sees there to be importance in further increasing sustainable transportation's value to support its profitability. By combining the view on green transportation with marketing, the intention of the Thesis is to increase the author's understanding on these two subjects and share the findings with peers in the field of logistics.

1.1 Research Objective

The purpose of the Thesis is to find ways to describe the value green transportation has to the end-customer. From there, the study uses the customer point of view to name issues that transportation faces in its development, which will support the marketability and growth of demand-based sustainability in transportation.

Within the limits of the study conducted, the main research question is:

1. **What is the value of green transportation to the end-customer?**

To support this viewpoint, the two supporting questions are:

2. **How much visibility is transportation getting in the sustainability reports and code of conducts of the studied companies?**
3. **What aspects of green transportation are seen as important for its marketability?**

The study considers transportation as a logistics service that is a part of both the supply- and value chains. This means that all companies use transportation at some point of manufacturing and delivering their products or services, in either local or global operations.

The type of transportation does not have to be directly visible to the end-customer, or decided on by them, if it is a part of the supply chain of the customer's purchase. Due to this, all use of the company vehicles is included in the study of the sustainability reporting.

1.2 Research Method

The following research methods were selected because the aim is to describe the nature and scale of available information regarding sustainable transportation to increase interest in the subject. All data used in the study is accessible to the end-customer due to being made publicly available by the selected companies, and it is taken into consideration that the information is limited by nature.

1.2.1 Theory of Research

Case studies take an in-depth look into a selected topic that can vary both in size and type. On its own, case study is not a research method, as each researcher can use any suitable means to investigate the subject of their choice. (McLeod 2014.)

Of the commonly used research methods, **quantitative research** needs a large enough sample size that allows for numerical measurement of the gathered data. This makes the results appear accurate and more easily comparable. The other common method is **qualitative research**, which focuses on the quality of each sample. For qualitative

research, the questions are more open-ended, and the intent is to gather more in-depth information on the subject. (Bilgin 2017.)

For surveys, the **validity of the research** stands for the accuracy of the questions to gain responses that match the research objective. Furthermore, it means to ensure that all relevant angles are measured when it comes to the subject under study. Considering the **reliability of the research** means to ask how accurate the responses to the survey are. To define reliability, the consistency of the responses is studied to see if the respondents understood the questions the same way. (Mora 2011; Survey Sample Size n.d.)

To provide accurate results, the **sample size** of the survey should be large enough to represent the **target population**. In the responses, the **margin of error** percentage is then added to include the missing population. (Survey Sample Size n.d.)

There are many research methods from which to select the most suitable for the needs of each study. As an example of **probability sampling**, which aims to most accurately represent the target population, the research method of **random sampling** means for each person in the target group to have an equal chance of being chosen for the study. (Dudovskiy n.d.)

In **non-probability sampling**, however, there is a random element in the entirety of the selection process of respondents, which means that the entire target population cannot have the opportunity to represent their view. An example of non-probability sampling methods is **snowballing**, where the respondents can freely invite more participants to partake in the survey. While this does invite a larger sample, it also leads to the possibility of more network-specific responses and an increased error margin. (ibid.)

1.2.2 Data Gathering in the Case Study

Research Method

The goal of a case study is not to create generalisations but to gain better understanding of the subject under study. Both the more interesting and important aspects of the selected cases are showcased to demonstrate the current situation as

it is presented in them, which helps in being able to describe the phenomenon. (Tapaustutkimus (Case Study) n.d.)

Due to the above, the case study strategy is used in the Thesis because it gives a way to describe transportation's visibility using means that are available and understandable to all who have interest in searching for the information. Furthermore, instead of generalisation, the answers to the research questions help in redirecting attention to areas of interested as they are named through the means of the case study.

The Thesis focuses its approach by using a relatively small sample size and qualitative research. With the help of the set restrictions, which assist in making the data more comparable, the author conducts a case study using six sustainability reports and code of conducts from companies that have made them both publicly available.

Although some of the data from the publications is transformed into numerical values, as with counting the instances certain vocabulary is used in the reports, this part of the research is also considered from a qualitative perspective. This means that the study is more in-depth and numerical information is only used as support in how the findings are presented to the reader.

Restrictions

The sustainability reports researched in the case study have been published within two years of this study. However, the code of conducts can have been published or implemented during any year for as long as they are currently in use.

When the company has separate internal and supplier code of conducts, only the one specifying the obligations of the third parties is considered. For the sustainability reports, the reports under study are not combined with any other annual reporting.

In cases where it is relevant, the research is restricted to consider parent companies that have over 10,000 employees and that operate, for the most part, within Europe. Still, it is not necessary for them to be based in countries that are a part of the European Union.

The main business operations of the five companies are not in the same field with each another. Furthermore, other than the logistics company used as the baseline, the

companies under study do not work primarily in the field of transportation. However, not all logistics processes have to be outsourced and the companies may still have their own fleets.

1.2.3 Validity and Reliability of the Survey

Sample Size

The survey includes any age, gender and nationality. The most important aspect is the customer-experience of transportation's value.

The survey does not intend to create generalisations or to portray the global experience of transportation's value. However, the respondents are used as examples of individual mindsets to further support the study's viewpoint on the customer-experience of what is considered valuable.

The survey was shared as a link through the author's social media outlets. Through contacts in Finland and other countries, which mostly includes the United States, the exact spread of the survey cannot be defined: this makes the survey non-probability sampling in a form that allows snowballing.

Because most people are customers of logistics services, even if indirectly, no restrictions were added to the survey's target population. Despite this, the number of replies remained relatively small, which supports the above decisions.

Format

The language of the Thesis is English, but all questions in the survey are available both in English (Appendix 3) and Finnish (Appendix 4). This made the survey available to as many respondents as possible, although there is no division made between responses based on nationalities.

Regarding validity, the survey consists of **multiple-choice questions**, mostly with either "yes and no" or "from scale one to five" options. Despite the numerical presentation of the results, the sample is studied through qualitative means. To support this, no margin of error is used, and there are some open questions, although they were not mandatory for the respondents to fill.

For further reliability, before publishing the survey, both the English and Finnish questions were read through by two people who were asked what they thought of the survey and if there was anything that needed correction especially when it came to grammar or clarity. With the multiple-choice format, and with quite simple response options, the understandability of the questions is directly connected to the reliability of the responses.

Content and Results

In the survey, the only questions related to the respondents' identity are whether they currently study or work in the field of logistics or if they are full-time students. The former is used to create a relatable division in the responses.

Instead of asking questions about the entire field of transportation and how it is perceived, the scope of the survey, in relation to green transportation, is limited to **online shopping**. In doing this, the survey was able to present the subject of transportation in a way that the respondents were likely to have considered beforehand and able to relate to in their daily-lives.

As the aim of the survey is to support defining transportations' value to the end-customer, the most important aspect is the general interest the respondents have on the subject. A high value is given to the respondents who answered to the open questions, as these replies have the most qualitative properties and better showcase the respondents' willingness to discuss the subject with personal remarks.

2 Theoretical Basis

The fields covered in the Thesis are sustainable development, transportation and marketing. For each subject, the theory is limited to be a suitable match for the considerations of the research objective.

2.1 Sustainable Development

Sustainable development is an ongoing process to support the growth of society and economy with changes that will allow both the current and future generations access to the same or improved living conditions and environmental balance (Table 1). The

commitment to these changes is monitored through different national and international policies. (Sustainable Development 2013.)

Sustainable development		
Economy	**Environment**	**Society**
- Fair prices - Competitiveness - Growth	- Climate change - Biodiversity - Waste management	- Safety - Access - Health

Table 1. Sustainable Development (adapted from McKinnon et al. 2015, 108)

One of the challenging environmental matters is **climate change**, which is caused by the increased rate at which **greenhouse gases (GHG)**, such as **methane** and **carbon dioxide (CO_2)**, are released into the atmosphere. These gases prevent heat from escaping Earth's atmosphere, which causes **global warming**: it is estimated that carbon dioxide emissions make up for 82% of the effect. (Romm 2016, 1–2; A blanket around the Earth n.d.; UN Environment "walks the talk" on carbon neutrality 2019.)

Furthermore, due to global warming, temperatures today are estimated to be 0.85°C higher than they were in the year 1900. (ibid.) According to Iatridis and Schroeder (2016, 1), the Center for Health and the Global Environment (n.d.) estimates climate change to be the cause for the loss of 25% of land species by the year 2050.

While **green sustainability** asks for renewable development in the way resources are being used, the **sustainability of a business** means for a company to create enough income to not only continue operating but also to fulfil the stakeholders' expectations. When green sustainability and the sustainability of a business are combined, companies have an active role in replacing and recycling resources needed for their operations and the society as a whole, without further damaging the environment. (Santos, Akabane, & Santos 2013.)

2.1.1 Philosophical Basis

Morale includes the principles people follow with the intent to act correctly and well, and the research of morale is called **ethics**. An act done without morale is not necessarily against the regulations set by a society, but ethics try to find out what moralistic thinking is based on and which actions really are the correct ones, regardless of the situation. (Hakala, Kopperi, & Nissinen 2010, 12–13.)

In philosophical thinking, **values** are the goals that individuals consider important and are able to justify in more detail than their more basic needs. When value is combined with morale, or the need to act correctly, their impact can also be seen in the shared rights that some societies try to uphold. These include **human rights** such as the right to life and freedom from slavery. (ibid., 24; The Human Rights Act 2018.)

2.1.2 Globalisation and Values

Globalisation means that interaction between different geographical areas and continents is increasing, as it is made easier through modern technology. Included in these interactions are political relationships, movement of goods and people, cultural behaviour, and different ways of thinking. (Cantell 2013.)

The modern view on globalisation gives more importance to production, markets and currencies. The connections created across national borders make complex systems possible, but there is speculation that companies acting in countries where they are not selling the manufactured goods can also have a negative impact on the local economies. (Santos, Akabane, & Santos 2013.)

Since sustainability means to continuously support and replenish resources, it is connected to the type of production and suppliers that companies have in their use. Through these connections, the preservation of resources and nature can take place both globally and locally. (ibid.)

An example of global action and the presence of values, as summarised by Miettinen (2019), is the Finnish Ministry of Environment's Climate Barometer 2019 survey, which says that Finns want climate action to be an important part of politics both within Finland and Europe. Out of the 1,013 respondents, 75% want the **European Union (EU)**

to be an example to the rest of the world regardless of the impact that the climate action might have on the Union's competitiveness.

2.1.3 Code of Conduct

Supply chain, and **supply chain management (SCM)**, consists of the suppliers, resources and services behind the manufacturing and delivery of the product to the the end-customer. According to the qualitative study conducted by Nawrocka (2010, 130-131), having a large number of suppliers limits a company's ability to focus on the issues of **environmental supply chain management (ESCM)**, which is why the focus tends to be placed on the strategic suppliers. The engagement to environmental awareness is driven on by media and public interest (ibid. 125).

Ethics code of conducts are used to state the core values of a business in a clear and easily accessible format, to further harmonise the behaviour of both the management and employees (Bătae 2018, 60; Blok 2017). The codes consist of the written policies that companies can use to define the ethical basis behind their actions, which can include matters such as human rights, anti-corruption and confidentiality. (Hardy 2016, 1; Iatridis & Schroeder 2016, 31.)

Harmonisation, and the general clarity of company strategies, is an important objective to the modern work environment and leadership. As a part of this, well structured code of conducts, which are being followed and monitored by the organisation, are said to bring value not only externally but also through increased competitiveness. (Ruuskanen 2009.)

By using these policies, companies can establish standards and consequences for the employees misconducts even when they are not necessarily illegal. With the increase of multicultural relationships, establishing the same policies for all stakeholders, such as international suppliers, is of increasing importance. (Hardy 2016, 1.)

The extent and language used in code of conducts depends on the company's objective regarding their use. In an article, Hardy (2016, 4–7) names ten steps that companies should consider when creating the basis for an ethical policy. These steps are listed on the next page.

The basis of an ethical code of conduct

1. Define and clarify the content,
2. Name the affected parties and identify those at the most risk,
3. Assign responsible parties for each steps of the process,
4. Create a confidential reporting method for misconducts,
5. Name the committee and representatives for every sector affected,
6. Emphasise the systems confidentiality and victim protection,
7. Emphasise the equality of the system and set consistent outcomes in case of misconducts,
8. Name the impartial party to further avoid conflicts of interest,
9. Make the code of conduct public to all affected parties and stakeholders, and
10. Follow and maintain the policy, and initiate updates when necessary. (Hardy 2016, 4–7.)

However, according to Blok (2017), Ladd (1985) states that the very idea of summarising ethics in the form of corporately shared codes goes against ethical thinking being a self-imposed act. Furthermore, according to Bătae (2018, 60), Hussain (2014) says that what makes following ethics code of conducts difficult is that those who break them tend to be the people in the highest positions of trust that the management then does not wish to challenge. The underlying issue is that although corporate codes are established, their existence does not inherently mean that they are being followed (Blok 2017).

2.1.4 Governance and Sustainability Reporting

Corporate governance stands for the structure of decision-making processes within the company. The importance of well-designed governance is connected to the management's attitudes regarding sustainable development and company image. (Álvarez-Vijande, Barker, Decleire, Drescher, Viénot, Prijovic, Richez-Baum, Virtanen, & Wibault 2010, 13.)

In the past, **corporate responsibility** focused on finding methods that most benefitted the business. Currently, the role of human wellbeing is seen as the priority, which takes into consideration not only the business itself but also the rest of the society and stakeholders. However, this does not diminish the importance of making profit. (Iatridis & Schroeder 2016, 31.)

Corporate social responsibility (CSR) combines economic, social and environmental values (ibid). In a report from 2018, around 64% of decision-making in the respondent Finnish logistics companies was based on economic, 21% on social and 15% on environmental factors (Solakivi, Ojala, Laari, Lorentz, Kiiski, Töyli, Malmsten, Bask, Rintala, Paimander, & Rintala 2018, 21).

Company responsibility can be presented in **sustainability reports** that showcase the values of the company as well as their governance style (About sustainability reporting n.d.). European Union, and its 28 member countries, support international CSR reporting principles. The reporting is seen to contribute in more companies working towards sustainable decision-making and to better monitor how well they follow the three values of CSR. (Corporate Social Responsibility (CSR) n.d.)

Under Directive 2014/95/EU, EU demands companies that have more than 500 employees, and that are relevant to the public, to publish these **non-financial reports**. The reports disclose the information regarding matters such as environmental protection, human rights and employee diversity, and the format can follow non-mandatory guidelines. This allows the companies to choose which matters are considered relevant while also including the intent to make the shared information more consistent and comparable. (Non-financial reporting n.d.; European Commission – Fact Sheet 2017.)

2.1.5 Standards and Goals

ISO Family

By following different standards and guidelines, companies can reduce their environmental impact and prove it with certificates. The **ISO 14000** series is a set of international standards regarding environment, and it includes subjects such as climate change and life cycle analysis. (ISO 14000 family – Environmental management n.d.)

ISO 14001 is the standard for **environmental management systems** used by companies. According to the standard, environmental management systems should work for the betterment of the company's performance by contributing to sustainability and environmental awareness. The standard can be used by companies

of any size as it does not include any specific objectives for the expected performance. (ISO 14001:2015 2015.)

United Nations

In 2015, the **United Nations (UN)** set an agenda for the development they intend to take place before the year 2030. However, it is not legally binding. (The Sustainable Development Agenda n.d.)

Figure 1. The UN's Seventeen SDGs (from Sustainable Development Goals n.d.)

The 17 **Sustainable Development Goals (SDGs)** include matters such as poverty, gender equality, responsible production, and climate (Figure 1). There are also 169 targets that are monitored with global indicators and that the participating countries and stakeholders, which includes private sector and civilians, are expected to aim toward. Additionally, the previously discussed ISO 14001 standard also contributes to 15 of them (The Sustainable Development Agenda n.d.; ISO 14001:2015 2015.)

The **UN** also has the **Global Compact** that has ten principles based on the other related declarations. These principles include the fields of labour, human rights, environment and anti-corruption, and are meant to work as the basis for responsible corporate governance. (The Ten Principles of the UN Global Compact n.d.)

2.2 Sustainable Transportation

The multitude of effects on the environment that transportation has include for example the emissions and atmospheric pollution, noise pollution, roads damaged by vibrations, traffic and accidents. **Sustainable transportation** aims to reduce them. (McKinnon et al. 2015, 33–45.)

2.2.1 Green Logistics

The term **logistics** is commonly used for transporting, storing and handling raw materials and products. In the last years, the public interest has pushed companies to reduce the many environmental impacts logistics is involved in, which has led to the idea of **green logistics**. (McKinnon et al. 2015, 3–5.)

Carbon neutrality stands for achieving a level of processes that have a net zero **carbon footprint**. Having no carbon footprint means that there is either no carbon released from the processes or that the amount equals to the efforts taken to eliminate the emissions. In relation to this, **decarbonisation** is the term used for creating the solutions that lower carbon emissions. (UN Environment “walks the talk” on carbon neutrality 2019; Research approach n.d.)

Environmental impacts are divided into **first- and second-order impacts**, with first-order impacts being the ones directly connected to transportation, warehousing and material-handling. Meanwhile, second-order impacts are indirect and include the created waste, such as oil and scrap metal, and the effect transportation has on biodiversity, or the variety of living organisms, which relates to the space being allocated for the needs of logistics operations. (McKinnon et al. 2015, 32; Carrington 2018.)

Derived on the previous, the emissions that come directly from logistics operations are first-order impacts (ibid.). However, from a business point of view, the division to **scopes** can be used to report emissions.

According to the **GHG Protocol Corporate Standard**, **scope 1** emissions are controlled and owned by the company, while **scope 2** emissions are the indirect emissions that come from the production of the energy the company purchases. This leaves **scope 3** emissions, which are the indirect emissions that come from the rest of the product or service's life cycle: as an example, this includes raw material processing, transportation, storing and the actual use of the product. (FAQ n.d.)

2.2.2 Transportation Modes and Emissions

Transportation modes include road, rail, air and maritime transportation, which all use different infrastructures. There are also inland waterways and intermodal transportation, the latter which combines two or more of the modes during the transportation process. (Transport Modes n.d.) **Fleets** in logistics and transportation can consist of different vehicles, such as trucks and trains. The fleet size should be able to support distribution needs based on the demand. (Pujo & Wibowo 2015.)

Air freight creates several times more emissions than for example rail and waterways, while rail creates far less emissions than transportation by road. However, it is important to note that different types of emissions are created by each transportation mode, and other aspects affecting the amount and type of emissions created also include speed of travel, distance and the weight of the freight. (McKinnon et al. 2015, 153–154.)

Of the global GHG emissions created in 2010, 14% is estimated to have come from transportation. The sources of these emissions mostly consist of fossil fuels used in varying transportation modes. For comparison, the biggest source of emissions were energy industries at 25%, where GHG emissions are created from burning materials such as coal and oil. (Global Greenhouse Gas Emissions Data n.d.)

In the European Union in 2016, when compared by each industry sector, transportation (excluding international maritime) created 24.3% of the total GHG

emissions (Figure 2). Energy industries were the highest source of emissions at 26.9%. (EU Transport in Figures – Statistical Pocketbook 2018, 127.)

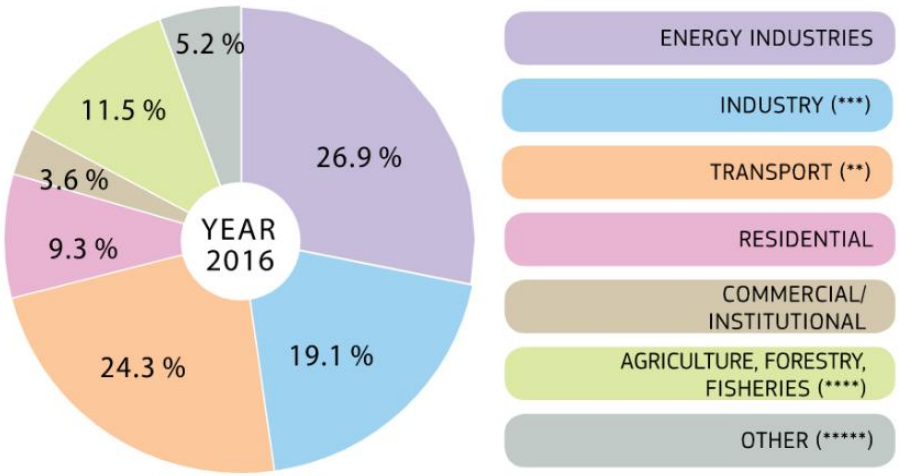


Figure 2. GHG by Industry Sector (from EU Transport in Figures – Statistical Pocketbook 2018, 127)

When the share of emissions per each transportation mode in the EU is compared, road transportation creates the highest amount. Road transportation's share was 72% in 2016, with civil aviation third at 13.3%. (ibid., 134.) Figure 3 shows emissions by road transportation mode: heavy-duty trucks and buses made up 38.1%. (ibid., 139.)

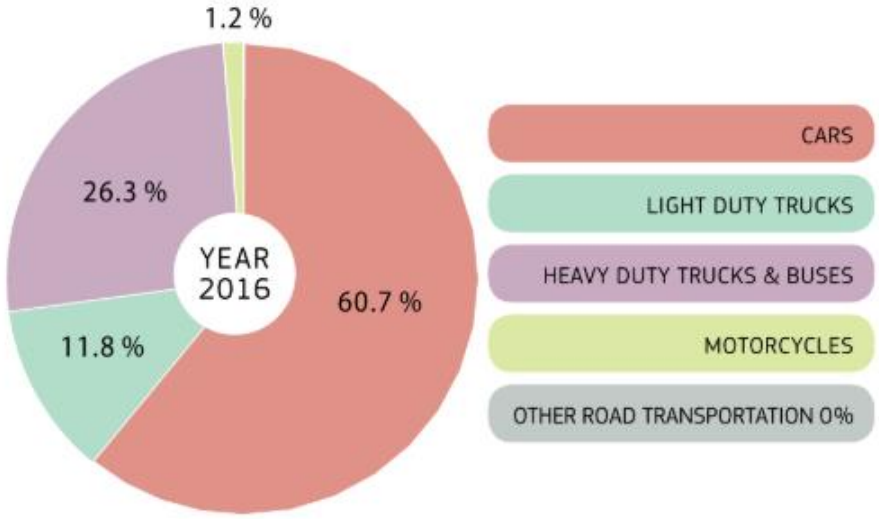


Figure 3. GHG from Road Transportation (from EU Transport in Figures – Statistical Pocketbook 2018, 139)

2.2.3 Current Trends in Transportation

Online Shopping

According to a study by the International Post Corporation (IPC), 38% of the total of 33,589 respondents had made their recent online purchases from Chinese stores. The most purchased products are relatively cheap and small in size, such as clothes and electronics. (Cross-Border E-Commerce Shopper Survey 2018 2019, 12–14.)

In 2018, the revenue from online shopping of fashion was $481.2 billion. This value is expected to increase to $712.9 billion by the year 2022, and already by 2020, the number of customers is expected to grow to be over 1.2 billion. The reasons listed behind the numbers include the increasing availability of online access and growing global markets. (Orendorff 2019.)

According to a study done by Tampere University in 2017, 40% of the 1,376 respondent Finns had returned clothing purchased online, and around third had returned more than 40% of their entire order (Nalbantoglu 2017). Meanwhile, IPC's study shows the the global return percentage of all products to be 8% (Cross-Border E-Commerce Shopper Survey 2018 2019, 16).

Development of Logistics Operations

The logistics report from 2018 shows that many Finnish logistics companies have been able to gain better environmental perfomance in the past two years despite their economic results having gone down. A possible reason is the lower results leading to further optimisation of delivery routes and similar factors, which also affects environmental performance. (Solakivi et al. 2018, 108–110.)

To further cut the need for transportation, companies can change their packaging to take less space to lower the number of shipments. For example, Orkla Foods Finland Oy, which produces the ketchup brand Felix, say they to have cut the CO_2 emissions by 90% through no longer transporting the empty ketchup bottles in their full size between the bottle manufacturer and ketchup factory. (Iso maku, pieni hiilijalanjälki [Big taste, small carbon footprint] n.d.) This promotion was prominent at the time of writing the Thesis.

Regarding the previous, transportation services are seen less profitable the closer to the primary sector, or production, they take place in: The closer to the end-customer and the demand, the higher the value of the service. This also relates to the needs of the service's quality being different at the two ends of the supply chain. (Polamo 2018.)

On the side of development asked for by the end-customers, according to the study by IPC, 25% of the respondents thought the delivery times for online orders made from abroad were too long. Furthermore, 32% of the respondents asked the one improvement from the post to be faster delivery times. (Cross-Border E-Commerce Shopper Survey 2018 2019, 15).

When asked about environmentally friendly options, 47% want carbon-neutral deliveries and 60% sustainable packaging (ibid., 4). Respectively, 18% and 22% of the respondents strongly agreed to being willing to pay €0.10 more for each of these services (ibid., 9).

Fuels

In 2010, almost 95% of the fuels used in global transportation were **petrol and diesel**, but Neste estimates that by the year 2030, around 10% of the global car fleets will be made out of **electric vehicles**. Furthermore, they estimate that by 2021 the demand for **renewable diesel** will have doubled both in Europe and North America. (Global Greenhouse Gas Emissions Data n.d; Neste's 'Taking Action on Climate Change' examines changes in energy and transport markets 2017.)

Petrol and diesel fuels are used in the same engine-type and create carbon emissions. Meanwhile, electric vehicles use electricity as their fuel, and **hybrid vehicles** combine electricity and other fuels to provide a longer driving distance without the need for charging. Other than electric vehicles, there is also a growing number of discussion regarding demand for vehicles that use **gas-fuels**. (Dieselauto vai bensa-auto? Kumpi polttoaine on vähäpäästöisempi? [Diesel or petrol car? Which fuel has lower emissions?] n.d.; Sähköautot ja hybridit [Electric cars and hybrids] n.d.; Virtanen 2018.)

Natural gas lowers carbon emissions by 25% when compared to petrol, and its life cycle **biogas** in transport use is also estimated to have lower GHG emissions than petrol by 85%. Both of these gases are methane based, and biogas is produced by using

household biowaste. (Virtanen 2018; Biogas – eco-friendly all the way from source to tank n.d.)

An example of biogas in the use of transportation is the collaboration between IKEA's Finnish department stores and Gasum, a producer of biogas. With this collaboration, Gasum builds refueling stations by the department stores and the food waste from IKEA's restaurants is used to produce biogas. The increased access and visibility is said to enable IKEA to use biogas in more of their transport operations while also introducing the option to more consumers and businesses. (Gasum's first new gas filling station in 2018 opened at IKEA store in Espoo, Finland 2018.)

2.3 Marketing

Marketing includes advertising done with commercial purposes or in connection with sales, with the intent to create and upkeep a customer-relationship between the service and the end-customer. The legality and fairness of marketing is monitored by the **Consumer Protection Act** and related authorities. (Marketing and practices in a customer relationship 2018.)

Global marketing means for a company to focus its resources on monitoring the risks and opportunities of the global market. When marketing is done across national borders, the biggest difference to **local marketing** is the increased scope. (Keegan & Green 2017, 24.)

2.3.1 Basis of Ethical Marketing

Ethos is the term used for something, such as a company, not only appearing but also feeling ethical to the customer. To gain customer support, a company must not only market themselves as being ethical but be perceived positively and as trustworthy. (Arnold 2009, 17.)

Brand is the logo and history of the products and services being sold, which means that customers can recognise the product from its brand. Customers will talk and recommend the brand based on its **reputation** and the values of the company, meaning that a brand is not only defined by the way it looks but by the work that takes place behind it. (Hestad 2013; Arnold 2009, 8–9.)

In relation to this, both the brand and reputation of a company may suffer due to the actions of the other involved parties. The manufacturers and resellers can be made responsible for each other's behaviour if they have not done the necessary background checks or are aware of the other's illegal actions. This has noticeably increased the financial role of ethical code of conducts. (Lencioni & Rautpalo 2016.)

2.3.2 Marketing Strategies

Market value is the monetary price the customer is willing to pay for each product or service, as accepted by the seller. In marketing terms, the product or services' general **value** consists of the functional and emotional benefits a customer gains through the purchase. As seen in Figure 4, for the customer to buy the product, the benefits need to be greater than the price and effort they put into the purchase. (market value n.d.; Hestad 2013; Santiago 2016.)

$$\text{Value} = \frac{\text{Benefits}}{\text{Price + Effort}}$$

Figure 4. Value Equation (adapted from Santiago 2016)

The **value chain** consists of the decisions made at every step of the production and its supply chain; from design and manufacturing to after-sale support. When the idea is to create **customer value** through these **value added services**, it can lead to **competitive advantage** held over the other companies involved in the same business field. (Keegan & Green 2017, 25–26.)

According to Santiago (2016), in marketing, value can be used through the **confrontation-** and **complementation strategies**. Confrontation means that a company takes the high risk of offering the value and benefits of their products with lower prices than their competition. Using the complementation strategy, however, means that a company will not confront the competitors on the same market segment, but instead offers either high or low value products, with suitable pricing, to establish a win-win relationship between the company, customer and possible competition.

Currently, the aim of marketing tends to focus on establishing a long-term relationship between the company and the customer. This trend is called **relationship marketing**, and it is done because **customer loyalty** costs less than continuously attempting to attract new customers. (ibid.)

Related to relationship marketing, different strategies can be used to bring further growth to already established brands or products (Keegan and Green 2017, 24–25). The four marketing strategies behind growth are listed in Table 2:

Market / Product Orientation	Existing products	New products
Existing markets	Market penetration	Product development
New markets	Market development	Diversification

Table 2. Market Growth Strategies (adapted from Keegan and Green 2017, 24–25)

For existing products, **market penetration** strategy intends to use new methods to increase the sales in pre-existing markets, while **market development** introduces the products to new regions. The strategies for new products include **product development**, for existing customers, and **diversification**, which adds more variety to the product line to instead target new customers.

2.3.3 Marketing Tools

Product and Emotion

To create **advertisements**, companies might rely on data that is shared between the entire market segmet. This leads to different brands using the same messages to sell their products, with very little personalised insight into their customers. (Munoz 2005, 82.) In comparison, Vitale and Perrine (2008, 15–16) describe the way customers experience the genuinity behind a product's marketing as follows:

> *Inspired marketing lacks pressure. It lacks coercion. It lacks a sense of 'buy now or you'll lose out'. It simply says, 'Here is something that you want, here's why you want it, we have it… come and get it! We'll bring it to you, we'll make it easy, we'll make it fun!'*

According to Wrigley and Straker (2018), the modern process of **design thinking**, a theory related to problem solving, is being used to increase the level of involvement that the customer point of view has in the innovation of different business fields, with

marketing included. The importance of taking customer-emotion into account is ever-increasing and, as seen in Figure 5 below, design thinking combines the aspects of people, business and technology (Figure 5). (5–6.)

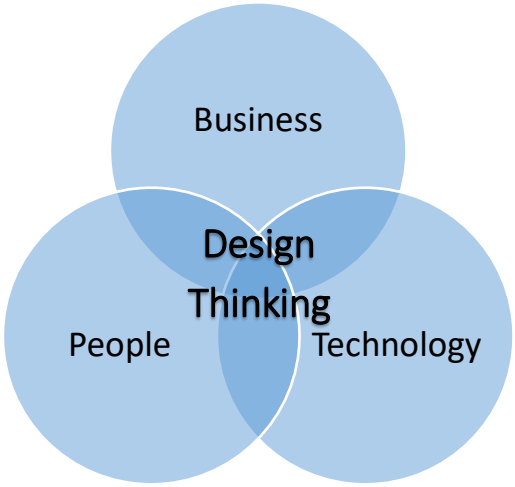


Figure 5. Design Thinking (adapted from Wrigley and Straker 2018, 6)

Designers attempt to create a connection between the user and the product. Not only should the design be based on what the customers want, but the designers should also know why that is. This understanding of the customer can be used to market the product according to the principles of design thinking. (Wrigley & Straker 2018, 9.)

Presence and Pricing

Advertisements can be present to the customers either directly in their daily lives or through more subconscious means. For example, marketing can take place through the consumed media, product placements, Internet advertisements or as promotions being handed out by a store. (Munoz 2005, 81.)

Additionally, changing the price of the product is a simple method to attract the customers' attention. However, Santiago (2016) says that if the true value of the product is forgotten, a company may focus too much on pricing.

For example, when a product has too high of a price in comparison to its value, it is seen in low sales. If a company does not recognise these issues, instead of adding value to the existing product, they might attempt to increase the number and variety of products, which then adds to other costs such as the management of inventory. (ibid.)

3 The Study

The study consists of two parts. First, there is a case study on the visibility of transportation in both the code of conducts and the sustainability reports of the six studied companies. The second part is the survey on the end-customers' experience of green transportation's value.

The companies were picked out at random from lists that showcase the country they are based in. If the picked company had over 10,000 employees and operated in Europe, and if both their code of conduct and sustainability report were made publicly available, they were chosen for the study. If not, the company was skipped over.

The five code of conducts and sustainability reports, which are compared to the one logistics provider focused on long-distance freight, are from companies that operate on different fields. These fields, in no specific order, are: automation technology, telecommunications, package manufacturing, consumer goods and information technology.

3.1 Code of Conducts of Six Companies

The length of the code of conducts varies from two to twenty-one pages, when only the pages with the content are counted. The rounded mean number of pages is seven, while the logistics company's code, which is used for the comparison, has ten pages.

3.1.1 Structure

The structure of all the studied code of conducts is similar. The papers begin with business ethics, human rights and fair labour, which all six of them cover in varying lengths. Health, safety and environmental management are also addressed by every company's code.

While all six companies mention the importance of the suppliers' suppliers and contacts also following the commitments set in the code, only two, which includes the logistics' company used for comparison, address the standards for the quality of service. Four of the codes bring up monitoring restrictions and sustainability on the materials they outsource.

The most notable variability in the structure of these code of conducts is found from the end: Only three of them include inspections, audits or corrective actions. Furthermore, two bring up the instructions for how to contact the company in case of concerns.

3.1.2 Vocabulary Used in the Code of Conducts

Table 3 showcases the number of instances certain terms related to the environment and transportation are used in the codes. The count is intended to give an indication of the way each code of conduct covers the subject but does not directly correlate with their depth.

This method of study was chosen due to the short length of the code of conducts and to get a simple way to compare them. The full list of the terms the papers were checked for can be found from Appendix 1.

Term	Comparison	Company A	Company B	Company C	Company D	Company E
UN	1	1	1	1		
Management	3	1			3	
Sustainability	3	2	2	3		2
Environment	44	7	20	2	7	4
Climate						
Emissions	5	3	2	1	1	
GHG		1				
Logistics			1		1	
Transportation		1	1			

Table 3. Usage of Terms in the Code of Conducts

Counting Method

Counted in Table 3 are only terms used in the context of climate and transportation. For example, mentions of the “work environment” or “business environment”, or terms used in content pages, links, headers, footnotes and list of references, are not included.

Similarly, when the terms are repeated in tables or figures, they are counted only once per case. Different conjugations, forms and words related to one another are counted as if being the same, but only for that specific listed term. This means that if two terms appear in the same context, such as “greenhouse gas emission”, the appearance is included in the count for both terms: “greenhouse gas” and “emission”.

Key Findings

All companies mention the field of environment in some way, but the length of the code, and the use of the terms, does not necessarily correlate with depth in covering each subject. The environmental aspects are no exception in the low level of detail the code of conducts go into regarding the principles they present.

As seen in Table 3, of those listed, the general term **“environment”** is used the most, while **“climate”** is not brought up by any. Furthermore, only Companies A and B mention **“transportation”**.

Mentions of the **environmental management systems** are included by the logistics comparison, Company A and Company D, and all three name **ISO 14001**. The terms listed under **UN** are mentions of **“Global Compact”** and **“Sustainable Development Goals”**, with the logistics comparison and Companies A, B and C all referring to the **Global Compact**.

Company B’s code is the longest, having more than twice as many pages as the second-longest paper, and it also uses the term **“environment”** more than the other companies. All but one of these appearances are on one page, which is to say that most of the report’s length is used for other than the environmental aspects.

Among the environmental statements made in Company B’s code, **transportation solutions in logistics** is named as an example of the environmental awareness in different operations. Companies B and D are the only ones to bring up **“logistics”**: not even the logistics comparison uses the term in their supplier code of conduct.

Only the logistics comparison and Company A use the term **“emissions”**, while the others use **“pollution”**. Table 4 shows the level at which either emissions or pollution are addressed by each company.

Comparison	Awareness, monitoring, and accordance to law; reduction and prevention of release
Company A	Minimise in production and transportation; reduction and reporting
Company B	Prevention
Company C	Resources and actions for prevention
Company D	Minimise; continuous improvement
Company E	-

Table 4. Code of Conducts and Emissions

3.2 Sustainability Reports of Six Companies

The length of the reports varies from 39 to 166 pages, with the rounded mean of 81 pages. For comparison, the logistics company's report has 36 pages.

3.2.1 Vocabulary Used in the Sustainability Reports

All reports begin with a foreword from the company's CEO, and all but one also have an overview highlighting their current states and sustainability efforts. They each have a section focusing on the sustainability goals achievable in their own fields and through for example product design.

All six companies use the United Nations' **Sustainable Development Goals** and the ten principles of the **Global Compact**. Regarding environmental monitoring, **ISO 14001** is brought up by Companies C, D and E, out of which Company D also mentions it in the code of conduct. The other companies who mention ISO14001 in their code of conducts were the comparison and Company A, but in the sustainability reports all their mentions on environmental management were made referencing the general term of **"health, safety and environmental systems"**, which showcases some of the inconsistency between the two papers.

Table 5 lists the number of instances terms related to logistics and transportation are used in the sustainability reports. The same limitations as with the code of conducts are used to define which uses of the terms are counted, and the full list of terms the reports were checked for can be found from Appendix 2.

Since the reports are longer than the code of conducts, and the format very different, the terms are repeated more often regardless of the depth each report may cover. Due to this, the terms shown in Table 5 are used to provide a comparison of the least used terms to showcase which subject matters are addressed the least, or not at all, by the companies: the key finding is that the **land, air and ocean modes** are all included by only two of the companies.

Term	Comparison	Company A	Company B	Company C	Company D	Company E
Logistics	43	3	11	4		
Transportation	27	6	34	33	7	14
Land Modes	13		11	9	9	12
Air Modes			9			2
Ocean Modes	38		2	1		8

Table 5. Usage of Terms in the Sustainability Reports

3.2.2 Sustainable Development Goals

In the Thesis, the Sustainable Development Goals are studied in more detail due to the way they present the fields of sustainability that each company specifically focuses on. However, this method of research would not have been selected if all companies had not listed SDGs in their sustainability reports: the inclusion of SDGs was not a part of the restrictions in how the companies were chosen.

For the study, the Sustainability Goals of interest are considered to be the ones listed in Table 6, which continues on the next page. Although relevant to sustainability efforts, SDG 17 – "Partnerships for the Goals" is not counted here due to its possible influence across any of the goals.

SDG 6	"Clean Water and Sanitation"
SDG 7	"Affordable and Clean Energy"
SDG 9	"Industry, Innovation and Infrastructure"
SDG 12	"Responsible Consumption and Production"
SDG 13	"Climate Action"

SDG 14	"Life Below Water"
SDG 15	"Life on Land"

Table 6. Environmentally Relevant SDGs

The seven goals left out of the above list are: SDG 1 – "No Poverty", SDG 2 – "Zero Hunger", SDG 3 – "Good Health and Well-Being", SDG 5 – "Gender Equality", SDG 8 – "Decent Work and Economic Growth", SDG 10 – "Reduced Inequalities" and SDG 11 – "Sustainable Cities and Communities". Many of these goals do also have sub-categories in environmental sustainability, but the focus of the study is on the more direct impacts.

Table 7 shows which SDGs each company has listed as the fields they have the biggest impact on. The SDGs considered relevant to the study due to their environmental impact are marked with green.

SDG	1	2	3	5	6	7	8	9	10	11	12	13	14	15	17
Comp.															
A															
B															
C															
D															
E															
Total	1	1	2	1	2	3	5	5	1	3	4	4	1	2	4

Table 7. High Impact Company SDGs

In total, the companies have listed 53.8% of the total high impact selections among the environmentally relevant (green) and 35.9% among the other goals (blue). As shown in orange, SDG 17 – "Partnerships for the Goals" makes up the leftover 10.3%.

From the selected environmental impacts, industry innovation (12.8%), climate action (10.3%) and responsible production (10.3%) are named as high impact by most of the companies. Furthermore, even when SDG 9 – "Industry, Innovation and Infrastructure" is left out, due to its nature being similar to SDG 17, the other environmental impacts still make up 41.03% of the total impacts named.

In most cases, the companies do contribute to many of the other goals as well, but the ones shown in Table 7 are what they consider either their high impact or high relevance fields. Goals 4 and 16, “Quality Education” and “Peace, Justice and Strong Institutions”, were not named as such by any of the six companies.

3.2.3 Decision-making, Emissions and Transportation

Importance in Decision-Making

Three of the five non-logistics companies have created a listing that showcases which aspects of sustainable development are of the most importance to the shareholders, while also having the highest impact within the corporate governance. In comparison to the high percentage of environmental impacts listed in the SDGs, the environmental factors tend to be on the low end of the scale for their importance in decision-making.

One of the companies has marked five important topics, out of which four were environmental: Within climate action, the largest share of importance goes to energy efficiency, while transportation and distribution are considered to have lower impact to the shareholders, sharing this position with biodiversity. However, the company does mention that these matters are not universal, with for example within Europe there being more focus on the environmental aspects than in some other regions.

The other two companies have very similar assessments: One of them lists emissions, transport and logistics to have medium significance to both the shareholders and in long-term decision-making, while another has all matters of environmental protection, except energy efficiency and emissions, listed on the medium-to-lower end of the scale. Climate action is listed as high importance by the former.

Emissions

The most used format the companies use to present targets in lowering energy usage and GHG emissions is as a percentage to be reached by a certain year. The baseline used for the reduction target is either 2013 or 2014 in all companies except one, which did not have one of these targets named in their report.

In all cases, the years as to when these long-term targets are to be reached are between 2020 and 2050. Three of the companies have multiple targets, where for

example one of the companies aims to reduce energy usage by the year 2020, and all emissions from own operations by the year 2025.

It is worth noting that the UN's SDGs were set in 2015, and the necessary development goals are intended to take place before the year 2030. With all studied companies using SDGs as their baseline, the similarity of the timelines is appropriate.

Transportation

In relation to transportation, none of the five companies mention hybrids, natural gases or diesel. Electric vehicles are brought up by three, though all these companies have some part in their production and support, which is mainly why the reference is made in two of these cases. The logistics comparison is no different, with only the reduction of fossil fuels in transportation discussed in more length.

One company includes business travel in their reporting. Furthermore, two of the companies mention that they have their own fleet of vehicles, which means that these count as a part of their own operations: One names targets for reducing emissions and fuel consumption of their fleet through increased support of electric vehicles. The company also names decarbonisation of the entire value chain and by using their products as part of their involvement.

Another one with fleets states there to have been GHG reductions in all of them, and names the reasons for this to relate to better packaging and shorter routes. However, they also note that scope 3 emissions have increased due to a higher number of deliveries.

One company only mentions the need for more efficient transportation solutions, and names the change of packaging as a way they have achieved lower emissions but includes no further discussion on the subject. In the case of another company's reporting, their only discussion on transportation is to say that they participate in developing solutions for logistics, and especially electric options for all transportation modes. However, they do not bring up much detail on their own use of transportation.

One of the more interesting reports, in relation to transportation, was from a company that presented cases where their efforts in cooperation with other companies had decreased their environmental impacts. For example, they had combined shipments

with other suppliers making delivering for the same client to reduce vehicle use and CO_2 emissions: other than innovating their own products' and use of logistics, they name their goal being to further reduce traffic and emissions.

3.3 Survey on the Value of Green Transportation

For the survey, there are 52 responses. In this chapter, the relevant results are presented, and some consideration is done on the differences in responses. Figures of all results, except to the open questions, are in Appendix 5.

3.3.1 Overview on Respondents

As seen in Figure 6, most of the respondents are full-time students. This is most likely due to the ways used to reach them, as most of the people in the author's direct networks are close to their age.

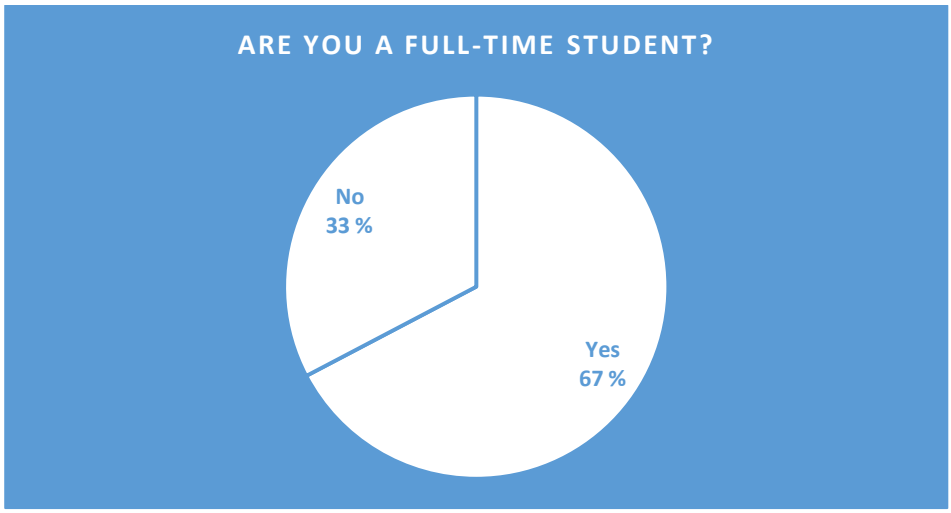


Figure 6. Percentage of full-time students

Five of the respondents either study or work in the field of logistics. Because of the small number, this information is not used to compare the responses.

3.3.2 Responses on Sustainable Development

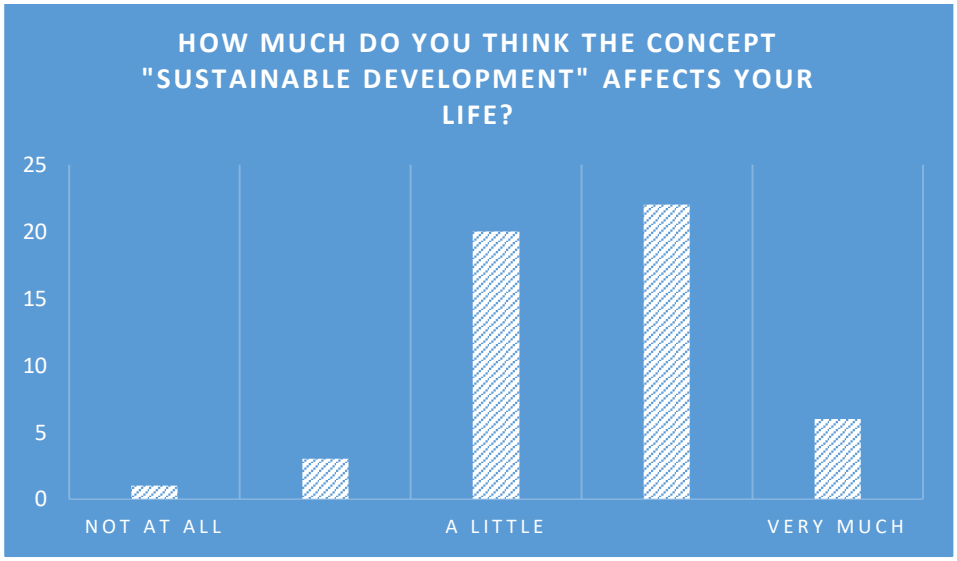


Figure 7. Sustainable Development's Effect on Respondents

Most of the respondents consider sustainable development to impact their lives, as shown in Figure 7. Of the listed options related to the subject, the respondents were able to pick, at most, the three they find the most important. Not every respondent picked all three options.

The most picked subject is renewable energy, which was chosen by over half of the respondents (61.5%). The second highest selections are recycling (44.2%) and equality and culture (38.5%). One respondent explains that their take on sustainable development is to buy used products and sell what they no longer need.

All selections, except organic production and the open answer, were picked by over 23% of the respondents. In the open answer, one respondent named packaging with 0% plastic and another the need to end, or at least reduce, the use of animals in production. Over half of the respondents say they have looked up information on companies' social responsibility from their websites (Figure 8).

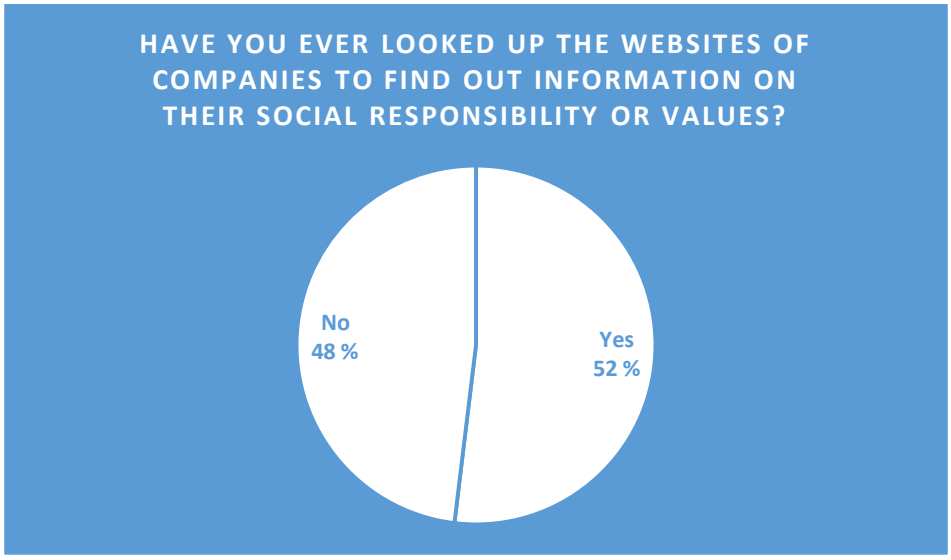


Figure 8. Respondents' Interest in Company Responsibility

When asked what information the respondents have looked up, three people name the products' country of origin. Other responses bring up information on animal testing, the material, and recyclability of the packaging. One respondent says they have searched for information on the type of electricity in a company's use and how green transportation options work.

3.3.3 Responses on Transportation

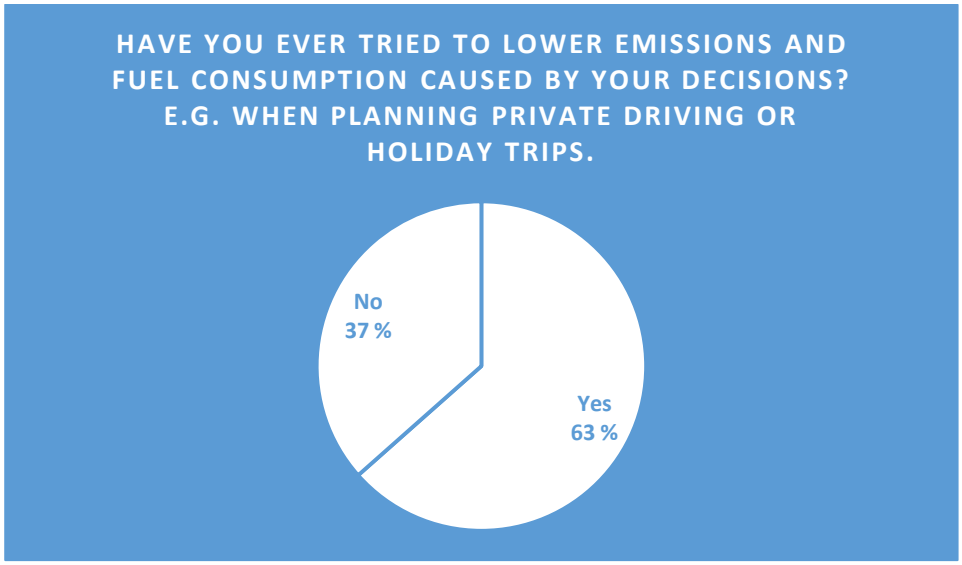


Figure 9. Respondents' Impact on Emissions

Over half of the respondents say that they have tried to lower emissions and fuel consumption caused by their decisions (Figure 9). All respondents order goods online,

with 56% making these orders a few times a year. Furthermore, as much as 67% of the 52 respondents would be willing to pay more for green transportation options (Figure 10). Considering that most of the respondents are full-time students, the value is worth noting.

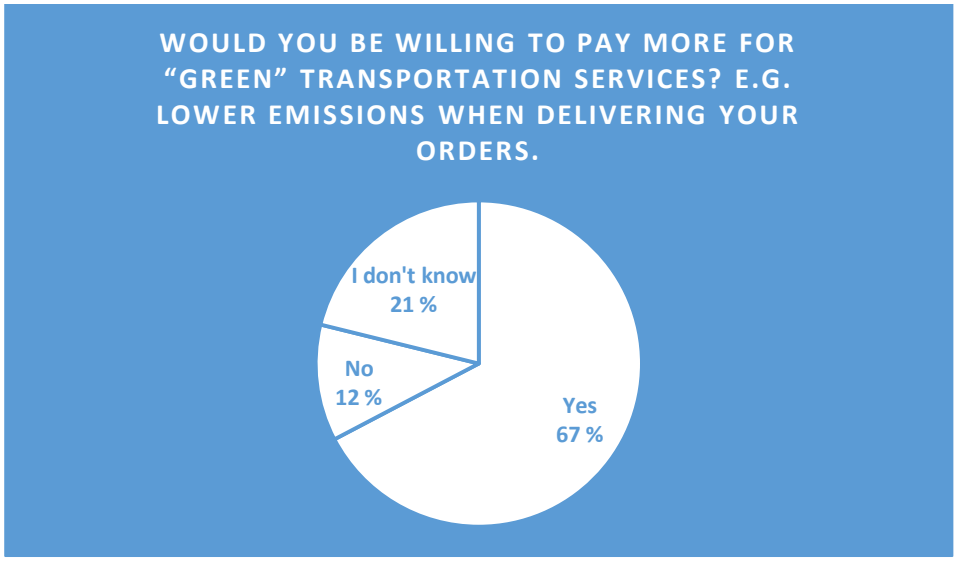


Figure 10. Respondents' Willingness to Pay More for Green Transportation

For reasons on why the respondents would be willing to pay more, four people say that they wish to support the development of transportation services, but one points out they would only do so if the prices are not increased too much. One of them further explain that if companies notice people wanting green services, it could become a norm, which would help lower emissions.

Another one says that people must be willing to make sacrifices for the sake of common good; especially those, who can afford to do so. On a related note, two respondents say they would not be willing to pay more because they cannot afford to.

One respondent says that although they generally avoid long-distance orders, they would like to be told more about green options and would be willing to support them whenever possible. However, they stress the point that the price should not increase too much. Another respondent states that since they use transportation services so little, the impact of their decision to pay more would be so insignificant that it would not be worth the price.

It is worth noting that the survey specifically refers to online purchases of products because that is a service many people will be able to relate to. The survey did not try to explain that there is transportation taking place behind all industries and businesses, which is the viewpoint the Thesis attempts to expand on. Due to this, there is more to the impact of all end-customers' decisions than the respondent behind the last point may have thought of.

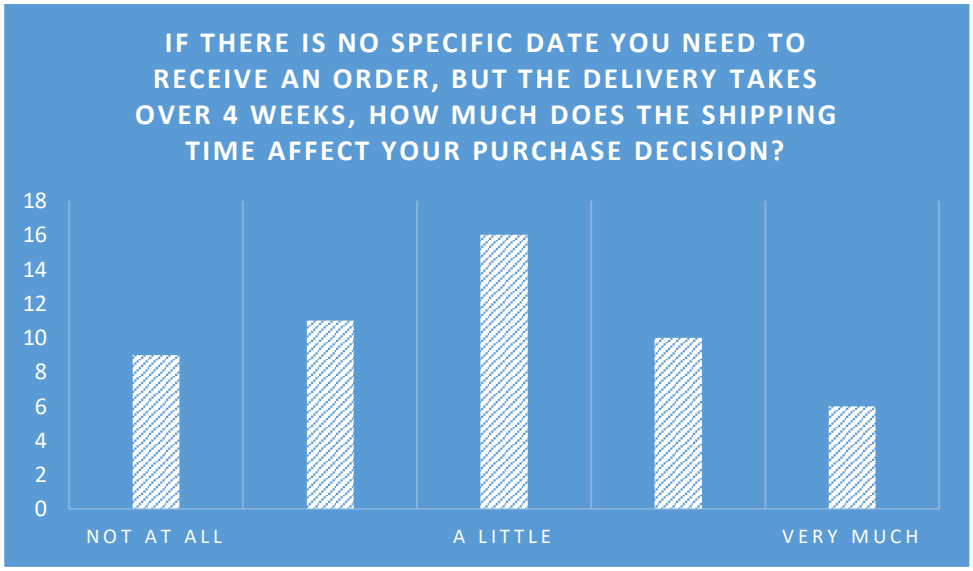


Figure 11. Respondents' Expectation of Delivery Times

Finally, as seen in Figure 11, most of the respondents care about the delivery time even when there is no specific day to receive their order. On this point, a respondent explains that they would be willing to pay more for green transportation solutions if the delivery times did not notably increase. If the delivery time increases, they say the price should remain the same as in a "normal" delivery, but in this case, they would not mind the longer shipping time.

4 Conclusions

The three research questions are answered in the first part of this chapter. After the example cases and customers presented in the study are used to describe the subject, some recommendations for future development are named.

As a reminder, the main research question is:

1. **What is the value of green transportation to the end-customer?**

To answer the main research question, the two supporting questions that will be considered first are:

2. **How much visibility is transportation getting in the sustainability reports and code of conducts of the studied companies?**
3. **What aspects of green transportation are seen as important for its marketability?**

4.1 Results

4.1.1 Visibility of Green Transportation

Code of Conducts

The code of conducts used in this study are very low on detail. Of the ten steps listed in the theory as important for creating the basis for an ethical policy, only a few are visible from each of the codes: namely, the content is defined to some extent and the affected parties are named, but only four name direct consequences from the codes being broken, three name the use of audits, and two provide ways to contact the company.

There is very little visibility given to transportation: It is only mentioned in two of the codes, and in both cases, it was an example of the type of environmental awareness expected from the suppliers. In most cases, the codes' importance is undervalued with their short length and lack of detail regarding some, if not all, subjects covered, so the lack of mentions of both logistics and transportation is not out of place.

Sustainability Reports

Environmental matters are considered of importance by all companies, but transportation's role is very low. On that note, all companies that specify their targets to lower emissions only include their own operations in these efforts. This leaves out scope 3 emissions, which includes outsourced transportation services.

Five companies, which includes the logistics comparison, consider climate action as something they have a high impact on. This makes it one of the two SDGs named as such the most, with the other one being gender equality.

When emissions and climate action are discussed in length, the most addressed field is the energy efficiency of the companies. This is expected as energy, and its use in production, does create the most emissions and tends to be directly related to each company's own practices.

The logistics comparison is no exception in this: They specify that their goals involve their own operations, though with the intent to be pioneers in their field. In this, they do then bring up the need for non-profit based decision-making, and work that needs to be done in cooperation with other companies.

Each business focuses on their own field, which is appropriate, but other than the companies whose business partakes in logistics in some form, none mention the development of green transportation. For comparison, the logistics company discusses the timeline necessary for developing green transportation to be able to reach not only the targets they have set for themselves but also the global goals such as the SDGs.

The companies that associate with logistics, even without directly addressing the transportation services they may use, do bring up their role in the development of sustainable logistics solutions. Two of the companies bring up specific cases where their products and practices, in collaboration with other companies, have increased the transportation efficiency of their clients through lowering the use of fuels, costs and emissions.

Still, two of the five non-logistics companies, whom also use the scope-division of emissions the most, make a point of how their awareness of the scope 3 emissions have increased since the previous years' sustainability reports. There are updates on the way these emissions are measured and reported, which showcases that these areas are not entirely ignored, either.

4.1.2 Marketability of Green Transportation

Since the reputation of a brand is tied to the values and performance of the company, the matters of public interest are a major part of building a long-lasting relationship with the customers. Based on current trends, the interest in sustainable development is not dying down, which means the supply chains and practices of companies will

continue to be monitored in increasing depth to ensure the image of the company stays on the level the stakeholders expect.

To support this, companies should not only be open about the outsourced transportation (scope 3 emissions) in their use but also show interest in developing these services across the supply chain. The easiest way to achieve this is through collaboration with the existing transportation companies to invest in their fleet development: doing this, both the logistics provider and their client companies can use the collaboration as a part of their marketability, which does in turn make the chosen partnerships more strategic.

For the customers interested in sustainability efforts, the use of green transportation solutions can be considered value added services. This is also seen from the example of Orkla Foods Finland Oy, which was presented in the theory on transportation due to it being prominent at the time of writing: With one change, the company can promote their ability to lower their need for transportation. Although this example is not related to developing green transportation, but instead lowers the use of the service, it showcases how promoting a change can not only be used to look inviting to existing customers but also to market it to new ones, who remember the brand's connection to climate action.

Taking innovative and collaborative climate action, especially when it is not being considered strictly as impactful in the decision-making process, helps the company's ethos: The company will come across as genuine and willing to make changes not only to achieve higher sales but also out of their own interest to be ethical and a part of the change. The personalised take on the climate issues will be relayed to the customers more effectively than delayed effort.

In the study by the International Post Corporation (IPC), as well as in the survey conducted as a part of the Thesis, there is notable interest in sustainability and green transportation solutions. Both also showcase some interest in paying a little more for green transportation options, which means there are cases where the value of these is seen as worth increasing the market price: however, a notable aspect in transportation's marketability is the emotional benefit the customers gain from taking part in sustainable development.

Of the marketing strategies presented in the theoretical basis, the recommended approach relates to the confrontation strategy, as the companies may have to take the risk of offering more effort and investment from their part without directly increasing prices to the end-customer. However, as the goal is to not specifically lower the prices either, the better strategies to describe this are market penetration and product development.

The development of the green transportation of products, in collaboration with the logistics operators, provides the companies with new methods of promotion in the pre-existing markets. Additionally, the intention is also to attract new customers who have previously used the services of another provider in the same market.

In summary, this study compiled viewpoints that are recommended to be considered when marketing green transportation. These key factors are listed in Table 8, and presented in a format that combines the theories by Keegan and Green (2017, 24–25) and Munoz (2005, 81):

Key factors	Customers	Company
Price	No/slight increase	Long-term investment
Presence	Daily life	Promotion
Emotion	Genuity	Voluntary collaboration
Product	Behind-the-scenes	Green development

Table 8. Factors of Green Transportation's Marketability

4.1.3 Value of Green Transportation

Background

As a part of all material supply chains, transportation provides the end-customers with the products and services they need. The value it has to the end-customers relates directly with the value it has for the companies that use transportation to serve them, as the stakeholders' preferences steer sustainable decision-making.

By combining the view on visibility and public interest in the studied cases, the potential of transportation's value would appear to be underutilised. As a service that

must be used by most, if not all, of the population, there is a lack of communication on the issues faced by the industry.

Although climate action in some form is considered high importance by all companies in the case study, as seen in relation to transportation's visibility, there is very little focus or importance given to outsourced green transportation and its use in the early stages of the supply chain. However, on the customer side, the surveys show interest in these matters, and even some willingness to pay more for green transportation to promote the development of these services, for as long as it does not negatively affect other aspects of the service, such as delivery times.

Potential

The value of green transportation could just be in its low visibility. If this is the case, the advantage is for companies to support the development of green transportation at its most undervalued, and to do so while it still separates them from the others who might soon be demanded the same: the first to give their customers the ability to think and choose what they want are the ones who add to their competitiveness.

In conclusion, following the trends of sustainable development and the interest shown in the surveys, it would be in companies' best interest to begin promoting their awareness of green transportation. In doing this, they could be the ones to spark the demand in more customers, as currently these options are hardly provided, and are yet to be asked for.

To support this, there already exists some emotional and market value to green transportation if it is presented to the customers in the right way. Then, the key point in increasing transportation's value would relate to its visibility: Opening its role to the end-customers would make them aware of how much of it takes place behind-the-scenes of daily operations. In this, the companies using these transportation services will be made to value them more, together with the customers.

4.2 In Summary

Even as a part of daily logistics operations, the studied cases have transportation at the side-lines of development efforts, unless it directly relates to the business field of the company. Although transportation's role in climate change is considered major in

theory, discussion and public opinion, little participation is seen from the companies to support its development in one of its most environmentally impactful uses. However, as neither the companies or the customers deny the importance of said development, there is room for change in how it is valued throughout the supply chain.

The marketing of green transportation could be targeted at the pre-existing customer-relationships, which there are many of not only among online purchases. If the customers are given options, they are more likely to think about the situation, which leads to more of them making the conscious decision to support the development.

The companies outsourcing transportation are in the position to direct funding back to the field and its development. Making the end-customers aware of the situation across the supply- and value chains could create the demand for these non-logistics companies to further consider the value of the transportation services in their use.

4.3 Reflections on the Study

4.3.1 Case Study

Since the companies were selected from a randomised list, checked on the restrictions presented, it is impossible to say how different the findings would be with another set of companies. Due to this, everyone would gain different results when repeating this study.

However, as the aim of the Thesis is to bring worth discussion on the trends presented, and to inspire more consideration of them in future developments, the results from the case study support the research. By using the selected restrictions, these companies provide both examples and a comparable view on the visibility transportation has in them.

The case study showcases qualitative details from a short list of representing companies. Since sustainability reports aim to list all worthwhile development, the level at which transportation is discussed increases understanding of its visibility and place among the sustainability targets companies from different fields may have. For a more quantitative look on sustainability reporting, there are other sources that list findings from for example company CSR reporting.

4.3.2 Survey

With the low number of respondents, and the influence of the networks and snowballing, the resulting percentages are specific to this survey. These results will be different to anyone conducting a similar study through their personal networks, or through the means of probability sampling.

In the Thesis, the survey is used to gain a qualitative viewpoint on the subject, as the goal is to present an example case of sustainable development and transportation's value to the end-customers. In this it succeeds, even with the low number of respondents: the questions and responses support some of the theoretical research, for as long as it is kept in mind that they are not intended to portray the global customer-experience.

For improvement, if there had been access to more ways of contacting different respondents and networks for the survey, there could have been a more specific target population the survey could have focused on. This would have increased its validity and given it more value as its own study instead of being used as a supporting factor for the theoretical material found from other sources.

4.3.3 Results

The theory and results offer a look into the role green transportation has at the current day, and the Thesis achieves what its author intended for it to. The lack of visibility that transportation has in the studied reports does support the initial hypothesis that inspired the study.

In conclusions, the subject could have always been studied in more detail, which would have led to more conclusive, instead of descriptive, results. More of both personal and professional opinions, possibly in the form of interviews, could have added valuable depth in the qualitative viewpoint, especially from the company point of view.

For future consideration, as the ones paying for these services, it is the non-logistics companies and their customers who stand behind the profitability of the changes that the field of transportation faces. That is why discussing the subject from their point of view is an important step in promoting the development of green transportation.

References

About sustainability reporting. n.d. From the website of GRI. Accessed 28 January 2019. Retrieved from https://www.globalreporting.org/information/sustainability-reporting/Pages/default.aspx

A blanket around the Earth. n.d. From the website of National Aeronautics and Space Administration (NASA). Accessed 2 February 2019. Retrieved from https://climate.nasa.gov/causes/

Álvarez-Vijande, J., Barker, R., Decleire, P., Drescher, J., Viénot, P., Prijovic, I., Richez-Baum, B., Virtanen, O. V., & Wibault, A. 2010. *Corporate Governance Guidance and Principles for Unlisted Companies in Europe*. Belgium: ecoDa. Accessed 3 January 2019. Retrieved from http://ecoda.org/uploads/media/GUIDANCE_-_2010_CG_for_Unlisted_-_EU.pdf

Arnold, C. 2009. *Ethical Marketing and the New Consumer: Marketing in the New Ethical Economy*. United Kingdom: John Wiley & Sons. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, Ebook Central.

Bătae, O. 2018. *Ethics and the Impact on Corporate Governance*. Cross-Cultural Management Journal, Vol.20(1), 59–64. Published 1 July 2018. Accessed 3 January 2019. Retrieved from http://janet.finna.fi, Directory of Open Access Journals.

Bilgin, Y. 2017. *Qualitative Method Versus Quantitative Method in Marketing Research: An Application Example at Oba Restaurant*. Edited by Oflazoglu, S. IntechOpen. Published 28 June 2017. Accessed 2 January 2019. Retrieved from http://dx.doi.org/10.5772/67848

Biogas – eco-friendly all the way from source to tank. n.d. From the website of Gasum. Accessed 22 March 2019. Retrieved from https://www.gasum.com/en/For-private-customers/Fill-up-on-gas/miksi-biokaasu/biogas—eco-friendly-all-the-way-from-source-to-tank/

Blok, V. 2017. *Bridging the Gap between Individual and Corporate Responsible Behaviour: Toward a Performative Concept of Corporate Codes*. Philosophy of Management 16(2), 117–136. Accessed 3 January 2019. Retrieved from https://doi.org/10.1007/s40926-016-0045-7

Bragg, S. 2018. *Stakeholder definition*. From the website of Accounting Tools. Published 21 February 2018. Accessed 14 March 2019. Retrieved from https://www.accountingtools.com/articles/what-is-a-stakeholder.html

Cantell, H. 2013. *Kestävä kehitys ja globalisaatio [Sustainable development and globalization].* Information on highschool geography on the Edu.fi -service. Accessed 25 December 2018. Retrieved from http://www.edu.fi/lukiokoulutus/biologia_ja_maantieto/ops_kaytantoon_maantieteessa/yhteinen_maailma_ge2/kestava_kehitys_ja_globalisaatio

Carrington, D. 2018. *What is biodiversity and why does it matter to us?* An article from the Guardian. Published 12 March 2018. Accessed 8 January 2019. Retrieved

from https://www.theguardian.com/news/2018/mar/12/what-is-biodiversity-and-why-does-it-matter-to-us

Corporate Social Responsibility (CSR). n.d. From the website of the European Commission. Accessed 3 January 2019. Retrieved from https://ec.europa.eu/growth/industry/corporate-social-responsibility_en

Cross-Border E-Commerce Shopper Survey 2018. 2019. A pdf on the survey conducted by the International Post Corporation (IPC). Published January 2019. Accessed 14 March 2019. Retrieved from https://www.ipc.be/services/markets-and-regulations/cross-border-shopper-survey?fbclid=IwAR1UmJDxeOnI8aTXFxGi5j0MYWjq39tthl2TR-vJo89tly8hY-34FegwPQo

Dieselauto vai bensa-auto? Kumpi polttoaine on vähäpäästöisempi? [Diesel or petrol car? Which fuel has lower emissions?]. n.d. From the website of Mikan & Anssin Autohuolto Oy, a car repair company. Accessed 22 March 2019. Retrieved from https://ma-autohuolto.fi/dieselauto-vai-bensa-auto/

Dudovskiy, J. n.d. *Sampling*. From the website of Research Methodology. Accessed 18 March 2019. Retrieved from https://research-methodology.net/sampling-in-primary-data-collection/

EU Transport in Figures – Statistical Pocketbook 2018. 2018. Statistics from the European Union. Luxembourg: Publications Office of the European Union. Accessed 2 January 2019. Retrieved from https://publications.europa.eu/en/publication-detail/-/publication/52f721ed-c6b8-11e8-9424-01aa75ed71a1

European Commission – Fact Sheet. 2017. From the website of the European Commission. Published 26 June 2017. Accessed 3 January 2019. Retrieved from http://europa.eu/rapid/press-release_MEMO-17-1703_en.htm?locale=en

FAQ. n.d. Questions and answers from a PDF by the Greenhouse Gas Protocol. Accessed 31 March 2019. Retrieved from https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf

Gasum's first new gas filling station in 2018 opened at IKEA store in Espoo, Finland. 2018. From the website of Gasum. Published 1 March 2018. Accessed 15 April 2019. Retrieved from https://www.gasum.com/en/About-gasum/for-the-media/News/2018/gasums-first-new-gas-filling-station-in-2018-opened-at-ikea-store-in-espoo-finland/?q=IKEA

Global Greenhouse Gas Emissions Data. n.d. From the website of the United States government's Environmental Protection Agency. Accessed 22 March 2019. Retrieved from https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

Hakala, O., Kopperi, M. & Nissinen, V. 2010. *Filo 2 – Filosofinen etiikka [Filo 2 – Philosophical ethics]*. Book on highschool philosophy. 1st ed. of renewed print. Helsinki: Tammi.

Hardy, M. C. 2016. *Drafting an Effective Ethical Code of Conduct for Professional Societies: A Practical Guide.* Administrative Sciences 6(4), 16. Accessed 2 January 2019. Retrieved from https://doi.org/10.3390/admsci6040016

Hestad, M. 2013. *Branding and Product Design: An Integrated Perspective*. New York: Routledge. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, EBSCOhost.

Iatridis, K. & Schroeder, D. 2016. *Responsible Research and Innovation in Industry: The Case for Corporate Responsibility Tools*. 1st ed. Accessed 3 January 2019. Retrieved from https://doi.org/10.1007/978-3-319-21693-5

Iso maku, pieni hiilijalanjälki [Big taste, small carbon footprint]. n.d. From the website of Felix, Orkla Foods Finland Oy. Accessed 20 February 2019. Retrieved from http://www.felix.fi/vastuullisuus

ISO 14000 family – Environmental management. n.d. From the website of the International Organization for Standardization (ISO). Accessed 8 January 2019. Retrieved from https://www.iso.org/iso-14001-environmental-management.html

ISO 14001:2015. 2015. From the website of Internation Organization for Standards (ISO). Accessed 1 February 2019. Retrieved from https://www.iso.org/standard/60857.html

Keegan, W. J. & Green, M. C. 2017. *Global Marketing*. 9th ed. England: Pearson Education Limited. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, EBSCOhost.

Lencioni, T. & Rautpalo, H. 2016. *Jälleenmyyntisopimukset [Retail Contracts]*. 1st ed. Helsinki: Hansaprint oy. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, KauppakamariTieto.

Marketing and practices in a customer relationship. 2018. From the website of the Finnish Competition and Consumer Authority. Updated 1 November 2018. Accessed 17 December 2018. Retrieved from https://www.kkv.fi/Tietoa-ja-ohjeita/markkinointi-ja-asiakassuhde/

market value. n.d. From the website of the Business Dictionary. Accessed 5 April 2019. Retrieved from http://www.businessdictionary.com/definition/market-value.html

McKinnon, A., Browne, M., Piecyk, M., & Whiteing, A. 2015. *Green Logistics – Improving the Environmental Sustainability of Logistics*. London: Kogan Page Publishers. 3rd edition. Accessed 14 March 2019. Retrieved from http://janet.finna.fi, Knovel.

McLeod, S. 2014. *Case Study Method*. From the website of Simply Psychology. Published 5 February 2014. Accessed 2 February 2019. Retrieved from https://www.simplypsychology.org/case-study.html

Miettinen, V. 2019. *Kysely: Kaupunkilaiset ja hyvin toimeentulevat valmiimpia tehokkaisiin ilmastotoimiin – ilmastoasioita toivotaan politiikan kärkeen [Survey: Citizens and those with better livelihoods are more ready for efficient climate action – climate matters are wished to be at the head of politics]*. An article from Kuntalehti. Published 18 March 2019. Accessed 18 March 2019. Retrieved from https://kuntalehti.fi/uutiset/tekniikka/kysely-kaupunkilaiset-ja-hyvin-toimeentulevat-valmiimpia-tehokkaisiin-ilmastotoimiin-ilmastoasioita-toivotaan-politiikan-karkeen/

Mora, M. 2011. *Validity and Reliability in Surveys*. From the website of Relevant Insights. Published 21 February 2011. Accessed 16 March 2019. Retrieved from https://www.relevantinsights.com/blog/validity-and-reliability

Munoz, T. 2005. *Achieving marketing ROI – finally*. Handbook of Business Strategy, 6(1), 81–84. Accessed 5 January 2019. Retrieved from https://doi.org/10.1108/08944310510557008

Nalbantoglu, M. 2017. *Vaatekaupan jätit tekivät verkko-ostosten palauttamisesta niin helppoa, että housut voi ”lainata” yhden somekuvan takia – Tutkijan mielestä pakettiralli on kestämätön [Big clothing manufacturers made online returns so easy that pants can be “borrowed” for one picture taken for social media – According to a researcher, the package deliveries back and forth are intolerable].* An article from the website of Helsingin Sanomat. Published and updated 27 December 2017. Accessed 14 March 2019. Retrieved from https://www.hs.fi/talous/art-2000005502987.html

Nawrocka, D. 2010. *ISO 14001 as a Tool for Environmental Supply Chain Engagement – What is in the Way?* Paper appears in the collection edited by Samson, R. M. 2010. Supply-Chain Management: Theories, Activities/Functions and Problems, 125–137. New York: Nova Science Publishers. Accessed 6 January 2019. Retrieved from http://janet.finna.fi, Ebook Central.

Neste's ‘Taking Action on Climate Change’ examines changes in energy and transport markets. 2017. From the website of Neste. Published 5 October 2017. Accessed 18 March 2019. Retrieved from https://www.neste.com/nestes-taking-action-climate-change-examines-changes-energy-and-transport-markets

Non-financial reporting. n.d. From the website of the European Commission. Accessed 3 January 2019. Retrieved from https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en

Orendorff, A. 2019. *The State of the Ecommerce Fashion Industry: Statistics, Trends & Strategy*. From the website of Shopify. Published 10 January 2019. Accessed 14 March 2019. Retrieved from https://www.shopify.com/enterprise/ecommerce-fashion-industry

Overview. n.d. From the website of the United Nations. Accessed 14 March 2019. Retrieved from http://www.un.org/en/sections/about-un/overview/

Polamo, H. 2018. *Moni tekijä vaikuttaa kuljetusyritysten kannattavuuteen [Many factors affect the profitability of transportation companies]*. From the website of SKAL, the Finnish Transportation and Logistics Trusteeship. Published in June 2018. Accessed 13 April 2019. Retrieved from https://www.skal.fi/fi/ekuljetusyrittaja/moni-tekija-vaikuttaa-kuljetusyritysten-kannattavuuteen

Pujo, S., & Wibowo, M. 2015. *Determination of Transportation Fleet Size using The Combination of Adjusted SPT Rule and Linear Programming Method*. KnE Life Sciences, 3(3), 138–141. Accessed 22 March 2019. Retrieved from http://dx.doi.org/10.18502/kls.v3i3.384

Research approach. n.d. From the website of the Deep Decarbonization Pathways Project (DDPP). Accessed 21 March 2019. Retrieved from http://deepdecarbonization.org/research-methods/research-approach/

Ruuskanen, A. 2009. *Selkeys parantaa johtamista [Clarity makes leadership better]*. Talouselämä. Published 8 May 2009. Accessed 2 January 2019. Retrieved from http://janet.finna.fi, Talentum.

Romm, J. 2016. *Climate Change: What everyone needs to know*. New York: Oxford University Press. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, EBSCOhost.

Santiago, L. 2016. *Value-based Marketing Strategy: Pricing and Costs for Relationship Marketing*. Delaware: Vernon Press. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, Ebook Central.

Santos, J. A., Akabane, G. K., & Santos, E. B. A. 2013. *Sustainability, Globalization, Culture and Work*. Independent Journal of Management & Production, 4(2), 549–562. Accessed 3 January 2019. Retrieved from http://dx.doi.org.ezproxy.jamk.fi:2048/10.14807/ijmp.v4i2.113

shareholder. n.d. From the Cambridge University Online Dictionary. Accessed 20 April 2019. Retrieved from https://dictionary.cambridge.org/dictionary/english/shareholder

Solakivi, T., Ojala, L., Laari, S., Lorentz, H., Kiiski, T., Töyli, J., Malmsten, J., Bask, A., Rintala, O., Paimander, A., & Rintala, H. 2018. *Logistiikkaselvitys 2018 [Logistics report 2018]*. Turku University of Applied Sciences. Accessed 2 February 2019. Retrieved from https://blogit.utu.fi/logistiikkaselvitys/wp-content/uploads/sites/92/2019/01/Logistiikkaselvitys-2018-FINAL.pdf

Survey Sample Size. n.d. From the website of SurveyMonkey. Accessed 16 March 2019. Retrieved from https://www.surveymonkey.com/mp/sample-size/

Sustainable Development. 2013. From the website of the Finnish Ministry of the Environment. Published 18 September 2013. Updated 2 February 2015. Accessed 2 January 2019. Retrieved from http://www.ym.fi/en-US/The_environment/Sustainable_development

Sustainable Development Goals. n.d. Picture of the SDGs, from the website of the United Nations. Accessed 6 March 2019. Retrieved from https://sustainabledevelopment.un.org/?menu=1300

Sähköautot ja hybridit [Electric cars and hybrids]. n.d. From the website of Osuuspankki (OP). Accessed 22 March 2019. Retrieved from https://op-kulku.fi/autot

Tapaustutkimus (Case Study). n.d. From the website of KAMK University of Applied Sciences. Accessed 13 April 2019. Retrieved from https://www.kamk.fi/fi/opari/Opinnaytetyopakki/Teoreettinen-materiaali/Tukimateriaali/Tutkimustyypit/Kuvaileva/Tapaus

The Human Rights Act. 2018. The website of the British Equality and Human Rights Commission. Updated 15 November 2018. Accessed 25 December 2018. Retrieved from https://www.equalityhumanrights.com/en/human-rights/human-rights-act

The Sustainable Development Agenda. n.d. From the website of the United Nations. Accessed 29 January 2019. Retrieved from https://www.un.org/sustainabledevelopment/development-agenda/

The Ten Principles of the UN Global Compact. n.d. From the website of the United Nations. Accessed 24 February 2019. Retrieved from https://www.unglobalcompact.org/what-is-gc/mission/principles

Transport Modes. n.d. From the website of the Trade Facilitation Implementation Guide, United Nations. Accessed 8 January 2019. Retrieved from http://tfig.unece.org/contents/transport-modes.htm

UN Environment "walks the talk" on carbon neutrality. 2019. From the website of the United Nations. Published 31 January 2019. Accessed 21 March 2019. Retrieved from https://www.unenvironment.org/news-and-stories/story/un-environment-walks-talk-carbon-neutrality

Vitale, J. & Perrine, C. 2008. *Inspired Marketing! The Astonishing Fun New Way to Create More Profits for Your Business by Following Your Heart*. New Jersey: John Wiley & Sons. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, Ebook Central.

Virtanen, S. 2018. *Kaasuautojen suosio kasvaa vauhdilla: Pelkästään suomalaisella biokaasulla liikkuisi miljoona autoa alle eurolla litra [Popularity of gas-cars increases fast: With Finnish biogas alone a million cars could drive with under a Euro per litre]*. An article from tekniikka & talous. Published 24 June 2018. Accessed 22 March 2019. Retrieved from https://www.tekniikkatalous.fi/kaikki_uutiset/kaasuautojen-suosio-kasvaa-vauhdilla-pelkastaan-suomalaisella-biokaasulla-liikkuisi-miljoona-autoa-alle-eurolla-litra-6730861

What is a CEO (Chief Executive Officer)? n.d. From the website of Corporate Finance Institute. Accessed 5 April 2019. Retrieved from https://corporatefinanceinstitute.com/resources/careers/jobs/what-is-a-ceo-chief-executive-officer/

Wrigley, C. & Straker, K. 2018. *Affected: Emotionally Engaging Customers in the Digital Age*. Milton: John Wiley & Sons. Accessed 5 January 2019. Retrieved from http://janet.finna.fi, EBSCOhost.

Appendices

Appendix 1. Vocabulary Table (Code of Conducts)

Vocabulary used to find terms	Comparison		Case Study							
	1GC	1GC	1GC	1GC						
United Nations*	1GC	1	0	0	0					0
ISO**	2+1ems	1	0	0	1+2 ems					0
"sustain-"	3	2	2	3	0					2
"climate" + "change"	0	0	0	0	0					0
"environment-"	47 (-3+2ur,l)	7	20	2	7 (+29 table)					4
"logistic-"	0	0	1	0	1					1 (person)
"transport-"	0	1	1	0	0					0
"vehicle/truck" "road/ground/land/rail"***	1	0	0	0	0					0
"aviation""air/aero"***	3	0	0	0	0					0
"maritime/freighter/tanker/ship" "sea/ocean/water"***	4	0	0	0	0					0
"greenhouse gas"/GHG	0	1	0	0	0					0
"emission" "pollution"	5	3	2	1	1					0
CO2 "carbon" + "dioxide"	0	0	0	0	0					0
*Global Compact, Sustainable Development Goal (SDGs)										
**ISO 14001. Environmental Management System (EMS). Health, Safety and Environment System										
*** "fleet" by context										

Appendix 2. Vocabulary Table (Sustainability Reports)

Vocabulary used to find terms	Comparison							
					Case Study			
United Nations*	38 (28)	19(17)	24 (22)	53(40)	91(73)	20(SDG)		
ISO**	3HSE	3HSE	7	5(3)	11(5)	9(3ISO)		
"sustain-"	79	120	186	261	154	69		
"climate" + "change"	46(37)	24(7)	39 (23)	32(27)	24(11)	13(7)		
"environment-"	24	97	118	94	189	35		
"logistic-"	43	3	11	4	0	0		
"transport-"	27(12)	6	34 (25)	33(5)	7(6)	14(2)		
"vehicle/truck/train" "road/ground/land/rail"***	13	0	11	9	9	12		
"aviation""air/aero"***	0	0	9	0	0	2		
"maritime/freighter/tanker/ship" "sea/ocean/water"***	38	0	2	1	0	8		
"greenhouse gas"/GHG	4	17	49	5	21	16		
"emission" "pollution"	48(1)	30(6)	175(1)	71(6)	110(9)	34(2)		
CO2 "carbon" + "dioxide"	65	10	84	98	100	9		

*Global Compact, Sustainable Development Goal (SDGs)

**ISO 14001. Environmental Management System (EMS). Health, Safety and Environment System

*** "fleet" by context

Appendix 3. Survey Form (English)

Value of Green Transportation (English)

This survey studies the value sustainable transportation has for the end-customer. The answers are anonymous and will be used for a Bachelor's Thesis researching the subject of green transportation services.

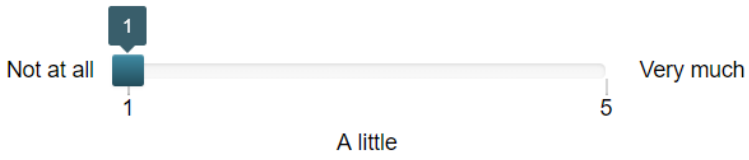
1. Are you a full-time student? *

- Yes
- No

2. Do you either study or work in the field of logistics? *

- Yes
- No

3. How much do you think the concept "sustainable development" affects your life?



4. Which of the following subjects related to sustainable development are the most important to you?

- Renewable energy
- Equality and culture
- Carbon footprint
- Organic products
- Other, what?
- Domestic production
- Biodiversity/variety of life
- Pollution and emissions
- Recycling

Please select maximum 3 options
Selected options: 0

5. Do you think sustainable development is being discussed too much in media? *

- Yes
- No
- I don't know

6. Have you ever tried to lower emissions and fuel consumption caused by your decisions? E.g. When planning private driving or holiday trips. *

- Yes
- No

7. Have you ever looked up the websites of companies to find out information on their social responsibility or values? The clarification is NOT mandatory. *

- Yes. What information? _____
- No

8. Would you be willing to pay more for "green" transportation services? E.g. Lower emissions when delivering your orders. The clarification is NOT mandatory. *

- Yes. Why? _____
- No. Why? _____
- I don't know

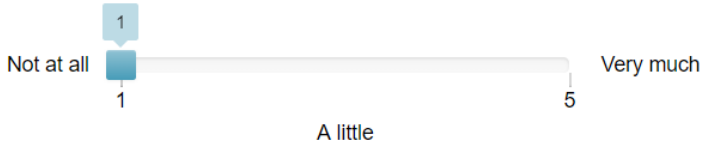
9. How often do you order goods online? *

- Weekly
- Monthly
- A few times a year
- Less than once a year
- Never

10. When ordering goods online, have you ever considered the fuel consumption or environmental impact of said orders?

- Yes
- No

11. If there is no specific date you need to receive an order, but the delivery takes over 4 weeks, how much does the shipping time affect your purchase decision?



12. Have you ever returned a product purchased from abroad?

- Yes
- No

13. Lastly: do you have any questions or comments related to the subject that you would like to share?

Appendix 4. Survey Form (Finnish)

Value of Green Transportation (Suomi)

Oheinen kysely selvittää vihreiden kuljetusratkaisujen arvoa asiakkaille. Vastaukset ovat nimettömiä ja tuloksia käytetään aihetta tutkivaan AMK:n opinnäytetyöhön.

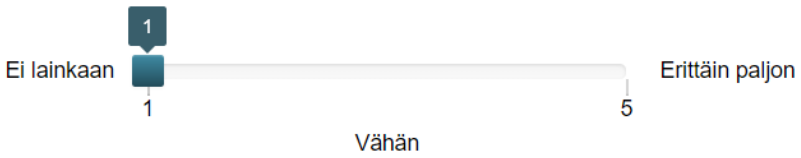
1. Oletko päätoiminen opiskelija? *

- ○ Kyllä
- ○ Ei

2. Opiskeletko logistiikkaa tai työskenteletkö logistiikka-alalla? *

- ○ Kyllä
- ○ Ei

3. Kuinka paljon koet "kestävän kehityksen" käsitteen vaikuttavan elämääsi?



4. Mitkä seuraavista kestävään kehitykseen liittyvistä aiheista ovat sinulle tärkeimpiä?

- ☐ Uusiutuva energia
- ☐ Tasa-arvo ja kulttuuri
- ☐ Hiilijalanjälki
- ☐ Luomutuotanto
- ☐ Kotimainen tuotanto
- ☐ Luonnon monimuotoisuus
- ☐ Saasteet ja päästöt
- ☐ Kierrätys
- ☐ Muu, mikä?

Valitse enintään 3 vaihtoehtoa
Valitut vaihtoehdot: 0

5. Koetko, että kestävästä kehityksestä puhutaan mediassa jo liikaa? *

- ○ Kyllä
- ○ Ei
- ○ En osaa sanoa

6. Oletko koskaan pyrkinyt vähentämään valinnoistasi johtuvia päästöjä ja bensan kulutusta? Esim. Yksityisautoilun tai lomamatkojen suunnittelussa. *

- Kyllä
- Ei

7. Oletko koskaan tarkastellut yritysten verkkosivuja löytääksesi tietoa niiden vastuullisuudesta tai arvoista? Tarkennukseen EI ole pakollista vastata. *

- Kyllä. Mitä tietoa olet hakenut? _____
- Ei

8. Olisitko valmis maksamaan enemmän "vihreistä" kuljetuspalveluista? Esim. Matalammat päästöt tilauksiasi toimitettaessa. Tarkennukseen EI ole pakollista vastata. *

- Kyllä. Miksi? _____
- Ei. Miksi? _____
- En osaa sanoa

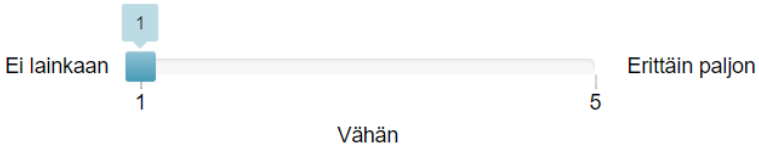
9. Kuinka usein tilaat tuotteita verkosta (verkko-ostokset)? *

- Viikottain
- Kuukausittain
- Muutaman kerran vuodessa
- Harvemmin kuin kerran vuodessa
- En koskaan

10. Tilatessasi tuotteita verkosta, oletko koskaan ajatellut tilaukseesi liittyvää bensan kulutusta tai ympäristön hyvinvointia?

- Kyllä
- Ei

11. Jos tilauksesi saapumispäivä ei ole tärkeä, mutta toimitusaika ylittää 4 viikkoa, kuinka paljon toimituksen kesto vaikuttaa ostopäätökseesi?



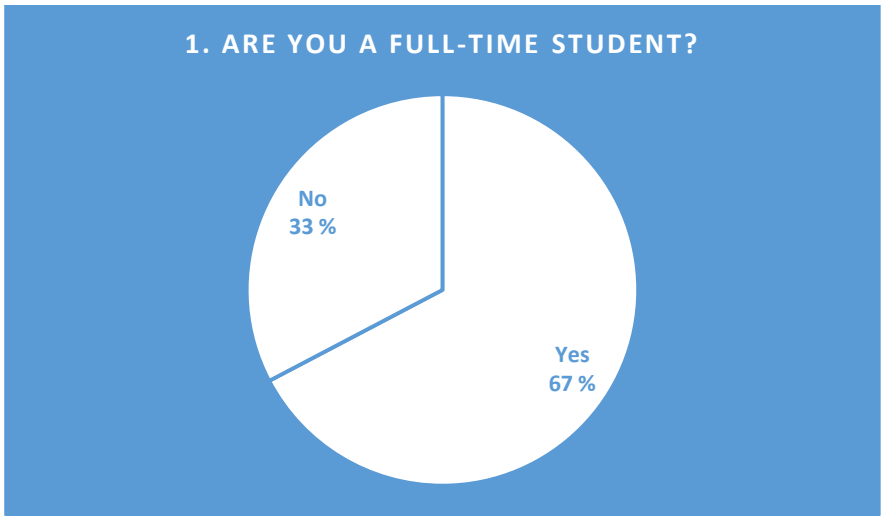
12. Oletko koskaan palauttanut ulkomailta tilaamaasi tuotteen?

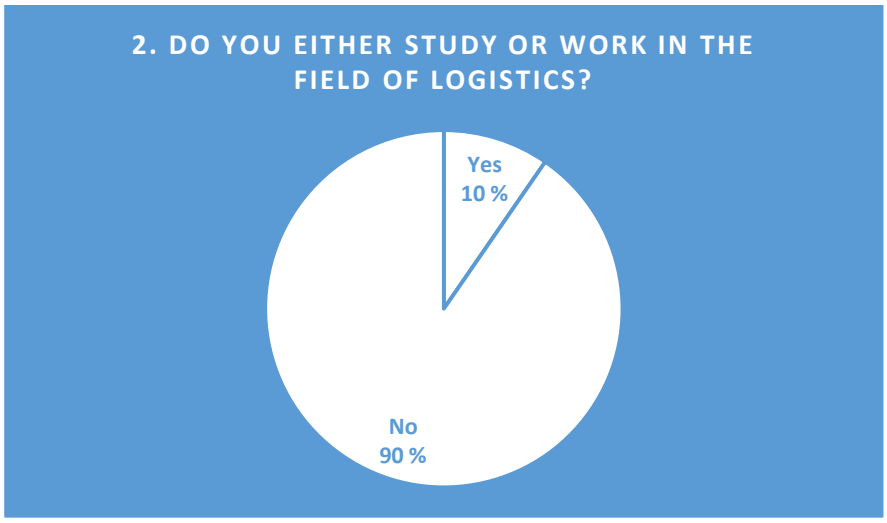
- Kyllä
- Ei

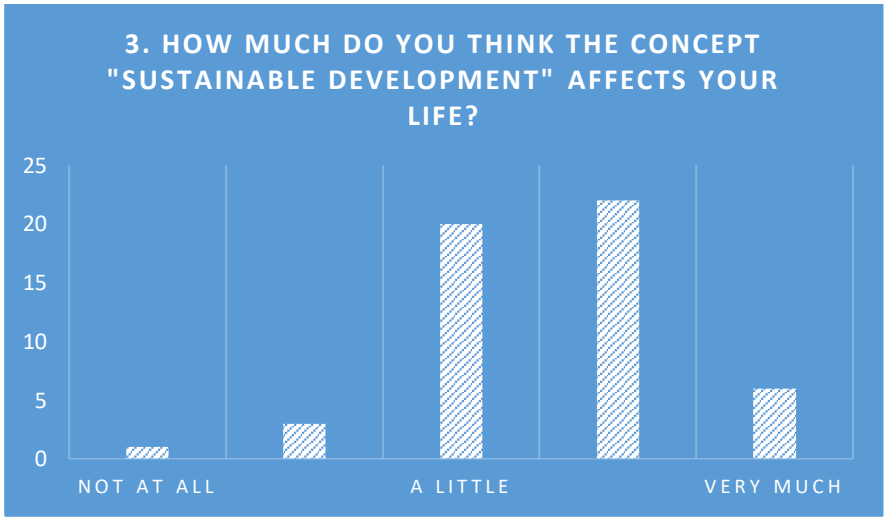
13. Vielä lopuksi: onko mielessäsi aiheeseen liittyviä kysymyksiä tai kommentteja, jotka haluaisit jakaa?

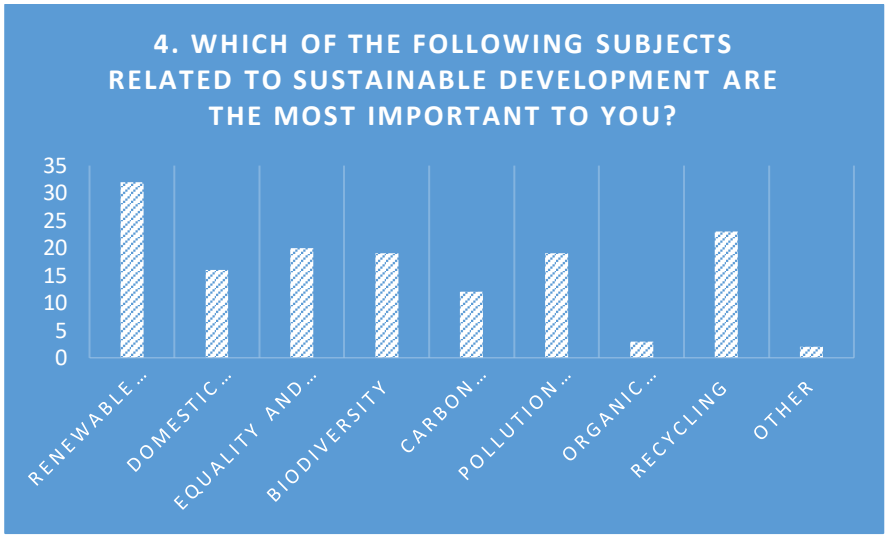
Appendix 5. Results from the Survey

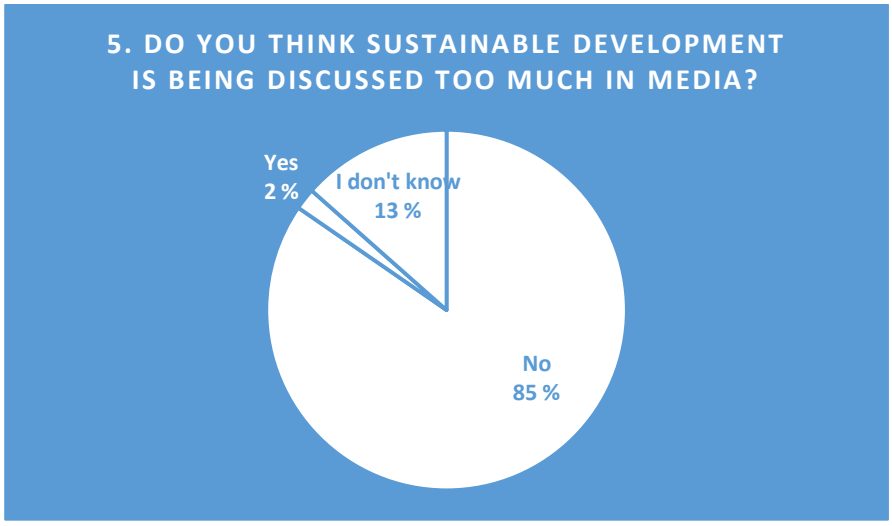
Total of 52 respondents.

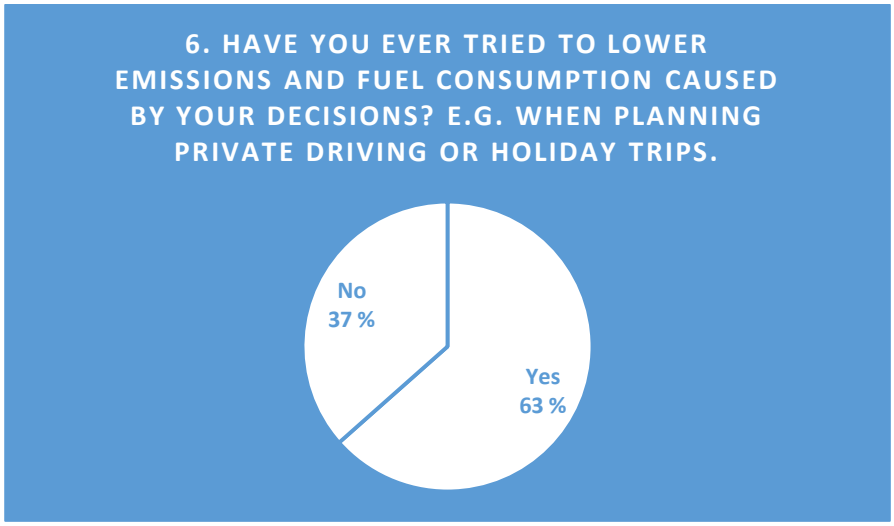


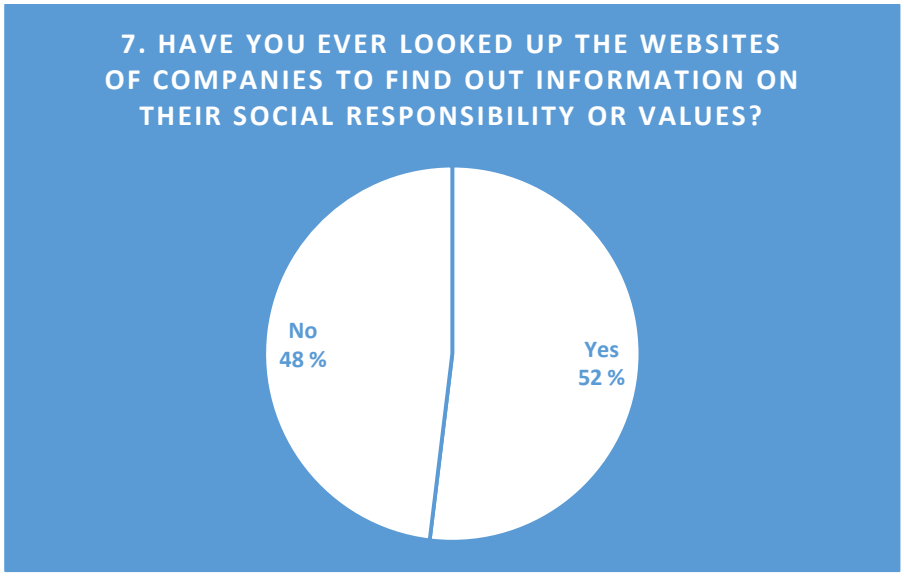


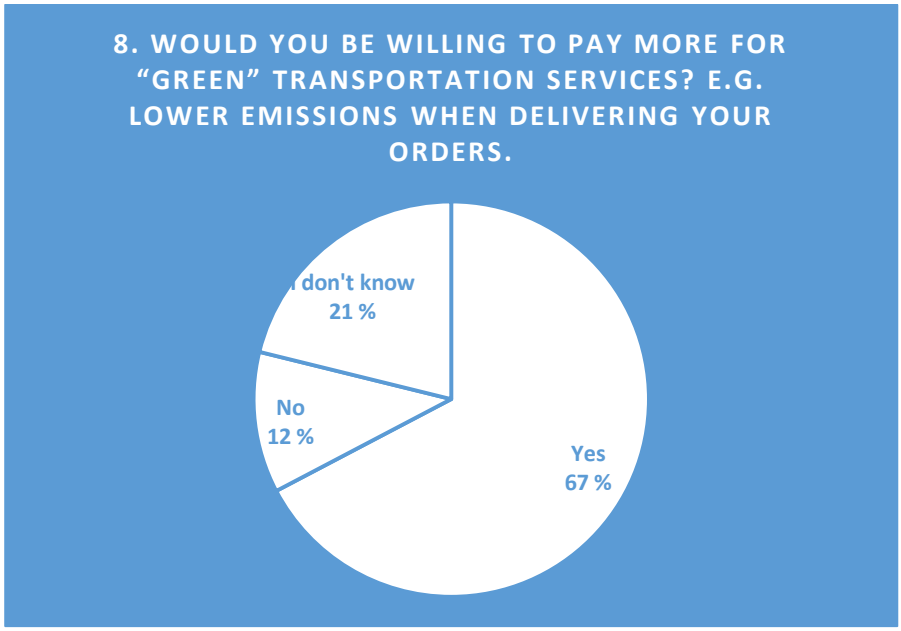



4. WHICH OF THE FOLLOWING SUBJECTS RELATED TO SUSTAINABLE DEVELOPMENT ARE THE MOST IMPORTANT TO YOU?
35
30
25
20
15
10
5
0
RENEWABLE ...
DOMESTIC ...
EQUALITY AND ...
BIODIVERSITY
CARBON ...
POLLUTION ...
ORGANIC ...
RECYCLING
OTHER


5. DO YOU THINK SUSTAINABLE DEVELOPMENT IS BEING DISCUSSED TOO MUCH IN MEDIA?
Yes
2 %
I don't know
13 %
No
85 %

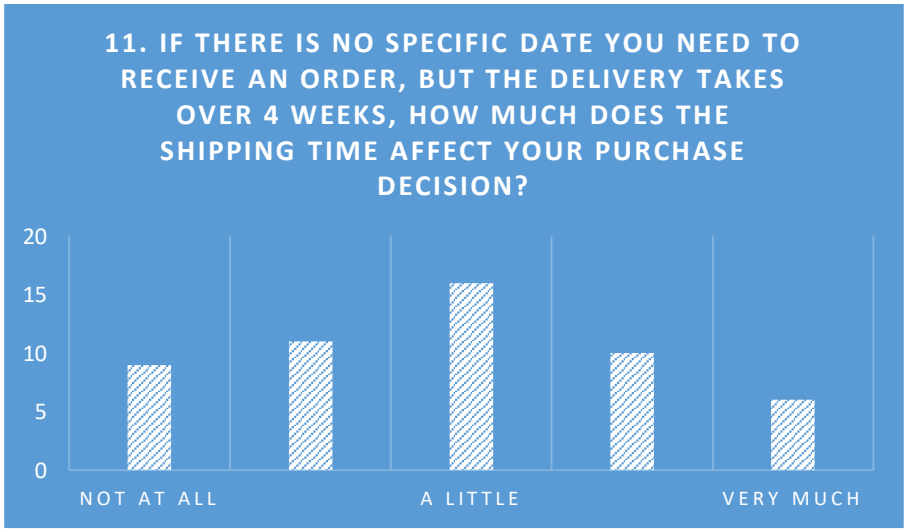

6. HAVE YOU EVER TRIED TO LOWER EMISSIONS AND FUEL CONSUMPTION CAUSED BY YOUR DECISIONS? E.G. WHEN PLANNING PRIVATE DRIVING OR HOLIDAY TRIPS.
No
37 %
Yes
63 %


7. HAVE YOU EVER LOOKED UP THE WEBSITES OF COMPANIES TO FIND OUT INFORMATION ON THEIR SOCIAL RESPONSIBILITY OR VALUES?
No
48 %
Yes
52 %


8. WOULD YOU BE WILLING TO PAY MORE FOR "GREEN" TRANSPORTATION SERVICES? E.G. LOWER EMISSIONS WHEN DELIVERING YOUR ORDERS.
don't know
21 %
No
12 %
Yes
67 %


9. HOW OFTEN DO YOU ORDER GOODS ONLINE?
35
30
25
20
15
10
5
0
WEEKLY
MONTHLY
A FEW TIMES A YEAR
LESS THAN ONCE A YEAR
NEVER


10. WHEN ORDERING GOODS ONLINE, HAVE YOU EVER CONSIDERED THE FUEL CONSUMPTION OR ENVIRONMENTAL IMPACT OF SAID ORDERS?
No
48 %
Yes
52 %


11. IF THERE IS NO SPECIFIC DATE YOU NEED TO RECEIVE AN ORDER, BUT THE DELIVERY TAKES OVER 4 WEEKS, HOW MUCH DOES THE SHIPPING TIME AFFECT YOUR PURCHASE DECISION?
20
15
10
5
0
NOT AT ALL
A LITTLE
VERY MUCH


12. HAVE YOU EVER RETURNED A PRODUCT PURCHASED FROM ABROAD?
Yes
19 %
No
81 %