



**NTNU – Trondheim**  
Norwegian University of  
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# Building the Sustainable Supply Chain: Trust, Transparency, and Contracts as Building Blocks

*A theoretical, and empirical analysis of SMEs in  
the Norwegian industry*

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Globalization

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Trondheim, June 2015



## Colophon

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## Preface

In front of you lies the master thesis written by Joost Kievitsbosch as part of his master study Global Production Management with a specialization in Purchasing Management at the Department of Industrial Economics and Technology Management (IØT) at the Norwegian University of Science and Technology (NTNU) in the period from January till June 2015.

This master thesis is part of the SISVI (Sustainable Innovation and Shared Value Creation in the Norwegian Industry) project which is currently being carried out at NTNU in close cooperation with the Norwegian industry.

I would like to thank my supervisors, Prof. Luitzen de Boer, Postdoc Malena Ingemansson Havenvik, and PhD Candidate Mieko Igarashi, all from NTNU, for their guidance, support, constructive feedback, and encouragement to help me carry out this research. They always found time to answer my questions and to discuss issues. I would like to thank Malena Ingemansson Havenvik in particular for taking the time to help and guide me through the survey results in the online program Questback.

Trondheim, June 2015

A handwritten signature in blue ink, appearing to be 'J.R. Kievitsbosch', written over a light blue horizontal line.

J.R. Kievitsbosch



## Abstract

This thesis aims to explain and discuss how trust, transparency, and contracts (TTC) are conceptually related to sustainability and how TTC influence and drive the sustainable supply chain. The scope of this research, in addition to a theoretical part, also includes an empirical analysis of SMEs in the Norwegian region of Møre og Romsdal by means of a survey. In the empirical part of the thesis, the extent to what indications for the relationship between trust, transparency, contracts and the sustainable supply chain are visible in the Norwegian industry is studied.

The research question that is answered in this study is as follows:

*“How are trust, transparency, and contracts conceptually related to sustainable supply chains and to what extent are indications for the relationship between trust, transparency, contracts and the sustainable supply chain visible in the practice of Norwegian companies?”*

The literature study in this thesis reveals that the concepts of trust, transparency, and contracts are highly interrelated and play an important role in sustainability practices. Resulting from the literature study it is identified that, first, it seems that TTC and sustainability have a high degree of shared aspects and therefore TTC is identified in as a driver and facilitator of sustainable relationships. Second, sustainable relationships are identified as a precondition for successfully implementing sustainability practices throughout the entire supply chain in order to establish a sustainable supply chain.

The survey used for this study has been sent to 72 SMEs in the region Møre og Romsdal in Norway, 11 companies responded resulting in a response rate of 15%. Analysis of the sample's results give some interesting indications regarding sustainability and the extent to what the relationship between TTC and sustainable supply chain is visible among the respondents. First, the respondents seem mainly to engage in internal practices related to environmental and social sustainability. Second, the respondents seem to have a high degree of trust based relationships compared to the degree that contract based relationships are used. Finally, there seems to be a visible relationships between TTC and the sustainable supply chain at the companies in Møre og Romsdal. However, this is limited to the use of a high degree of close collaboration relationships based on trust, and based on the awareness of almost all respondents that sustainability should be considered on a regular basis as theme for innovation and development. The resulting picture indicates that the Norwegian companies are at the stage of making their own organization environmentally and socially sustainable, and seem not to be at the point where environmental and social sustainability practices are carried out in cooperation with their customers and suppliers.

This thesis is a contribution to both the SISVI project as well as to the field of sustainability and supply chain research. In addition to contributing to an interesting project and fields, the results and propositions give indications for further research in the SISVI project.

## Table of Contents

Colophon .....	ii
Preface.....	iii
Abstract .....	v
1. Introduction.....	1
1.1. Background and basis.....	1
1.2. Motivation .....	2
1.3. Problem analysis.....	3
1.4. Problem statement.....	6
1.5. Goal .....	6
1.6. Research question .....	6
1.7. Thesis structure .....	7
2. Methodological considerations.....	9
2.1. Focus of thesis .....	9
2.2. Theoretical method .....	10
2.3. Empirical method and survey design .....	11
2.4. The survey and data collection.....	12
3. Theoretical results.....	15
3.1. Introducing trust into sustainability .....	15
3.2. Trust and contracts.....	20
3.3. TTC and sustainability.....	22
3.4. Sustainable relationship .....	23
3.5. Sustainable supply chain/network .....	24
3.6. Overview of theoretical results and their linkages .....	28
4. Empirical results .....	31
4.1. General survey results .....	31
4.2. Survey results per hypothesis .....	37
4.3. Overview of questions and filters used per hypothesis .....	49
5. Discussion.....	51
5.1. Results per hypothesis .....	52
6. Conclusion .....	55
7. Recommendations .....	56
References.....	57
Appendix A – A brief overview of the results in the project thesis.....	64
Appendix B – Article on the survey .....	64
Appendix C – Survey for empirical results.....	65



## List of tables

- Table 1: List of parameters ..... 10
- Table 2: Keywords for obtaining literature ..... 11
- Table 3: Categorization of the sample ..... 13
- Table 4: Definitions of trust. Sourced from: Sroka (2011): Problems of trust in alliance networks ..... 17
- Table 5: Shared aspects between sustainability and trust..... 18
- Table 6: Overview of hypotheses and their functions ..... 29
- Table 7: Types of relationship ..... 31
- Table 8: Types of working relationship ..... 32
- Table 9: Innovation and change over the last five years..... 33
- Table 10: Degree sustainability is considered for skill development and innovation..... 33
- Table 11: Participation in environmental and social sustainability practices ..... 34
- Table 12: Motivation for development and innovation ..... 35
- Table 13: Hindrances of sustainability ..... 36
- Table 14: NGOs and governments as sources of motivation for SMEs ..... 37
- Table 15: Governmental hinders of sustainability for SMEs ..... 37
- Table 16: Degree of long-term relationships when having trust-based relationships..... 38
- Table 17: Relationships of companies highly engaged in sustainability ..... 40
- Table 18: Type of relationship of companies with long-term relationships ..... 41
- Table 19: Innovative companies and their working relationship ..... 41
- Table 20: Degree sustainability is considered in innovative companies..... 42
- Table 21: Involvement in sustainability practices by innovative companies ..... 43
- Table 22: Involvement in sustainability practices by companies with trust based relationships ..... 44
- Table 23: Involvement in sustainability practices by companies with long-term cooperative trust based relationships ..... 45
- Table 24: Involvement in sustainability practices by smaller companies ..... 46
- Table 25: Involvement in sustainability practices by larger companies..... 47
- Table 26: Involvement in sustainability practices by international and growing companies ..... 48
- Table 27: Summarizing overview of survey questions used per hypothesis..... 49

## List of figures

- Figure 1: SISVI research overview ..... 2
- Figure 2: Structure of the master thesis study ..... 9
- Figure 3: Overview of theoretical results and their linkages ..... 28



# 1. Introduction

This chapter introduces the research and its relevance. It outlines the research background, motivation, scope, objectives, and questions.

## 1.1. Background and basis

Trust, transparency and contracts (later referred to as TTC) are very common and basic factors we deal with in our everyday life. We trust our friends and family, we tell our friends and relatives our problems and thus share information with them by being transparent, in order to solve personal problems and to find solutions together. In some situations we give them financial support, and we are married with our greatest love. These are all situations where trust, transparency and contracts play important roles in everyday life, and we want our relationships with friends and relatives to be sustainable over time. The same applies with relationships between organizations doing business together. However, here it seems that one tends to give these factors less thought than in our personal lives. Sustainability, on the business level, includes all the types of effort that aim to enhance the competitiveness of the company while also considering environmental and social aspects related to the company's activities and products.

Nowadays, sustainability is a growing matter for organizations and governments. Also for the Norwegian government, which is focusing more on sustainability in the Norwegian industry. In the 'Political platform for a government formed by the Conservative Party and the Progress Party' (2013), a document with the overall plan of Norway's government, it is recognized that in the long term the growth potential of the mainland economy will determine the development of welfare in Norway. By doing so the government tries to develop an economy which is less vulnerable to fluctuations in oil prices. In order to do this the Norwegian government is investing more in sustainable enterprises and will seek to make Norway one of Europe's most innovative countries by also investing more in industry-oriented research on innovation. Focusing on sustainability can of course not be done by one company alone, but has to be done within entire supply chains. Since it is a long term operation, sustainability and long lasting sustainable relationships seem to be absolutely necessary to let this development succeed. As the Norwegian government recognizes in their political platform (2013) Norway has a small and open economy, so participation in international trade is one of the strongest drivers of economic growth in Norway. It can thus be concluded that Norway's future welfare is dependent on their production and service industry rather than oil and gas. This makes it for Norway at this moment, more than ever, necessary to focus on sustainability in their industry in order to ensure wealth in the future.

The Norwegian government puts industry-oriented research on innovation into practice by funding the SISVI project where this master thesis is part of. 'SISVI' is an acronym for **Sustainable Innovation and Shared Value Creation in Norwegian Industry**. It is a project carried out in close collaboration with the Norwegian industry and NTNU. The Norwegian Research Council has accepted the application for funding the research project.

The SISVI research is grounded in the concept of sustainability, and aims to provide Norwegian industrial firms with four crucial building blocks that they can use when developing their own unique competitive strategy. These four blocks are (1) internationalization, (2) innovation, (3) interactions in networks, and (4) integration and implementation. Figure 1 gives a schematic overview of the SISVI project. Within the SISVI project, environmental and green aspects as drivers for innovation are emphasized.

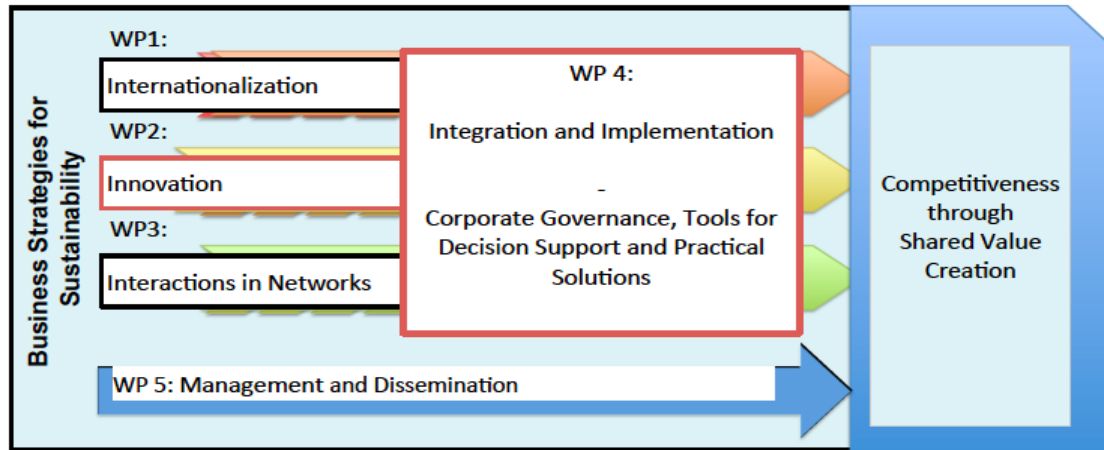


Figure 1: SISVI research overview

The purpose of the SISVI project is to develop knowledge to strengthen the Norwegian industry's long-term competitive capabilities in a way consistent with the concept of shared value (shared value means that value is created in a way that meets both financial and societal needs). Another important part of the SISVI project is the implementation and integration phase of new knowledge. This part will secure the alignment between the needs of the Norwegian firms and theoretical concepts.

This master thesis will build further on the results of a research previously conducted as a project thesis by Kievitsbosch and Chaudhary (2014) in Work Package (WP) 3. A brief summary of the project thesis as background information is given in Appendix A. The project thesis research had its focus on the concept of trust in the Norwegian firms Supply Chain and Network, with a major focus on what the significance of trust is in creating shared value in the sustainable supply chain. Building on this project thesis, this master thesis will go deeper into this matter and will also include more aspects than only trust (this is discussed further in paragraph 1.2). Work Package 3 focuses on interaction in networks, where this is seen as how firms actively work (interact) with various supply chain actors with a view to shared value creation. Examples of interactions can include supplier base and network development, but also more informed supplier selection processes, supplier base reduction programs, collaborative purchasing arrangements, participating in standardization processes and so on. Work Package 3 consists of three different objectives (1. Identification of typical drivers and barriers; 2. Understanding how Norwegian firms respond to these drivers; 3. How firms can influence the complex interaction in supply chains.), this master thesis research will take these objectives into account to contribute to SISVI's Work Package 3.

As stated before, the SISVI project is being conducted in close collaboration with the Norwegian industry. The participating companies in SISVI are divided into two categories; 1. Core companies and 2. Network organization. The core companies are highly involved in the SISVI project and case studies will be conducted at these companies, core companies are Plasto AS, Hexagon Ragasco AS, and Raufoss Water & Gas AS. The network organizations are being used for their information and enabling them to get in touch with other organizations in the SISVI network and to benefit from the results. The network organizations are Norsk Stålforbund, MRB AS, Forsvarsbygg, and Molde Kunnskapsark AS.

## 1.2. Motivation

Due to the plans of the Norwegian government to focus more on sustainability and to fund scientific research that has its focus on sustainability in the Norwegian industry, it becomes clear that more research in this field is needed. The need for sustainability is being strengthened by the need to stay ahead of global competition in order to ensure growth and wealth in Norway. As in many other countries, SMEs (small and medium sized enterprises) form the 'engine' of the Norwegian economy,

hence the need to stay competitive in this industry in terms of globalization and sustainability and to work on the development of it. Due to the growing globalization and internationalization of companies and their activities, there is an increasing role of corporate strategies among organizations. An aspect that gains importance with the increase in globalization, is sustainability. However, nowadays the implementation of environmental and social responsible business practices is more of an image for organizations than an actual practice implemented across the company and its supply chain/network. This clearly indicates *“that it is problematic to implement sustainability into the routines of everyday business life”* (Ingemansson Havenvid, 2014). In order to solve this problematic issue and to establish a sustainable supply chain/network in the Norwegian industry, effective long term relations are necessary between the partners. Where trust plays a significant role in the development and maintenance of long-term relations (Ganesan, 1994; Morgan & Hunt 1994). Scientific literature seems to agree that in order to establish sustainable development and a sustainable supply chain trust is of great importance. Bommel (2001) argues that when trust is lacking among firms and actors, sustainable development becomes literally baseless.

Still, the most used business model is the one where winning implies that someone else has to lose, and competition becomes the main strategic focus (Gadde et al., 2003). Since the achievement of sustainability, ‘shared value’ (Porter & Kramer, 2006), and trust lies in creating effects in the interface between the focal firm and other actors, the network perspective is more relevant in this context (Håkansson et al., 2009). From a network perspective, strategic action is defined as efforts of the firm to influence its position in the network of which it is part (Gadde et al., 2003). Ford et al., (1998: 107) argue that in relationships characterized by collaboration and mutual dependence, the scope of strategy *“shifts from that of pursuing a victory over others to somehow making it together with customers and suppliers, distributors and development partners.”* This is also argued by Gadde et al. (2003) who state that in an industrial network perspective, interdependence and coevolution are important characteristics, and the competitive aspects of strategy becomes less important. Ingemansson Havenvid (2014) supports these findings by stating that the network perspective is highly relevant here since it views the firm as part of a network of interdependent actors, activities, and resources that are interrelated across organizational boundaries. This means that the firm’s activities and resources are dependent on other firms and actors and their activities and resources, in order to function and to create all the possible benefits (increase in profitability, learning, innovation) (Ingemansson Havenvid, 2014).

In any relationship, if it is between people or firms, trust and transparency seem to play an essential role. It leads to mutual understanding and it builds a relationship which is necessary to work together. In order to formalize the conditions under which companies work together, contracts are often used. What is covered in the contracts and how contracts are used depends on each relationship. Thus, these three aspects (trust, transparency, and contracts) in a relationship seem to be highly relevant when a sustainable supply chain in the Norwegian industry is pursued. Hence, this research will focus on trust, transparency, and contracts in the way they influence a sustainable relationship and the sustainable supply chain.

### 1.3. Problem analysis

Trust is one of the most important factors of success for any business activity, it can lower costs, increase productivity, innovativeness and resolve conflicts (Sroka, 2011). Many aspects of business relationships can never be formalized or based on legal criteria. Instead, mutual trust and commitment are important characteristics, to which interaction and social exchange are crucial (Turnbull & Wilson, 1989). Trust both shapes the behavior that takes place and is shaped by it; it is both a cause and an effect of change (Huang and Wilkinson, 2013). Over time trust evolves in a relation in a particular way depending on the specific history of actions and interactions and other events taking place (Huang and Wilkinson, 2013). Thus trust is not a fixed concept but rather dynamic. Another distinction of the type

of trust is made by Zaheer, McEvily and Peronne (1998). They state that a distinction can be made between interpersonal and interorganizational trust. Trust always has its basis in individuals, yet individuals may share a view towards another organizations. From this perspective, interpersonal trust refers to the trust placed by individuals in one firm on other individuals in the partner firm. Interorganizational trust refers to a collective orientation or culture of trust that organizational members have towards a partner firm (Zaheer et al., 1998). Both types of trust exist in business relations and they influence each other and co-evolve over time as the relationship develops (Huang and Wilkinson, 2013). Research shows that trust is an important driver to create a sustainable supply chain and network. Within trust, transparency might be an important aspect for gaining trust. In that case, transparency seems to help increase trust, and trust in its turn creates the opportunity for a sustainable supply chain and network since it sets the basis for a long lasting relationships. As research shows (Klein Woolthuis, 1999), trust can also be gained and lost by, among others, different (forms of) contracts, which is clearly linked to the degree of transparency.

Nowadays more and more business functions and operations are being outsourced and services, components, sub-assemblies and whole products are purchased. Organizations are increasingly relying on their supply networks to successfully compete in the global marketplace (Young and Kielkiewicz-Young, 2001). Besides this reliance, the world has 24 hours per day, 7 days a week, instant access to information and news from all over the world. This puts organizations under growing pressure to take responsibility for their social, environmental and ethical impacts (Ibid.). This includes not only the company's own operations, but also all the life cycle impacts associated with the products and services companies provide. Therefore, organizations are beginning to recognize that they need to identify, understand, and manage sustainability issues, not only in their own organization, but also throughout the entire supply chain and network (Ibid.).

From the introduction, motivation, and problem analysis, the main problems and their symptoms have been identified. The problems and symptoms are listed below and are briefly being discussed for clarification:

#### Problems:

- ✚ Internationalization of market
- ✚ Internationalization of the supply chain
- ✚ Increase of pressure on sustainability practices
- ✚ Increase in need to govern the supply chain/network
- ✚ Norway is dependent on international trade

#### Symptoms:

- ✚ Lack of knowledge on development of a sustainable relationship
- ✚ Governmental regulations
- ✚ Changing customer demand
- ✚ Changing relationships

The advent of upcoming use of computers in the 90's and the fall of the 'iron curtain' in 1989 marks a period of internationalization of the industrial market place. It becomes easier for companies to exchange information and goods between countries and continents and thus increases the trade in and between markets. This trend also reflects to the companies and supply chains in particular. Not only customers are buying and selling to and from different countries and continents but also organizations. Resulting in a supply chain having its actors all over the world. Because of these internationalization trends there seems to be a change in customer demand on one side, and a change in relationships that firms have with the different supply chain actors on the other side. Governments, and also the Norwegian government (Political platform, 2013), respond to this with governmental regulations causing a need to govern the supply chain/network and to include sustainability practices.

Since Norway, as stated in the introduction, is and will be dependent on international trade, there has to be an increase in the development of knowledge on sustainable relationships and sustainable practices in the Norwegian industry. Trust, transparency, and contracts have been identified by the author as influencing factors and drivers for sustainability and the sustainable supply chain. Current research, however, does not seem to be clear on the connection between trust, transparency, contracts and how this influences and/or enables sustainability in the sustainable supply chain. This research will seek to identify this and attempts to offer Norwegian SMEs insight in how to deal with the interplay between trust, transparency, and contracts in order to establish a sustainable supply chain.

#### 1.4. Problem statement

The problem statement presents in short the problem analysis.

**Norwegian industry want to focus more on sustainability and sustainable supply chains, but lack the knowledge to actively do so.**

#### 1.5. Goal

The goal presents in short what the desired research outcome is.

**It is shown how trust, transparency, and contracts influence and drive the sustainable supply chain and give indications on how Norwegian companies deal with the interplay of trust, transparency, and contracts in their strive towards a sustainable supply chain.**

#### 1.6. Research question

The question presents in short what the research question is to come to the desired goal of the research. The research question is divided over two sub-questions.

**How are trust, transparency, and contracts conceptually related to sustainable supply chains and to what extent are indications for the relationship between trust, transparency, contracts and the sustainable supply chain visible in the practice of Norwegian companies?**

✚ Research question 1:

**How are trust, transparency, and contracts conceptually related to sustainable supply chains?**

✚ Research question 2:

**To what extent are indications for the relationship between trust, transparency, contracts and the sustainable supply chain visible in the practice of Norwegian companies?**



## 1.7. Thesis structure

This master thesis study consist of 7 chapters. The content of each chapter is briefly described.

In the first chapter of the thesis the research is introduced and the context is briefly discussed. Resulting from the introduction, the problem analysis is explained in detail which then leads to the problem statement, goal of the research, and research question for this thesis. The next chapter, methodology, describes the methods used in this study and why these methods are used. The third chapter contains the literature study as theoretical basis for this thesis. The literature studies starts with introducing trust into the concept of sustainability. Second, trust and contracts are being discussed. Third, the concepts of trust, transparency, and contracts (TTC) are being discussed in relation to sustainability. Then, fourth, the sustainable relationship is being discussed with a focus on the role of trust, transparency, and contracts in establishing such a sustainable relationship. Lastly, the sustainable supply chain is being discussed in relation to trust, transparency and contracts. After the theoretical basis of the thesis is completed, the chapter on empirical results will present the results retrieved from the survey. The chapter will start with an overview of the general results of the sample and will then go into more detail on specific results. After the theoretical and empirical chapter, the results are being discussed in the chapter 'discussion'. Which is followed up by the chapter 'conclusion' where the conclusions of this thesis are presented and the degree to which the thesis has answered the stated research questions is discussed. The thesis will end with discussing recommendations based on the results of the theoretical and empirical part.



## 2. Methodological considerations

This chapter presents the research methods used in this study and explains why and how the methods are used in order to answer the research question in this study. First overall methodology is being discussed, second the methodology for the theoretical part, and lastly the empirical methodology.

### 2.1. Focus of thesis

The concepts of trust, transparency and contracts for sustainability have been identified as interesting aspects for this study by conducting a short literature review in the introduction. The brief literature review in the introduction indicates a clear need to identify how trust, transparency, and contracts (TTC) are conceptually related to sustainable supply chains. Here, the theoretical background is investigated to: (1) find theoretical justification for this study, and (2) reach part of the goal of the study by showing how trust, transparency, and contracts influence and drive the sustainable supply chain, and thus answering research question 1. In order to reach the sustainable supply chain, the thesis wants to identify if companies have to go through multiple stages. First the significance of trust, transparency and contracts is identified in the introduction as important drivers and influences for any kind of relationship. With having these factors (TTC) under control, a company might be able to build a sustainable relationship which lasts over time. Here it is important to note that in this research the sustainable relationship does not necessarily focus on sustainability practices as 'green' and 'recycling' etc. in the relationship, but is rather used for a strong relationship which survives over time. When having sustainable relationships within the supply chain, it is assumed that the supply chain has a higher interdependence and that the supply chain actors closely cooperate with each other. Through the close cooperation and the established relationship which lasts over time, it might become more efficient and effective to implement sustainability practices in the entire chain. The definition of a sustainable supply chain used in this study thus includes the implementation of sustainability practices across the entire chain, whereas the sustainable relationship focuses on the relationship that is sustainable over time rather than a relationship where sustainability practices are used.

This thesis consists of a theoretical and an empirical part. Both parts contribute to the answering of the research questions. Research question 1 is mainly related to the theoretical part, and research question 2 is mainly related to the empirical part. The theoretical part is based on a literature review whereas the empirical part is based on a survey. The survey was constructed within the SISVI project. The linkages of the theoretical and empirical part for answering the research questions are shown in figure 2.

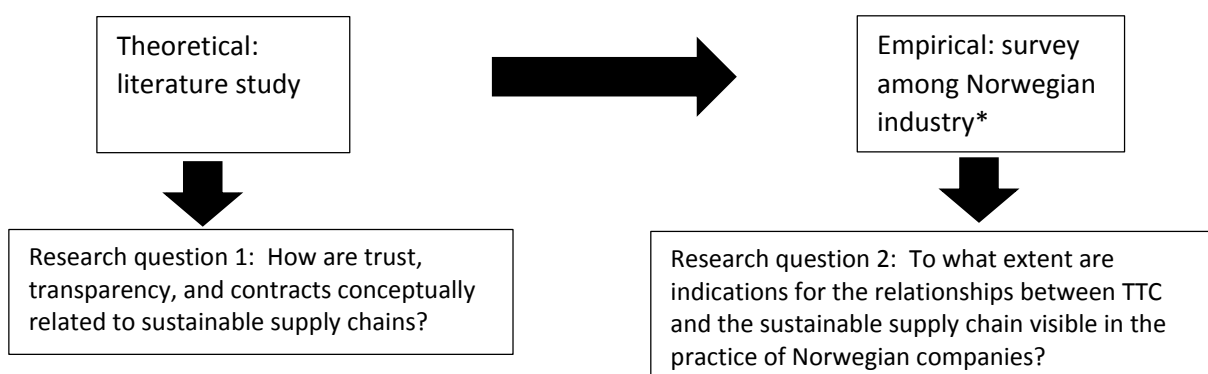


Figure 2: Structure of the master thesis study

\* Carried out within the limitation of the participating companies in the Møre og Romsdal region.

The theoretical part of this study will focus on the conceptual relationship between TTC, the sustainable relationship and the sustainable supply chain. Hence, the presentation of the theoretical

results is structured the same way. Starting with identifying the shared aspects between sustainability and trust, in order to find scientific justification for this study. Hereafter, the relationship between trust, transparency, and contracts is further being identified and then held in light of sustainability to identify the link between TTC and sustainability. The significance of sustainable relationships over time is being discussed to present the importance of a relationship for implementing sustainability practices. Lastly, literature on the sustainable supply chain is being presented and discussed. The method for retrieving the literature used is being discussed in paragraph 2.2 under ‘Theoretical method’.

To reach the second part of the goal of this study and to answer the second research question, a survey as an empirical pre-study has been conducted within the Møre og Romsdal region in Norway. The survey, which has been approved by the Norsk samfunnsvitenskapelig datatjeneste (NSD), has been sent to 72 companies in the Møre og Romsdal region. The respondents that were chosen are CEOs, as they would probably have a good overview of the company’s innovation, development, and sustainability activities. The empirical pre-study has two functions in this thesis: (1) to identify tentative indications in the Møre og Romsdal region related to the theoretical findings for further studies, and (2) to test the survey for the SISVI project. The structure of the survey, the categorization of the sample respondents, the sample region and the use of the survey is being discussed in paragraph 2.3 under ‘Empirical method’.

## 2.2. Theoretical method

The literature study in this research is performed in order to gain knowledge on the matter of trust, transparency and contract in regard to sustainable relations and the sustainable supply chain. It also forms the basis (figure 2) of one part of the answer for the research question. Saunders et al. (2009) emphasizes that it is important to plan the literature search carefully *“to ensure that relevant and up-to-date literature and data is being used”*. In order to do so for this research, the literature search is being described with a list of parameters (Bell, 2005):

- Language of publication
- Subject area
- Business sector
- Geographical area
- Publication period
- Literature type

Table 1: List of parameters

<b>Language of publication</b>	English
<b>Subject area</b>	Industry, management, strategy, sustainability
<b>Business sector</b>	Manufacturing, purchasing
<b>Geographical area</b>	World
<b>Publication period</b>	1990 - 2015
<b>Literature type</b>	Scientific publications (articles and books)

The language of publication that is being used is English, because of the extensive available literature. The subject area and business sector are chosen because they represent the field of this study best and are most likely to support this research since this study is also focused on industry, sustainability and supply chain. Literature from all over the world is being used to ensure that extensive knowledge is being retrieved and to exclude, as far as possible, the possibility of excluding findings published in certain parts of the world. A publication period of the last 25 years (1990 – 2015) is being used which marks the advent of upcoming use of computer technology and, within Europe, the increase of the

open market and competition after the fall of the ‘iron curtain’. These two important changes over the last 25 years were considered as highly important for the change of the industry to what it is nowadays. The recentness of literature is also useful and important since it provides the study with the latest information, and prevents the researcher from researching something that has already been done. For this study, mainly scientific publications will be used, both articles and books, obtained through authorized research databases like ScienceDirect.

In order to find relevant literature, key words have been used which form the most important part of the search for literature (Bell, 2005), since these key words will determine which literature will be found and used in this study. Table 2 gives an overview of the most important key words for this study.

Table 2: Keywords for obtaining literature

Sustainability	Supply chain management
Trust	Globalization
Contract	Internationalization
Transparency	Supply chain
Sustainable supply chain	Sustainable relationship
Shared value	Supply network

With the results from the literature, snowball sampling (Saunders et al., 2009) was used by using references in the articles to find additional relevant and useful literature, and thus literature from before 1990 can also be included this way. Beside scientific publications, the study will also use relevant information that can be obtained elsewhere (e.g. newspaper/webpage) to make the result as relevant as possible for the current Norwegian industry. In this context this information can also be retrieved in publications other than English, e.g. Dutch, German, and Norwegian.

Throughout the results of the literature study, hypotheses have been constructed which represent important findings in the literature to: (1) contribute in answering the research questions, and (2) give background information for the context of this study. The chapter on theoretical results will end with an overview of how all the identified concepts (trust, transparency, contracts, sustainability, relationships) are related and connected with the hypotheses. Here, a distinction is also made between the hypotheses used for answering the research question and the hypotheses used for background information. In the empirical part of this study it is attempted to find tentative indications for the hypotheses in the Norwegian region of Møre og Romsdal. In the concluding discussion the indications will be discussed, the hypotheses thus form a red line through the empirical results chapter and the concluding discussion.

By conducting the theoretical part as described in the theoretical method, I attempt to be as complete as possible for the theoretical foundation of this study. However, the drawback of literature study is the reliance on previously published material which might not be relevant any longer. In order to tackle this problem as far as possible, only recent publications have been used and together with the empirical method, the findings can support or reject findings in the literature study. In the next paragraph the empirical method is being discussed.

### 2.3. Empirical method and survey design

In formulating the empirical method, as already stated in the first paragraph of this chapter, a survey is used as an empirical pre-study to find tentative indications for further studies in the Norwegian region of Møre og Romsdal. An English translation of the survey created within the SISVI project is included in Appendix C. Multiple researchers (e.g. Saunders et al., 2009; Yin, 2014) state that a survey is a good method to answer who, what, where, how much and how many questions. Because the main

question of this study is a 'how' and a 'what' question a survey seems indeed to be a good method to for answering the research question (Saunders et al., 2009). A survey is also a good method if the research is exploratory and descriptive (ibid), because of the lack of extensive research on the subject of this research in Norway one can state that this is an exploratory research. The survey is designed within the SISVI project team at NTNU and the author of this master thesis was not part of designing the survey.

The purpose of the first questions in the survey is to break down and categorize the sample. More specifically, these questions relate to variables in terms of size, industry, primary delivery, international purchasing, international sales. The following question in the survey relates to the degree of occurrence of various skill development practices in the company such as, learning by doing, courses, exchanging experiences after finished projects, visits and discussion with suppliers, and visits and discussions with the customer. The question about skill development in the company is followed up by two questions about skill development in relation to sustainable products. In the first question the companies were asked about the degree to what efforts for skill development considered sustainability, and in the second question to what degree the company should consider sustainability in skill development for the near future. The next question is about the characterization of the last 5-year period in terms of changes to the business model, production methods, and product for the customer. These questions are followed up by three questions regarding the characterization of the company's customer relationships (first on the local level, then the Norwegian, and finally the international). Respondents were asked for the degree of occurrence of (1) relationships completely based on trust, (2) trust-based relationships also based on formal contracts, (3) relationships completely based on formal contracts, (4) short-term exchange of goods and information without any adaptation, (5) short-term relationships with some minor social adaptations, (6) short-term and/or long-term relationships where technical adaptations are made, (7) close collaboration relationships, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner, and (8) close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations. The next three questions are about the characterization of the company's supplier relationships (first on the local level then the Norwegian, and finally the international) and involve the same 8 sub-questions as on the company's customer relationships. The next question is devoted to the company's development and innovation, and includes all the efforts that aim to develop and/or make use of new products, services, processes and methods to increase the competitiveness and provide the customer with a better product. The next two questions are about the degree to which the company participates in various environmental sustainability and social sustainability practices. The last question is related to the degree that various conditions hinder or prevent sustainability from becoming part of the company's business model, ranging from aspects on customer demand to public procurement and regulations.

#### 2.4. The survey and data collection

The survey has been sent to the CEOs of 72 companies in the Møre og Romsdal region in Norway that are all clients of the participating consultancy firm in the SISVI research. The important aspect of the empirical study is to find possible interesting indications rather than true findings in the Norwegian industry, hence the amount of 11 respondents (15% response rate) is not seen as a drawback.

The hypothesis from the theoretical results are being tested with respondents that meet the requirements per hypothesis against the rest of the sample, leading to a comparison of relatively few companies against relatively few companies. Although the survey is formulated to build as a foundation for quantitative research, this research uses the survey in a qualitative way as a pre-study. Hence, the empirical part aims to present tentative indications for further research.

The web-based tool 'Questback' was used to send the survey to the 72 companies and to analyze the final sample. In order to motivate the CEOs to participate in the survey the consultancy firm placed an article on their webpage to encourage participation, the article is included and anonymized in Appendix B. Due to time limitations, the sample after 2 weeks was used. Leaving the author with the 11 completed questionnaires. The breakdown of the sample is shown in Table 3 by type of company (independent or part of), size, industry, product (physical or service), level of international purchasing, type of international purchase, and level of international sales.

Table 3: Categorization of the sample

<b>Properties of the companies</b>	<b>Share of companies in absolute numbers (Share in %)</b>
<i>Type of the company</i>	
Independent company	8 (72,7)
Part of Norwegian corporation	0
Part of international corporation	3 (27,3)
<i>Size of company</i>	
0 – 40 employees	3 (27,3)
41 – 60 employees	4 (36,4)
61 – 140 employees	1 (9)
More than 140 employees	3 (27,3)
<i>Primary industry (multiple possible)</i>	
Maritime	3 (27,3)
Oil & gas / offshore	2 (18,2)
Furniture	2 (18,2)
Fish farming	4 (36,4)
Other	6 (54,4)
<i>Primary delivery</i>	
Physically produced goods	5 (45,5)
Services	1 (9)
A combination	5 (45,5)
<i>International purchasing</i>	
0 – 20% of total purchase	4 (36,4)
21 – 30% of total purchase	2 (18,2)
31 – 50% of total purchase	2 (18,2)
More than 50% of total purchase	3 (27,3)
<i>Sort of international purchase</i>	
Physical products	10 (91)
Services	1 (9)
A combination	0
<i>International sales</i>	
0 – 20% of total sales	4 (36,4)
21 – 30% of total sales	3 (27,3)
31 – 50% of total sales	1 (9)
More than 50% of total sales	3 (27,3)

72,7% of the sample, 8 companies, are independent Norwegian companies and thus not part of an international corporation. Resulting in the fact that this sample is satisfactory to work with for the purpose of this study, because it represents mainly the Norwegian industry in Møre og Romsdal rather

than units of international corporations in the Møre og Romsdal region. The breakdown of the sample also indicates that the Møre og Romsdal region has a high degree of firms in the fish farming industry (36,4%). The companies responding 'other' (54,4%) are active in industries ranging from machinery to building and construction.

The chapter on empirical results starts with a presentation of the results of the entire sample over topics that are considered as significant in this study (TTC, relationships, sustainability). After the more general results of the sample, the empirical chapter will go into more detail by presenting the results per hypothesis. Here, the respondents (with corresponding characteristics to the hypothesis) are being tested against the rest of the sample. The results per hypothesis, in turn, will be linked back to the results of the entire sample to identify possible indications.



### 3. Theoretical results

This chapter will provide an overview of the current relevant literature. It explores in detail the terminology used in this study and presents the main findings and trends from current literature that has been published on this topic. The chapter also identifies the main connections between the concepts of TTC, sustainable relationships, and sustainability.

#### 3.1. Introducing trust into sustainability

This paragraph will introduce trust and sustainability, first each concept will be discussed and the paragraph ends with a conclusion where trust and sustainability are being linked together.

##### 3.1.1. Sustainability

It is almost impossible for anyone nowadays to not have heard of the concept of sustainability. It is being used in company's strategies, governmental regulations, but also in the news it is an often heard concept. But what is it exactly? The most commonly used and known definition of sustainability is the one of Brundtland (1987):

*"meeting the needs of the present without compromising the ability of future generations to meet their needs"*

This definition, however, leaves open to interpretation and is for many managers a too vague term to use in their everyday business. Lately, the concept of sustainability has evolved from this obscure and esoteric sphere into a widely understood notion (Nawrocka, 2008). Due to this change, many companies now acknowledge the need for wide justifications for improved ethical, environmental and social performance (ibid.). The concept of sustainability (as all the types of effort that aim to enhance the competitiveness of the company while also considering environmental and social aspects related to the company's activities and products) is due to the significant attention it lately gets by NGOs and governmental regulations becoming more clear for managers. Giving them tools and opportunities to implement sustainability in their business practices. However, companies stumble upon the significant problem of a lack of reliable sustainability information on products and services. Currently, organizations have to rely on the information that they can collect through their immediate suppliers and customers (Young and Kielkiewicz-Young, 2001). This is nowadays even harder due to the large part of manufacturing that is being outsourced, therefore companies are critically dependent on their suppliers – not only to deliver goods of the desired quality at competitive prices, but also on their environmental performance (Nawrocka, 2008). With this increasing complexity of supply networks, it is difficult to verify and ensure if supplier claims on sustainability performances are true or if the information received from a supplier's supplier is reliable (Young and Kielkiewicz-Young, 2001). The fact that this is an extremely important issue is also recognized by Leppelt et al. (2011) since a firm's corporate image, ranging from economic, environmental and social performance, heavily depends on its supply chain and the sustainability performance of every supplier in the chain. Even though the focus on sustainability criteria often stands in contrast with the traditional objectives of a company (reducing purchasing costs, reducing production time, increase in flexibility) (Cousins and Lawson, 2007), the world industry now realizes that these factors are not the only important ones and that sustainability can actually help improving the objectives of the firm. This is partly caused by external pressures like regulation etc., these pressures form significant drivers for sustainability practices (Hoejmose and Adrien-Kirby, 2012). Although these pressures and drivers form essential factors in starting to increase sustainable performance, they may never become really proactive unless their efforts are supported with internal resources and skills (ibid.). In order to get this internal support there has to be internal drivers too. Carter and Jennings (2002) and Walker et al. (2008) state that management support and organizational values are the main internal drivers in this context, since top management is responsible for the activities of the organization and influence the culture of the company (Hoejmose and Adrien-Kirby, 2012).

In the work of Rock et al. (2009) it is stated that globalization can hold some promise for sustainability, however this will not happen automatically (Bommel, 2010) and thus there is a need for drivers to make this happen. The need for drivers for sustainability is underlined by a quote of a CPO in a research of Leppelt et al. (2011); *“Sustainability-related issues and benefits cannot be quantified. It is a costly subject – costs we cannot/are not willing to cover.”*. This quote summarizes a big problem companies are facing who are willing to implement sustainability practices, but are also dependent on the implementation of sustainability practices at their suppliers. In case their suppliers have the same attitude as the CPO in the quote, it will be a long lasting issue before the supply chain can become truly sustainable since willingness and a long term view are essential.

The success of sufficient pressure and drivers can be seen in the success of fair trade initiatives. It began with food products like coffee, chocolate and bananas, but it is now also expanding towards the textile industry and other products (Bommel, 2010). Customer awareness and demand for environmental and social aspects in products drive these initiatives (Raynolds et al., 2007). Also studies on small companies have concluded that environmental regulations and the increase of customer pressure are drivers for environmental management in those firms (O’Laoire and Welford, 1998; Perez-Sanchez et al., 2003). Unfortunately customer demand is also a hinder of sustainability, as came out of the research conducted by Nawrocka (2008) where one interviewee summarized their company’s situation; *“What customers ask, we have to do, or we have to resign from contract. Since our customers are not interested in environmental issues, we are also not asking our suppliers about them”*. Together with the limited resources small and medium sized companies have available to invest in sustainability practices, this can be seen as a main hinder for sustainability in SMEs. Hence the first hypothesis is:

***H1. Small and medium sized companies tend to recognize NGOs and governmental regulations as main drivers for sustainability***

Caused by the lack of internal drivers and resources, but also because of the limited customer requests for sustainability at SMEs.

It seems that sustainability works both ways, since firms that have environmental relations with their customers are also more likely to have environmental relations with their suppliers and vice versa (Theyel, 2001). And thus, relationships between firms and their customers, and suppliers, can be considered as highly important in the issue of sustainability. The importance of relations is also underlined by the results of Nawrocka (2008) where interviews with managers in Sweden showed that it is considered that cooperation with suppliers has to be based on the supplier’s genuine interest to approach sustainability issues. If such interest is lacking, managers fear that the company demanding environmental improvements at the suppliers would face the risk of paying the bill for requested environmental change. The way to tackle this problem is to ensure that supply chain managers perceive environmental engagement more as an opportunity than as a burden (Preuss, 2005). Close relationships are therefore necessary to stimulate willingness between suppliers and customers to understand each other’s processes (Nawrocka, 2008) and thus to work together on sustainability issues beyond organizational borders.

Summarized, it can be concluded that the main aspects of sustainability include:

- Success is based on reliability
- Long-term focus
- Information sharing
- Dependent on positive attitude of all the parties
- Risk sharing

### 3.1.2. Trust

Companies, like people, have a tendency to show trust. The results of previous cooperations can have an impact on trust in potential new partners in the future (Echols and Tsai, 2005). Cooperation between people and firms involves mutual reliance and requires trust to succeed (Child, 1998). Trust is often seen as a way to control and rely on business partners, as Knights et al. (2001:314) state “*a long tradition of management thought conceptualizes trust and control as opposing alternatives*”. Where a high degree of trust allows a firm to have limited formal control (e.g. with contracts) over the partners and vice versa. However, according to Klein Woolthuis et al. (2005) there is a fundamental disagreement in the literature on the relationship between trust and control. This can be caused by the use of different definitions of trust. As seen in Table 4 below by Sroka (2011), there are multiple definitions in use.

Table 4: Definitions of trust. Sourced from: Sroka (2011): *Problems of trust in alliance networks*

No.	Author	Definition of trust
1.	Jarillo, 1988	Trust relies on the assumption that if one partner (A) encounters difficulties in the discharging its explicit or implicit business obligations, can expect that its ally (B) will act as he wants to behave himself (A) in situation if all the resources of the supporting partner (B) were available at his completed disposal (A).
2.	Bradach and Eccles, 1989	Expectation that exchange partner will not act opportunistically, despite short-term incentives and uncertainty concerning the long-term benefits.
3.	Fukuyama, 1995	Expectation of regular, honest and cooperative behavior that is based on jointly shared standards and principles.
4.	Das and Teng, 1998	Positive attitude and reliability towards the partner in risk situation.
5.	Lewicki et al., 1998	Some positive expectations related to the partner’s behavior.
6.	Zaheer et al., 1998	The growing sensibility of the partner for the risk of transaction partner’s opportunistic behavior.
7.	Jennings et al., 2000	Common belief that neither party will behave opportunistically, and that will not use the partner’s weaknesses.
8.	Sztompka, 2002: 312	Practically expressed expectation towards the partner that its reactions will be good for us.

Generally it can be said that trust is based on honesty, openness and responsibility (Ginevicius, 2010). The second hypothesis is developed by identifying the core aspects of trust and relations with the previously mentioned definition, hence it seems that:

***H2. Firms with trust based relations are more likely to have long term and highly cooperative relations***

According to Rizzi et al. (2013) there is a link between the level of trust between organizations and how this pays off as the net benefit of openness to collaborations increases. The openness in trust is a clear link to transparency, which will be discussed later on in this thesis. With these different definitions of trust it is possible to distillate aspects of trust which seem to be highly relevant in the context of sustainability. First of all, trust focusses on the long-term and on non-opportunistic behavior, it is also based on jointly shared standards and principles. A positive attitude and reliable partners in risk situations are also necessary factors in the success of trust and sustainability.

Nooteboom (2002) in its turn distinguishes between competence based trust and intentional trust. Intentional trust in this context is referring to the trust that one party has in the intentions of another party towards the relationship, especially on avoiding opportunism. Opportunism has two forms according to Klein Woolthuis et al. (2005) (1) passive/weak and (2) active/strong. The passive form of opportunism is about the lack of dedication one partner has in performing to the best of its competence. The active form of opportunism includes, what Williamson (1975) calls ‘interest seeking with guile’; such as lying, stealing etc. to gain an advantage over a partner. The absence of those kinds of active opportunism is called ‘benevolence’ or ‘goodwill’ (Klein Woolthuis, 2005). It can thus be concluded that intentional trust has two different dimensions; (1) trust in dedication of a partner and (2) trust in the benevolence or goodwill of a partner (ibid.). Competence trust is the trust one partner has in the technical, organizational, communicative, creative, etc., competences of a partner. Competence based trust will not be discussed in any more detail since it is not relevant in the context of sustainability and relationships – with a long-term focus.

To come back to the point of control which was discussed briefly in the beginning of this paragraph, many researchers have claimed that trust can go beyond formal control, making it unnecessary (Das and Teng, 1998; Williams, 1988; Lane and Bachmann, 1998; Maguire et al., 2001). Based on this and in line with these authors, real trust has its basis in the social and personal sphere, where mutuality and affective relationships play an important role together with the self-interests partners have (Klein Woolthuis et al., 2005). These two sides make clear that the likelihood of keeping a promise is more or less the same as the likelihood for opportunistic behavior (Chen, 2000; MacNeil, 1980; Macaulay, 1963; Maguire et al., 2001). It is thus of great importance to reduce the ‘drivers’ behind opportunistic behavior as much as possible to ensure that real trust succeeds and won’t be harmed. Hence the wider definition of trust includes the expectation that a partner will not act opportunistically, even not when it faces opportunities for opportunism, neither when being the monitoring party or the controlling party in that situation (McAllister, 1995; Bradach and Eccles, 1989; Chiles and McMackin, 1996; Ring and Van de Ven, 1994; Nooteboom, 1996). This is the same definition that is used in the research of Klein Woolthuis (2005) and seems to include exactly those factors that seem relevant for this study, and excludes the factors that seem not. This definition of trust is clearly based on trust in a partner and not on having control over a partner. The main aspects of trust can therefore be summarized as following:

- Non-opportunistic behavior
- Long-term focus
- Jointly shared standards and principles
- Positive attitude from both partners
- Reliable partners in risk situations

### 3.1.3. Conclusion – A link between trust and sustainability

In order to have scientific justification for this research, there needs to be a match between trust and sustainability. The lack of such a match will indicate that there is no link between these concepts influencing each other in any way. With presenting the latest relevant literature on these concepts, the aspects of both concepts are defined. In Table 5 below, the aspects of sustainability respective trust are shown.

*Table 5: Shared aspects between sustainability and trust*

<b>Aspects of sustainability</b>	<b>Aspects of trust</b>
Success is based on reliability	Non-opportunistic behavior
Long-term focus	Long-term focus
Information sharing	Jointly shared standards and principles
Dependent on positive attitude of all the parties	Positive attitude from both partners
Risk sharing	Reliable partners in risk situations

As can be seen in the table, the aspects of both trust and sustainability have an extremely high degree of overlap which means that sustainability and trust are connected to each other.

The first aspect recognized of sustainability is that its success is based on reliability of the different parties. This means that parties can count on each other and that they will act in a way that benefits them all rather than seeking opportunities for themselves. Here the link can already be placed with the first found aspect of trust; it is based on non-opportunistic behavior. Trust between two or more parties can only be formed when the parties behave in a way that is best for all –or most of- the parties and try to eliminate quick wins over others. These two important identified aspects of sustainability and trust show that they are interdependent and support each other, in order to be reliable for sustainability there has to be some form of trust which in turn requires the elimination of opportunistic behavior. The second common aspect is the one of a long-term focus. Both sustainability and trust are characterized by a long-term focus, due to the long time it takes for parties to establish a certain level of trust between them and by the nature of sustainability practices; all these practices are focused on long-term wins and therefore need a long-term focus. The third shared aspect concerns information sharing between the parties, both for sustainability and for trust it is essential to share information (in order to make the sustainability practices effective over the entire supply chain) and standards and principles so that parties can count and rely on each other. The fourth aspect that is shared between sustainability and trust is that it relies heavily on the positive attitude of the partners. Trust won't be established when one or more parties have a negative attitude towards one another and the same counts for sustainability. Since the atmosphere that has to be created in order to apply sustainability practices, and also trust, revolves mainly about 'soft' issues as feelings etc. a positive attitude is key. The last identified shared aspect is the one of risk sharing, for sustainability it is important that the risks of implementing sustainability practices in the supply chain are shared among all the participating members of the supply chain. Otherwise supply chain members might hesitate for implementing sustainability practices since it has a long term focus and thus the possibility for short term losses before reaching long-term wins. The same is more or less the case with trust. In order to keep trust between parties the different partners have to count on each other so that when there is a risk of unforeseen occasions they can rely on each other.

The findings support the fact that sustainability cannot succeed when there is a lack of trust among partners. The long-term focus and close cooperation required when implementing sustainability practices are doomed to fail when there is a lack of trust and thus the possibility of opportunistic behavior. Research shows that it can also be the other way around, as empirical findings show that an increased involvement by purchasing managers in social responsible activities can lead to an increase in trust and more commitment of suppliers (Carter and Jennings, 2002, 2004). The high degree of overlap shows that there is a connection between trust and sustainability and thus the third hypothesis can be formulated as following:

### ***H3. Companies highly engaged in sustainability tend to have long-term trust based relationships***

In order to gain, maintain, and control trust a lot of other factors come into play. Control and trust are, as discussed before, linked in a lot of scientific literature. It seems to be impossible to not talk about the factor 'control' in a relationship when talking about trust. In a lot of business situations contracts are used to have control over e.g. a situation, a project, etc. However, as research also shows, the absence of contract cannot always be interpreted as an indication of trust between the parties (Klein Woolthuis et al., 2005). In paragraph 3.2 the relation between contracts and trust is being discussed.

### 3.2. Trust and contracts

When discussing contracts in the context of trust, a distinction can be made between informal trust and formal trust. Formal trust is the trust that is based on formal relations, e.g. based on contracts. Informal trust is trust based on 'friendship', i.e. trust based on social aspects. The classical contract theory defines formal contract as agreements between two or more parties which are perceived, or intended, as legally binding (Lyons and Mehta, 1997:241). At the moment of writing, the dominant view on trust and contract is the one of 'opposing alternatives' (Knights et al., 2001; 314) where a contract leads to a decrease of trust, and trust leads to a decreasing need of contract completeness (Klein Woolthuis et al., 2005). The completeness of contracts means in this case the clauses included in the contract, i.e. what is all fixed and set in the contract. This is important since highly open contracts (with fewer clauses) feel like a natural indicator for trust, and a contract completely filled with clauses seems to be an indicator for distrust. The completeness of contracts is important, because for a contract to be enforceable, the clauses covered in the contract need to be as specific as possible since incomplete clauses and contracts are *'easily misinterpreted by the courts, which do not have access to the specialized knowledge or assumptions shared by the parties'* (Deakin and Wilkinson, 1998; 150). Contracts with less clauses are thus incomplete and leave more open to interpretation, therefore they are less legally binding because the clauses that are covered in the contract will be harder to verify and/or to observe (Chen, 2000). The findings of the research conducted by Klein Woolthuis et al. (2005) show that contracts can be a poor ordering mechanism when there is one-sided dependence, which is actually the case where contracts are assumed to be needed most. The findings of their research show that a contract may not be enforceable because of social considerations (e.g. loss of reputation, keeping a friendly relation etc.) and prospects for the future (the firm might need the partner again) (Ibid.). These factors contribute to the decision that contracts are often not enforced although the contract is broken and there might be a legal ground to enforce the contract. This finding contradicts the classical contract theory where contracts are seen as an effective safeguard (e.g. Chen, 2000). Hence, it can be concluded that contracts may also have other than legal and safeguarding functions (Klein Woolthuis et al., 2005).

Another way to interpret a contract is as a sign of commitment and a tool for coordination (Klein Woolthuis et al., 2005). In social sciences, contracts are often seen as 'in conflict' with trust. Contracts may be harmful for trust since they can be interpreted as a sign of distrust (Bradach and Eccles, 1989; Neu, 1991; Lyons and Mehta, 1997). It is claimed by, among others, Luhmann (1979), Zucker (1986), Zaheer and Venkatrman (1995) and Anderson and Narus (1990) that legal regulation is an important prerequisite for trust and that, in this case formal trust can only be based on contracts or other forms of legal regulation. This contradicts the findings by Klein Woolthuis et al. (2005) where empirical research shows no example of contracts providing a basis for trust. This contradiction is most likely caused by the use of different definitions of trust in the research, this study uses the same definition of trust (where it focusses on the elimination of opportunistic behavior, reliability, and transparency) and thus we can conclude that for this research we may assume that contracts form no particular basis of trust. Trust only finds its basis in contracts when trust is defined as 'doing what is stated in the contract', and it is thus not focused on anything else but the legal requirements. The results of the narrow definition of trust (doing what is stated in the contract) can be easily explained by the fact that efficient outcomes of business relations are assumed when the contractual form that is being used reflects the uncertainty, asset specificity and frequency of the transaction (Williamson, 1985). However, contracts in general vary in the degree of completeness, some contracts include more clauses covered and some less (Chen, 2000). This important notion explains why the wider definition of trust is used in this study. So, in this research the definition of trust is wider and covers also the social aspects beyond contracts, hence we can state that contracts itself form no big ground to build trust on. Neither in the formal way of trust nor in the informal way.

In general trust will precede contracts and may be needed as a precondition to negotiate and draw up a contract (Klein Woolthuis et al., 2005). Prior trust is necessary to prevent distrust in negotiating an intended long-lasting relationship, as in the case with the sustainable supply chain. Both the partners first have to discuss potential hazards of the relationships and how to deal with them (Ibid.) For both parties it is crucial to come to a fair and effective agreement, thus compromising and trusting each other's intentions. Prior trust can in this situation provide a basis for openness and psychological safety to discuss what is necessary (Edmonson, 1999). Hence, trust and contracts do not need to be 'opposing alternatives' (Klein Woolthuis et al., 2005). The absence of complete contracts can therefore not always be seen as a sign of trust. Klein Woolthuis et al. (2005) have an interesting possible explanation; it may also be the result of an entrepreneur's inclination to opportunism and hence the wish to keep 'the back door open'. The fourth hypothesis follows from the need and wish for trust between the partners and is therefore formulated as

#### ***H4. Long-term relations are more likely to be based on trust rather than contracts***

In short, it can be stated that making a distinction between formal and informal trust and link contracts to one of these is not relevant. There is a the high degree of overlap and because of the definition of trust that is being used in this research. It, however, clearly shows that in order to gain and maintain trust, even only the prior trust, information is needed. In order to share reliable information one has to be transparent.

##### 3.2.1. Conclusion – Transparency as a prerequisite

Information sharing is an important aspect of our lives. In our relations with family and friends, but also when we do our everyday activities like going to the store to do groceries. All our decisions are mostly based on the information we get, like what to buy in the store, how to behave in front of friends and family members, everything is based on the information (input) we get from outside. The same is the case with companies cooperating together, it may be stated that information here is of even greater importance since decisions in companies can make the difference, in extreme cases, between a million euros profit or loss with all its consequences. However, the issue of transparency itself finds no significant basis in current literature. Transparency is clearly linked to information sharing and information sharing is related to trust. Hence, what caused the other? Does transparency drives trust or does trust drive openness and transparency? It is the classical chicken and egg discussion.

However, findings from research on trust but also on sustainability imply heavily that information sharing is vital to let trust and sustainability succeed. When looking into information sharing, transparency comes immediately into play. With questions arising, how transparent should we be? Should we share all information, even the bad information? Sharing what information will give us a benefit and what information will harm us? These are legitimate questions companies deal with when having to share information and thus be transparent. When drawing up a contract these questions come into play, since prior trust (Klein Woolthuis et al., 2005) is needed to negotiate all the issues and clauses that are being written down in the contract. In order to gain prior trust, both parties have to share information on their business in order to make the other party interested in doing business together. However, in order to share information and being transparent, the company risks that the other party abuses this transparency and that the company gets influenced by it in a negative way. This statement is supported by Dutch customer-oriented business researcher Wurtz in a debate on open and honest business (2012) stating that transparency can be seen as a turned U-curve, where less transparency leads to less trust, but being too transparency and making sneaky deals public result in distrust. Wurtz's statement is supported by a consultant of a Dutch IT firm saying that there is no linear relationship between transparency and trust. Adding that *"if a salesman says that his company is almost going bankrupt, it is really transparent, but bad for his business. No one will ever buy anything from him anymore"*. Of course this is an extreme case, but it describes perfectly that just stating that



companies need to be transparent doesn't mean it works that way in practice, it is still all about creating profit for a company. Relating it to the subject of this thesis, the assumption is made that the companies willing to participate in a sustainable supply chain are stable and economically 'fine' firms who do not behave opportunistically in order to 'save the firm' over the back of others or to have short term wins, which are also two of the most important aspects of sustainability and trust.

### 3.3. TTC and sustainability

Trust, transparency, and contracts (TTC) are all together related with the subject of sustainability. Since together they form the basis for sustainability as shown and discussed in the previous paragraphs on sustainability, trust, contracts and transparency. The separate discussion on TTC and sustainability will come together in this paragraph where TTC as a whole is being discussed in the context of sustainability.

Closely related to the importance of trust is the concept of socialization. Work from Cousins et al. (2006) reveal that socialization has also been relevant for achieving improvements in the supply chain/network. Socialization in this concept means e.g. supplier conferences, on-site visits, working together with joint buyer/supplier teams etc. Socialization activities like these are becoming more important for creating a sustainable supply chain and improve mutual trust and transparency, it is seen as a stimulating mechanism in facilitating and enhancing supply chain integration (Bommel, 2010). This is supported by Hofstede (2006), who states that the improvements of and in supply chains and networks should find its basis on experimental learning. Experimental learning is not only important when it comes to relations outside of the own firm, it also is extremely important within the firm. Organizations with a classical top-down management structure tend to work with prescriptive techniques (Young and Kielkiewicz-Young, 2001) whereas outward looking organizations with horizontal and integrated internal structures, tend to be more open to a partnership relation (Ibid.). The fifth hypothesis is based on companies with an innovative internal approach:

#### ***H5. Innovative companies tend to have mainly cooperative long-term relations***

It seems clear, that the type of internal organizational control comes into play when pursuing a sustainable relationship with a sustainable supply chain/network as a goal. The internal structure and control starts at management level, thus managers first need to recognize that the company's values influence the behavior of the employees in the internal work environment (within the company) but also in the external work environment (e.g. in the supply chain) (Cambra-Fierro et al., 2008). Besides this, the company size can also be an influencing factor on the ethical behavior of the employees and procurement personnel in particular. Since large companies have mostly a more anonymous and impersonal internal way of working than small (family-owned) business, this can cause problems for including ethical behavior in the personnel base at larger firms (Cambra-Fierro et al., 2008). To test this in the empirical part a sixth hypothesis is developed;

#### ***H6. Companies with an internal focus on innovation and sustainability are more likely to see sustainability as an opportunity and actively participate in sustainability initiatives***

Studies of e.g. Elahee et al. (2002), Christie et al. (2003), and Ueltschy et al. (2007), show that international supply chain activities go beyond just economic business transactions (Hoejmosé and Adrien-Kirby, 2012). Also different cultures and traditions on both sides (supplier and buyer) prevent the supply chain from being a pure economic transaction (Kidd et al., 2003). On the other side, a CPO (Chief Procurement Officer) in a study of Leppelt et al. (2011) state that codes and policies are overrated and that key is to make the individual responsible; *"I trust my employees and their common sense when it comes to sustainability"*. The reason for the way this CPO looks at this issue can be explained by the degree of trust and the corporate culture that is already present in the firm, hence it



does not necessarily say anything about how this is or can be relevant for other firms that are just starting with the issue of sustainability. It however does underline the importance of trust and transparency again.

It is recognized by Bommel (2010) that individuals and their decisions might be more influential on the interactions between different actors than an organization itself. Therefore trust based on individual relationships might be underestimated in industrial network research (Ibid.), especially in the part where individuals influence management. A relationship is never between the companies themselves, but finds its basis always in the people working for the company. It is in the end the people that need to have a long-term focus in their relationship goals with partners and the exclusion of opportunistic behavior. However, in order to get this 'mind-set' it is important that the companies culture is aligned in the same way. The importance of long-term relationships is caused by the likelihood of firms to place dependency on supply chain partners when the relationship has such a long term focus and when opportunistic behavior can, as far as possible, be excluded (Gold et al., 2010). Rizzi et al. (2013) add that this can occur when collaborations add a unique value to the product or service that is offered by the company.

As being discussed, the kind of relationship the firms are in is an extremely important aspect of trust and sustainability to succeed, hence the seventh hypothesis that

***H7. There is a positive relation between a high degree of trust and the involvement in sustainability practices***

The relationship and mutual trust can be harmed and improved by transparency and contracts, but in the end only a sustainable relationship (as is in the name of it) will survive over time and will truly make a sustainable supply chain/network possible.

### 3.4. Sustainable relationship

Within sustainability, relationships play an important role. The size of a company can have an impact on the relationship one company has with another. Large organizations can for instance have a lot of influence on smaller suppliers and/or customers (Young and Kielkiewicz-Young, 2001). Besides the size of companies, also the organizational culture has a large and significant influence on the ethical culture of purchasing employees (Razzaque and Hwee, 2002). In a quantitative study of Razzaque and Hwee (2002) on 109 Singaporean purchasing professionals it was found that age, religion and education influence the purchasing manager's view towards ethical issues.

In order to draw up clear guidelines for ethical issues an increase number of firms are making use of so called 'Codes of Conduct', these are codes on how a company deals and handles with everyday issues in an ethical way. Stajkovic and Luthans (1997) state that those codes form a key antecedent for influencing ethical standards for people within organizations. The effectiveness of such codes increases when they are also combined with supplier audits (the socialization part of previous paragraph) and pre-defined consequences in the case of non-compliance with the codes (Svensson et al., 2010) which can be included in a contract drawn up at the beginning of a relationship. Research by Hojmosse and Adrien-Kirby (2012) concluded that in a vast amount of literature codes of conduct are seen as the most common way of implementing and ensuring sustainability practices in the buyer-supplier relationship (e.g. Kolk and van Tulder, 2002; Winstanley et al., 2002; Roberts, 2003; Neef, 2004; Welford and Frost, 2006; Boyd et al., 2007). Except from being just written rules, codes of conduct can also provide guidance for employees, provide encouragement and support for the organization and its employees, it also helps to increase a firm's reputation on sustainability, and can thus be seen as a source of competitive advantage (Pedersen and Andersen, 2006; Preuss, 2009; Hojmosse and Adrien-Kirby, 2012). A survey conducted by Baker et al. in 2006 among 489 purchasing managers in the US,

showed that corporate values – which can result from codes of conduct – indirectly influence the ethical behavior of purchasing managers. Even though these results make it sound like codes of conduct are a guarantee for successful ethical behavior in organizations, codes of conduct often fail. The codes often fail because they are merely written requirements (Hoejmose and Adrien-Kirby, 2012) which results in a lack of ‘fit’ with the underlying factors in the organizations and hence create frictions between buyers, suppliers and their respective employees (Cambra-Fierro et al., 2008; Yu, 2008). It is, however, not clear if friction and conflict, whether resulting from codes of conducts or not, harm a relationship or the level of trust two or more parties have. It is said by Klein Woolthuis et al. (2005) that the joint resolution of problems and conflicts may even deepen the relationship and thereby increase the level of trust two or more parties have in each other. This can possibly explain why existing literature is unclear on how to develop codes of conduct and if firms should focus on global codes or more on local ones (Rodriguez-Garavito, 2005). A main concern is the variation between codes of conduct used in various firms and the lack of transparency (Boyd et al., 2007). This directly results in uncertainty for other firms in the network and can therefore lead to a decrease –or even a complete lack- of trust making the codes of conduct useless.

Together with codes of conduct, most sectors in the industry have developed other tools and strategies to manage sustainability issues more from their suppliers than from their customers (Young and Kielkiewicz-Young, 2001), and thus the current focus of sustainability is more downstream of the chain rather than completely covering the chain also upstream. One of these tools is the development of jointly organized teams which work cross-organizational, they are used to increase the information sharing between firms in the supply chain and to promote organizational learning by developing solutions to shared problems firms face in the supply chain (Young and Kielkiewicz-Young, 2001). Tools like these improve the cooperation between firms and increase the trust and transparency of both parties. The tools also lead to competitive advantage by bundling the knowledge and power of the individual firms in the network, increasing their position against other supply chains or companies and thus fully using the benefits of the supply chain. Beside these positive possibilities of close relationships in supply chains, some authors also point out the potential risks of those close relationships (e.g. Das et al., 2006), stating that there is a risk of financial disadvantages when firms overinvest in supplier integration, or if suppliers share commonly developed knowledge or technology with one of the buying firm’s competitors (Cousins and Lawson, 2007). In such cases it is clear that the concept of trust comes into play. Relationships that are based on, and characterized by, trust are more successful than those which are not (Klein Woolthuis et al., 2005). Trust becomes more relevant and gains importance for firms when the process manageability and the outcome interpretability of relationships are low (Rizzi et al., 2013), this is exactly the case in many relationships within supply chains and networks where the focus is on one side close collaboration between firms and on the other side reaching various sustainability goals (Shah and Swaminathan, 2008). An eight hypothesis can therefore be formulated as

***H8. Companies with cooperative, long-term relations based on trust are likely to be more involved in sustainability practices and vice versa***

This finding supports the need for a sustainable relationship with a high degree of trust before a sustainable supply chain/network can be realized.

### 3.5. Sustainable supply chain/network

Lately, and still increasing, there is a shift from international supply chains towards global industrial networks, bringing companies a whole new set of factors to deal with in terms of sustainability. Supply chains are in reality almost never linear chains as the name would suggest, but rather complex networks with many linkages between the different suppliers and customers. The process of globalization in the world economy has strengthen the trend towards complex global networks

(Bommel, 2010). The growth towards a global industrial network is caused by the growing share of purchased materials and components by companies (Lee and Klassen, 2008). As a consequence, those companies have to rely on a complex and interconnected supply base (Reuter et al., 2010). When looking at the aspect of sustainability in such complex networks, it becomes clear that the perception and reputation of a company depends largely on the operations of its supply chain partners (Awaysheh and Klassen, 2010; Krause et al., 2009). Managing those networks and all their aspects that come into play is a complex matter and demands a systematic approach to let it succeed (Bommel, 2010). However, the development of literature on the implementation of sustainability aspects in complex global industrial supply networks is still low. So is the knowledge and expertise on how to organize and facilitate the implementation of sustainability. As a result, sustainability seems to behave as an unknown phenomenon in supply networks (Ibid.). As described in the introduction of this thesis, more attention is now being paid to sustainability by governments –the Norwegian government in this case, and also the International Chamber of Commerce (International Chamber of Commerce, 2007) stated that more attention should be paid to the implementation of sustainability practices in supply chains and networks. Already since the Brundtland Commission was established to create policies for a more sustainable economic and social development (WCED, 1987), attention has been paid and research has been conducted on social, environmental and economic corporate activity (Leppelt et al., 2011) and also on the management of the supply chain itself (Henriques and Richardson, 2004; Van Tulder and Van der Zwart, 2006). On the other side, the research on sustainability practices in supply chains/networks has almost only focused on the environmental dimensions rather than the social and economic ones (Seuring and Mueller, 2008; Zhu and Sarkis, 2004). The lack of research on other dimensions than environmental can explain why companies are not aware of the economic and social benefits for their firm when considering the implementation of sustainability practices. Also the way firms are able to manage sustainability in terms of environmentally and socially beyond their own organizations remains rather unexplored (Maignan et al., 2002; Leppelt et al., 2011).

More recently there has been a shift in culture from a more resource-based economic perspective towards an inter-organizational and social innovation perspective (Bommel, 2010). For firms and also for researchers, it is becoming apparent that in order to understand the dynamics in sustainability the social/cultural perspective need more attention (Ibid.). Due to this increasing awareness it seems like that socialization, experimental learning, and innovative approaches on sustainability have yet to be integrated in the sustainable supply chains/networks (Ibid.). It is also being recognized that in order to get the desired benefits of sustainability, the company's functional strategies have to be aligned with its corporate strategy (Gonzalez-Benito, 2007; Govindarajan, 1988). Also, in order to let sustainability-related efforts succeed in a company, top management has to include sustainability into the firm's business operations (Carter, 2005). This is the first step towards a sustainable supply chain, in order to let it succeed through the whole chain the company with the most influence has to carry out the topic of sustainability through the network.

The central point (i.e. company) of such a supply chain/network is in the literature called the 'focal' company (Lambert and Cooper, 2000), and it is seen as the most important actor in the supply chain/network (Bommel, 2010). It is seen as the most important actors since the 'focal' company is the company in the supply chain/network that is able to influence the whole supply network because of its position and power. It therefore is also sometimes called in the literature as the 'leading' firm (Gereffi, 1999). It can also happen that there are multiple 'focal' or 'leading' companies in a supply chain/network, the interactions between those companies will have a large influence on the entire supply network (Bommel, 2010). It can therefore be expected that a sustainable supply chain/network will only truly be formed when those firms adopt sustainability. A sustainable relationship between the companies is then vital due to the long term focus which is necessary for implementing sustainability practices.

Closely related to the concept of sustainability is the management of corporate risk. A lot of managers in the industry are 'worried' about this since an investment in sustainability is no short-term win but rather a long-term investment. Due to the close collaboration that is needed in order to let a sustainable supply chain succeed companies have to share information which might harm them if its partner behaves opportunistically. Trust is therefore vital. Sustainable supply chains/networks have the opportunity to lead to a competitive advantage over other firms and supply chains/networks when the management of it has a strategy and opportunity-driven approach. The achievement of such a competitive advantage is dependent on a firm's ability to use its sustainability advantages. This means that companies have to be open to, and working with and also learning from the network (Young and Kielkiewicz-Young, 2001). All these aspects require trust between companies to let it succeed and make competitive advantage of the sustainable supply chain/network possible. The result of this is that, in a society that is increasingly aware of and taking sustainability issue seriously, that companies are able to bundle their forces, advantages, knowledge and problem solving abilities within their supply chain/network leading towards a significant competitive advantage (Ibid.)

Of course, the previously stated on creating competitive advantage in the sustainable supply chain/network is easier said than done. Especially small and medium sized companies (SMEs) have problems in adopting sustainability practices. According to Young and Kielkiewicz-Young (2001) SMEs are doing little or nothing to address sustainability issues in their supply network resulting in the ninth hypothesis that

***H9. Smaller Norwegian companies (<10 employees) are less likely to actively engage in sustainability practices***

Limited resources seem to form the biggest hinder for SMEs and so they are more dependent on other, mostly larger companies to address sustainability issues. Between the ordinary supply chain and the sustainable supply chain which focusses more on sustainability issues, many of the problems that are being faced are similar. Most of these problems revolve around 'soft business issues', like the management style, poor communication, organizational culture, lack of awareness, lack of trust, lack of support from top management and so on (Young and Kielkiewicz-Young, 2001).

Besides the clear indication towards forming relationships in order to address sustainability issues and let the sustainable supply chain/network form a competitive advantage, most of the benefits are not reached by SMEs. Small and medium sized companies experience less stimulus from their customers and suppliers to invest in sustainability issues (Nawrocka, 2008). Providing stimulus by setting demands and making them part of the network and collaboration programs together with larger more sustainable oriented firms is seen as a mutual beneficial help (Ibid.). The main focus on involving SMEs should according to Nawrocka (2008) be placed on influencing suppliers by involving them in dialogue and sustainability information sharing programs both at the customer's and supplier's facilities in order to improve the sustainable performance. This can increase the awareness for sustainability issues and at the same time forms the basis in creating competitive advantage by bundling the forces in the future sustainable supply chain/network. In order to let this succeed a sustainable relationship has first to be developed where trust, transparency and a collaboration contract are main drivers to 'open up' the business partners.

An often recognized key aspect of successful sustainable firms is that these are most internally integrated (Young and Kielkiewicz-Young, 2001). This means that these organizations have a high degree of open communication and participate in learning between the different business functions, also these firms have a highly motivated workforce together with a management that sets out a clear direction for the company regarding sustainability (Ibid.). A sustainable supply chain/network thus finds its basis in the sustainable 'focal' firm, which should take the leading role in making the supply chain/network sustainable, hence the tenth hypothesis is

***H10. Larger companies (>50 employees) with an innovative (internal) focus tend to place themselves as sustainability drivers in the supply chain***

In order to do so, it is assumed that their size and power to influence other companies is key. However, size and power in the supply chain/network is more relative. As Young and Kielkiewicz-Young (2001) state that organizations in the position to influence changes in their suppliers and customers must either have enough throughputs to exert buying power or they must supply a key service or product. The business function (i.e. what the company is delivering or buying) seems to be more important than the actual size of the company itself. Together with trust and transparency in and between the companies these factors can be identified as key. This is also supported by Rizzi et al. (2013) who write on EPR (extended producer responsibility) which can be seen as a sustainability practice, stating that the higher the openness to collaboration among the supply chain/network, the more successful and effective the outcome of a sustainability practice is. The increase in collaboration needed to implement sustainability practices leads to a change in supplier relations. The relation between suppliers and customers becomes closer in terms of manufacturing (Nawrocka, 2008) but also managing. This is needed since close cooperation is necessary to facilitate cleaner production and to implement strategies such as JIT (just in time), continuous improvement, and TQM (total quality management) (Florida and Davison, 2001; Geffen and Rothenberg, 2000), all of which are practices leading to sustainability in the supply chain/network. The eleventh and last hypothesis places the link between the willingness to grow and internationalize, and the investment in sustainability;

***H11. Firms that are internationalizing and growing (or willing to grow) are more likely to invest in sustainability***

Growth will most of the time only be realized when firms collaborate with each other. Hence collaboration is by far the most important aspect of sustainability, to meet environmental challenges in both an economically and environmentally sustainable way, partnerships are necessary. Partnerships will allow the companies to find solutions together for the issues they are currently facing and to enable them to innovate and to create a competitive advantage (Geffen and Rothenberg, 2000; Nawrocka, 2008).

### 3.6. Overview of theoretical results and their linkages

The graphical reproduction in figure 3 is a combination of the main concepts identified in the literature together with their linkages and the hypotheses created as a result of the literature study. The arrows in the figure together with the hypothesis number show the link between the different concepts based on the literature study. A more detailed description of the figure is given below together with an overview of the 11 hypothesis and their function in this study.

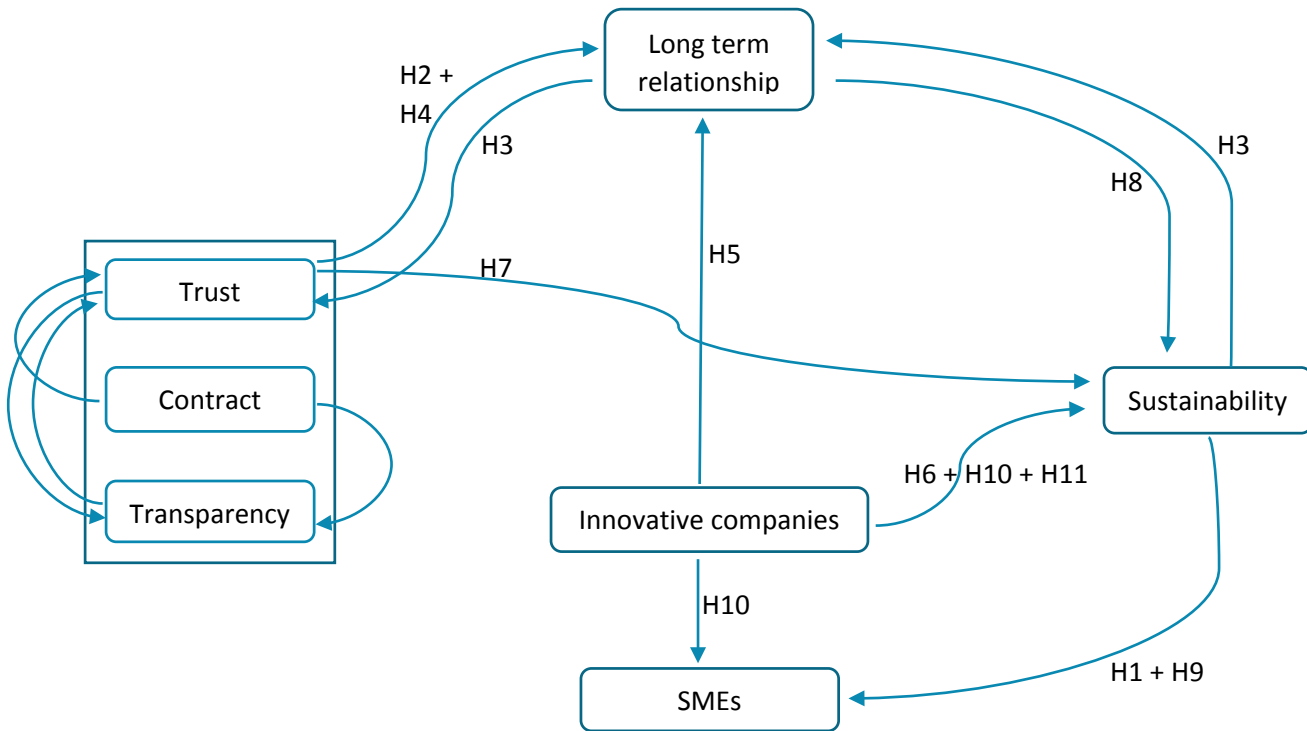


Figure 3: Overview of theoretical results and their linkages

The three concepts –trust, transparency, and contracts- on the left in the figure that is surrounded by a ‘box’, are the basic concepts where this research is based upon. The arrows here show how trust, transparency and contract are related to each other. The switch of ‘contract’ and ‘transparency’ in order is caused by the low degree of literature on transparency making it seem like a less big concept in relation to trust and contracts. The study could not identify a direct link from transparency leading to a contract, hence there is no arrow placed. The other identified main concepts of the literature study and thus following in the hypothesis are that of ‘long term relationship’, ‘sustainability’, ‘SMEs’, and ‘innovative companies’. All the results of the literature study seem to revolve around these concepts together with TTC. For clarification it is worth stating that the concept of sustainability in this figure includes both sustainability practices as sustainability drivers and initiatives from governments, NGOs and so on.

In Table 6 the eleven hypotheses are shown together with their function in this study. A part of the hypotheses are used for gaining background information on the topic regarding sustainability, while the other part is directly linked to the research questions and is therefore used to support the research goal.

Table 6: Overview of hypotheses and their functions

<b>Hypothesis</b>		<b>Used for</b>
<b>1</b>	Small and medium sized companies tend to recognize NGOs and governmental regulations as main drivers for sustainability	Background information
<b>2</b>	Firms with trust based relationships are more likely to have long-term and highly cooperative relations	Answering research question
<b>3</b>	Companies highly engaged in sustainability tend to have long-term trust based relationships	Answering research question
<b>4</b>	Long-term relationships are more likely to be based on trust rather than contracts	Answering research question
<b>5</b>	Innovative companies tend to have mainly cooperative long-term relationships	Answering research question
<b>6</b>	Companies with an internal focus on innovation and sustainability are more likely to see sustainability as an opportunity and actively participate in sustainability initiatives	Background information
<b>7</b>	There is a positive relation between a high degree of trust and the involvement in sustainability practices	Answering research question
<b>8</b>	Companies with cooperative, long-term relationships based on trust are likely to be more involved in sustainability practices	Answering research question
<b>9</b>	Smaller Norwegian companies (<60 employees) are less likely to actively engage in sustainability practices	Background information
<b>10</b>	Larger companies (>120 employees) with an innovative (internal) focus tend to place themselves as sustainability drivers in the supply chain	Background information
<b>11</b>	Firms that are internationalizing and growing are more likely to invest in sustainability practices	Background information





## 4. Empirical results

In this chapter the empirical part of the study is carried out as discussed in the methodology chapter. The chapter will start with giving an overview of the general survey results of the sample and will then go into more detail by discussing the results per hypothesis. At the end of the chapter a summarizing overview is given of the survey questions that are used for finding indications per hypothesis.

### 4.1. General survey results

The presentation of the survey results is structured the same way as the literature study. Starting with results on trust and contracts, followed up by results on the relationship and lastly results on sustainability.

#### Trust, contracts and relationships

The survey results of the entire sample show that in the Norwegian region of Møre og Romsdal 60% (6 companies, only 10 out of 11 companies responded to this question) of the companies state that a relationship with their customers based on trust together with a formal contact occurs on a rather large to very large degree, while 54,6% (6 companies out of 11) state that a relationship with their customers purely based on trust occurs to a large to very large degree (see Table 7). This seems to indicate that customer relationships based on trust, whether or not together with a formal contract, occurs in the Møre og Romsdal region for at least 6 out of 11 companies on a large degree. However, on the other side, 3 out of 11 companies (27,3%) state that purely contract based relationships with their customers occur on a large to very large degree. The survey results regarding the type of relationship that the 11 companies in Møre og Romsdal have with their suppliers, are slightly different. 54,6% (6 companies) claim that trust based relationships with their suppliers occur on a large to very large degree, while 72,8% (8 companies) claim that trust based relationships together with a formal contract occur on a large to very large degree (see Table 7). On the other side, 54,6% (6 companies) also claim that completely contract based relationships with their supplier occurs on a large to very large degree. The survey results do not seem to indicate a difference between the occurrence of trust based relationships with both the customers and suppliers, but rather indicates that contract based relationships occur more often with suppliers than with customers.

Table 7: Types of relationship

Type of relationship	With customer	With supplier
	Share of companies in % (number of companies)	Share of companies in % (number of companies)
Completely based on trust	54,6 (6)	54,6 (6)
Based on trust and also based on formal contracts	60 (6)	72,7 (8)
Completely based on formal contracts	27,3 (3)	54,6 (6)

By going into more detail on what kind of working relationship the companies have with their customers and suppliers, the results in Table 7 might be clarified. The results from the entire sample show that from the 11 companies, only 1 (9,1%) company claims that *short-term relationships without any adaptations* and *short-term relationships with some minor social adaptations* occur, with their customers, to a rather large degree (See Table 8). Both types of *close collaboration relationships* seem to occur more often, since 5 companies (45,5%) claim for both types of *close collaboration relationships* that this occurs to a large degree with their customers. The results on the type of working relationship the companies have with their supplier are slightly different. Both types of *close collaboration relationships* with the suppliers occur to a high degree to the same number of companies (5) as it occurs with their customers (also for 5 companies). While *short-term exchange of goods and*

*information without any adaptation* occurs with the suppliers for 2 companies (18,2%) to a large degree and *short-term relationships with some minor social adaptations* with the suppliers occur for 3 companies (27,3%) to a large degree where this compared to the short-term relationship with the customer only occurred for 1 company to a large degree. The high degree of occurrence of close *collaboration relationships* (both with customers and suppliers), compared to the *short-term relationships*, tend to indicate that the companies in the Møre og Romsdal region are aware of the importance and benefits of long-term relationships as discussed in the chapter on theoretical results.

Table 8: Types of working relationship

Working relationship	With customer	With supplier
	Share of companies in % (number of companies)	Share of companies in % (number of companies)
Short-term exchange of goods and information without any adaptation	9,1 (1)	18,2 (2)
Short-term relationships with some minor social adaptations	9,1 (1)	27,3 (3)
Short-term and/or long-term relationships where technical adaptations are made	45,5 (5)	50 (5) <only 10 respondents>
Close collaboration relationship, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner	45,5 (5)	45,5 (5)
Close collaboration relationship, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations	45,5 (5)	45,5 (5)

Further, from the literature study it was identified that SMEs experience more difficulties to engage in innovation and sustainability because of their limited resources. Despite this, results of the survey show that 45,5% (5 companies) have made *major changes to the business model and its production methods*, while 27,3% (3 companies) *conducted a line of changes* (see Table 9). Taken together, this means that 72,8% (8 companies) have implemented changes to their business model and the way it operates to increase the value for their customers over the last 5-year period. Indicating that despite the size of the company (all are SMEs) they seem to be involved in internal innovation and recognize the need to deliver the customer an improved product. However, the remaining 3 companies account for a share of 27,3%, claiming that nothing really important has happened in the business model or production methods. The results tend to indicate that almost one third of the companies have done very little or nothing to improve their business model and increase the value for their customers.

Table 9: Innovation and change over the last five years

Type of innovation and change in the last 5 years	Share of companies in % (number of companies stating )
<i>The company has made major changes</i> to the business model and its production methods. The company has managed to create more cost-efficient operations, and the customers are now getting more value for their money through improved products	45,5 (5)
<i>The company has conducted a line of changes</i> in the way it operates its business and production. The customers are getting a slightly improved product	27,3 (3)
<i>The company has implemented few changes</i> in the way it operates its business and production – but all in all the business is practically the same	18,2 (2)
<i>The company has not implemented any changes, but there is a great need to do so.</i> The company thinks that well-proven methods and ways of operating are ready for development in order to enable a better product for the customers	9,1 (1)
<i>The company has not changed and there is no need to do so.</i> The company uses well-proven methods and ways of operating that work very well. The customers are therefore getting the same value for their money as before	0

Even though 8 companies (72,8%) state that they have implemented changes to their business model and to the way they operate to increase the value for their customers over the last 5-year period, none of the companies have included sustainability as the *main theme* for skill development (see Table 10). 6 companies (54,5%) claim that sustainability is at the moment a theme that is considered *regularly* for skill development, and for the remaining 5 companies (45,5%) sustainability seems not really to be a theme for skill development at this moment. When looking ahead 4 more companies recognize the importance of sustainability for the future and claim that *sustainability should be considered regularly for skill development*, bringing the total on 10 companies (90,9%). It is remarkable that 0 companies think that *sustainability should be the main theme for learning efforts* in skill development. This could be a tentative indication that there is a lack of awareness and/or knowledge among the companies regarding the benefits of sustainability.

Table 10: Degree sustainability is considered for skill development and innovation

	Degree sustainability is considered for skill development and innovation	Degree sustainability should be considered for skill development and innovation
	Share of companies in % (number of companies stating this)	Share of companies in % (number of companies stating this)
Not at all	0	0
To a small degree	45,5 (5)	9,1 (1)
Regularly	54,5 (6)	90,9 (10)
Sustainability is/should be the main theme for learning efforts	0	0

### Sustainability and innovation

When going in more detail into the sustainability practices that the 11 companies in Møre og Romsdal are engaged in, the survey shows some interesting indications (see Table 11). The sustainability practices are divided over environmental sustainability and social sustainability, where environmental sustainability refers to reducing the effect on the local and global environmental due to, for example, production and transport. Social sustainability refers to contributing to sound working-and living conditions for those who are directly or indirectly affected by the company's activities, locally as well

as globally. The survey results seem to give a clear indication on environmental sustainability practices. The engagement of the companies in environmental sustainability (see Table 11) seems mainly to revolve around ‘internal’ environmental sustainability practices such as *production by efforts to reduce the use of energy, water, waste and emission of dangerous substances* by 81,9% (9 companies) of the respondents. The same accounts for the relatively large degree to what the companies are engaged in other practices such as, *recycling of materials for the product* (63,6%, 7 companies), *R&D – development of sustainable technologies, products and services* (54,6%, 6 companies), and *certification systems* (54,6%, 6 companies). Also with social sustainability practices, the companies seem to mainly participate in practices that are carried out inside the walls of the company (see Table 11), with the use of *Recruiting staff from the local community* (100%, 11 companies) as most carried out practice. Followed up by *internal accounting systems*, which 9 companies (81,8%) claim to use to a large degree together with *various contributions to the local community* (81,8%, 9 companies). All these environmental and social sustainability practices are practices that a company can carry out without any support or cooperation of/with customers or suppliers. The results from the survey seem to indicate that the companies in Møre og Romsdal are less engaged in sustainability practices (both environmental and social) where it involves suppliers and customers. 5 companies (45,5%) *place environmental pressure on their supplier* and only 3 companies (27,3%) claim to *commit themselves to environmentally aware customers*. On the side of social sustainability practices the results are similar. 5 companies (45,5%) *place social pressure on their suppliers*, and 4 companies (36,4%) claim to *commit themselves to socially aware customers*.

Table 11: Participation in environmental and social sustainability practices

	Share of companies in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>	
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	81,9 (9)
Recycling of materials for the product	63,6 (7)
R&D – development of sustainable technologies, products and services	54,6 (6)
Certification systems	54,6 (6)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	54,6 (6)
Purchasing – place environmental pressure on supplier	45,5 (5)
Sales – Committing to environmentally aware customers	27,3 (3)
Life-cycle analyses (LCA)	9,1 (1)
<b>Social sustainability practices</b>	
Recruiting staff from the local community	100 (11)
Internal accounting systems	81,8 (9)
Various contributions to the local community	81,8 (9)
Purchasing – place social pressure on suppliers	45,5 (5)
Sales – commitment to socially aware customers	36,4 (4)
Donating to charities	36,4 (4)

Even though the companies claim to have relationships more likely to be characterized by close collaboration (see Table 8), the results of the survey in Table 11 tend to give an indication that the relationships based on close collaboration do not involve environmental and/or social sustainability practices. Further results of the survey show that all the companies in the Møre og Romsdal region recognize *the own staff* as an important source of motivation for development and innovation in the company (100%, 11 companies) and, second, that 10 out of 11 companies (90,9%) tend to see their *customers* as an important source of motivation for development and innovation (See Table 12).

*Competitors* and *suppliers* follow closely as source of motivation, since both sources are identified by 8 companies (72,7%) as important. More surprising is the indication that only one third of the 11 companies (4 companies, 36,4%) sees the government as an important source of motivation for development and innovation, since the Norwegian governmental in their Political Platform (2013) claims to focus more on innovation and sustainability. Together with the low recognition of NGOs as an source of motivation (by 1 company) this seems to contradict the literature were NGOs and governmental regulations are seen as the main source of motivation for SMEs regarding innovation and sustainability.

Table 12: Motivation for development and innovation

Source of motivation for development and innovation	Share of companies in % stating that this is an important source of motivation for development and innovation (number of companies stating this)
The own staff	100 (11)
Customers	90,9 (10)
Competitors	72,7 (8)
Suppliers	72,7 (8)
Universities	54,6 (6)
Actors responsible for standards and certificates	45,5 (5)
The government	36,4 (4)
Professional-, industrial associations, federations	36,4 (4)
NGOs	9,1 (1)

The survey identifies in more detail what the companies experience as main hinders of sustainability becoming part of the company's business model (see Table 13). The most important hindrance of sustainability for the 11 companies seems to be that *customers demand sustainable products but are not willing to pay more* for it (54,6%, 6 companies), something that is evident in business in general where everything often has to be purchased at low cost. Another identified hindrance seems to be that *customer do not demand sustainable products/services*. When customers do not demand sustainable products/services it of course becomes challenging for the company to sell it. Public procurement rules and regulations can help to drive the demand of sustainable products and services. However, the survey indicates that public procurement is by more than one third of the companies (36,4%, 4 companies) seen as a hinder of implementing sustainability practices in the business model. Interesting to note is that knowledge about sustainability (1 company), the supplier's activities (1 company), and the customer's activities (0 companies) tend not to be seen as important hinders of sustainability.

Table 13: Hindrances of sustainability

<b>Hinders of sustainability</b>	<b>Share of companies in % stating that this is a hinder of sustainability (number of companies stating this)</b>
Customer demand sustainable products but are not willing to pay more	54,6 (6)
Customers do not demand sustainable products/services	36,4 (4)
Public procurement rules and regulations	36,4 (4)
Norwegian/international standards do not focus on sustainability	18,2 (2)
It is too costly to engage in sustainable development through the value chain	18,2 (2)
It is difficult to measure the effects of efforts to improve the environment and social responsibility	18,2 (2)
It is too costly to engage in sustainable development within the company	9,1 (1)
We do not have enough knowledge about sustainability	9,1 (1)
We do not have enough knowledge about our supplier's activities to influence them	9,1 (1)
We would rather grow and internationalize our business	9,1 (1)
The company is too small to influence customers and suppliers	9,1 (1)
We do not have enough knowledge about our customer's activities to influence them	0
We do not have a strategy for sustainability	0
Suppliers are not interested in investing/changing	0

In the next paragraph the thesis will go more into detail in the survey results for the hypotheses resulting from the literature study.

## 4.2. Survey results per hypothesis

This section will present the sample's relevant results per hypothesis, meaning that within the sample the companies with the right specifications for the hypotheses will be tested. The results represent therefore a varied number of companies. Per hypothesis it is stated how many companies are included.

### 4.2.1. H1. Government and NGOs as main drivers for SMEs

The first hypothesis '***Small and medium sized companies tend to recognize NGOs and governmental regulations as main drivers for sustainability***' focuses on the degree to what SMEs recognize NGOs and governmental regulations as drivers for sustainability. Since the survey was being sent to SMEs in the Møre og Romsdal region, all the respondents seem to fit. However, in order to see possible tendencies related to the sample it is decided to use a different definition of SMEs for this hypothesis. The official factors determining whether a company is a SME are (European Commission, 2003) 1. Number of employees, and 2. Turnover. A company is medium sized when it has less than 250 employees and a turnover less than or equal to €50 million. A company is small when it has less than 50 employees and a turnover less than or equal to €10 million. Then there is a third classification of 'micro' companies, which have less than 10 employees and a turnover less than or equal to €2 million. In order to see possible tendencies with the rest of the sample it is decided that SMEs (only for this hypothesis) will be defined as companies with less than 140 employees. The number of 140 employees is chosen because of the answer possibilities in the survey (up to 140 employees and >140 employees). By defining the group of companies as stated, 8 companies from the sample of 11 respondents were selected.

Table 14: NGOs and governments as sources of motivation for SMEs

	Number of companies stating that this is an important source of motivation
The government	3
Actors responsible for standards and certificates	4
NGOs	1

Within this smaller group of companies, 3 out of 8 companies claim that *the government* is an important source for ideas and motivation regarding innovation and development (see Table 14). Where 4 out of 8 companies tend to see *actors responsible for standards and certificates* as important. In the selected group of 8 companies only 1 company identifies *NGOs* as an important source of motivation. The low recognition of the government and NGOs as source for motivation tend to indicate that these smaller companies experience other actors more as sources and drivers for innovation and development. The results on sources of motivation seem to be supported by the claim of 7 companies that they experience *public procurement rules and regulations* as preventing sustainability from becoming part of the company's business model (see Table 15). In turn 6 companies also state that they experience the lack of focus by *Norwegian & international standards* on sustainability as a hindrance of adapting sustainability in the business model.

Table 15: Governmental hinders of sustainability for SMEs

	Number of companies stating that this is a hindrance of sustainability
Public procurement rules and regulations	7
Norwegian & international standards do not focus on sustainability	6



The results for this hypothesis seem to be slightly contradictory since 3 companies claim to see *the government* as an important source of motivation for innovation and development, respective 6 and 7 companies feel hindrance of *public procurement rules and regulations* and that *Norwegian & international standards do not focus on sustainability* which can both be considered as governmental aspects. Although innovation & development and sustainability are not exactly the same, the literature study shows a high degree of overlap resulting in the relation of the concepts for this hypothesis. The survey does not address what the companies exactly experience as motivational sources from the government. The results on the selected group of respondents for this hypothesis seem not to show any indications compared to the results of the entire sample (Table 12 and 13).

4.2.2. H2. Trust and type of business relationship

The second hypothesis, that ***Firms with trust based relations are more likely to have long term and highly cooperative relations*** explores more in detail the relationships that the companies have. The respondents that fit for this hypothesis are firms that claim to have *relationships completely based on trust* and *relationships based on trust with a formal contact*. Companies stating that they have *relationships based on contracts* to a large degree have been excluded. Since relationships with suppliers and customers can be different, a distinction has been made between supplier and customer relationship. These requirements leave us with 10 respondents claiming to have *relationships completely based on trust* and *relationships based on trust with a formal contact* with their suppliers, and 8 companies claiming to have that kind of relationship with their customers.

The companies with trust based relationships with their customers seem to have within Norway (local level and Norwegian level) a relatively high degree of close collaboration relationships both with one partner and multiple collaboration partners (62,5% - 75%, 5 - 6 companies out of 8) (see Table 16, left half). The survey results seem to indicate that there is more hesitation of the companies with trust based relationships to form close collaboration relationships with their customers with one or multiple partners on an international level, since there are respective 4 and 3 (50% and 37,5%) of the 8 companies claiming to have this to a large extent. Further, in relationships companies with trust based relationships have with their suppliers, the results are slightly different from the results on the relationship with the customer. On the local and Norwegian level the degree to which close collaboration relationships with one or multiple collaboration partners occurs is rather similar, but a bit lower, with generally 5 companies (50%) out of 10 claiming to have that type of relationship to a large extent (see Table 16, right half). Also on an international level with the suppliers, the respondents seem to be more reticent, since on both close collaboration relationships with one partner as with multiple partners 3 out of 10 companies claim to have this kind of relationship to a large extent.

Table 16: Degree of long-term relationships when having trust-based relationships

Type of working relationship	Customer (8 respondents)			Supplier (10 respondents)		
	Local customer	Norwegian customer	International customer	Local supplier	Norwegian supplier	International supplier
Close collaboration relationships from a long term perspective, with social and technical adaptations made between us and the collaboration partner	62,5% (5)	75% (6)	50% (4)	50% (5)	50% (5)	30% (3)
Close collaboration relationships from a long term perspective, where we involve several collaboration partners in social and technical adaptations	62,5% (5)	62,5% (5)	37,5% (3)	50% (5)	40% (4)	30% (3)



The results show an indication that close collaboration relationships (with one or multiple partners) seem to be more common within the geographical borders of Norway with customers and suppliers than beyond the Norwegian borders with international customers and suppliers for companies with *trust based relationships* and *trust based relationships with a formal contact*. The results in Table 16 compared to the general results of the entire sample (Table 8) seem to show an indication that *close collaboration relationships* with the customer occur more often when the company claims to have a high degree of trust based relationships (62,5% of the companies with *trust based relationships* with the customer compared to 45,5% of the entire sample (Table 8) claiming to have *close collaboration relationships* with the customer).

#### 4.2.3. H3. Sustainability orientated companies and their relationships

By going into more detail on what kind of relationships innovative and sustainability orientated companies have, the third hypothesis of this study '**Companies highly engaged in sustainability tend to have long-term trust based relationships**' is addressed. The respondents that seem to fit in this description are the ones that have made considerable changes over the past 5-year period regarding their business model and product improvement by, among others, innovative development. 8 companies tend to fit this requirement.

Results from the survey for the selected 8 companies show that the respondents, which have made considerable changes in their business model and product improvement over the last 5-year period, tend to have a low degree of *relationships only based on trust* with both their customers and suppliers on both the local, Norwegian, and international level (see Table 17). Ranging from 1 company claiming that a *relationship only based on trust* occurs to a large degree with their international customers, to a maximum of 4 companies claiming that such a *relationship only based on trust* occurs to a large degree with their customers and suppliers on a local level. Further, it seems that *relationships based on trust together with a formal contract* occur to a relatively large degree with a significant increase on the Norwegian and international level for both the customer relationships as the supplier relationship. Compared to the results of all the respondents (Table 7) no indications can be identified regarding an increase in use of *trust based relationships* and *trust based relationship together with a formal contract* for companies that have made considerable changes in their business model and product improvement.

The degree to which *close collaboration relationships* occur with suppliers in this group of 8 companies seems to be, with an average of 45,5% of the companies claiming to have it (Table 17), the same as the occurrence of *close collaboration relationships* for the entire sample (45,5% of 11 companies, see Table 8). Companies claiming to have made considerable changes in the last 5-year period seem to have a higher degree of *close collaboration relationships* with their customers (on all the geographical levels) compared to the degree to which *close collaboration relationships* occur for the entire sample (45,5% of the companies claiming to have *close collaboration relationships* with their customers in the entire sample, to an average of 55% of the companies claiming to have a *close collaboration relationship* within the group of companies for this hypothesis). This slight increase in occurrence might be an indication that companies who made internal changes regarding development and innovation tend to have a higher degree of close collaboration relationships with their customers.

Table 17: Relationships of companies highly engaged in sustainability

	Relationship with customer			Relationship with supplier		
	Local customer	Norwegian customer	International customer	Local supplier	Norwegian supplier	International supplier
<b>Relationship</b>						
Relationship completely based on trust	50% (4)	25% (2)	12,5% (1)	50% (4)	37,5% (3)	25% (2)
Trust based relationship also based on formal contracts	62,5% (5)	87,5% (7)	50% (4)	75% (6)	75% (6)	62,5% (5)
<b>Working relationship</b>						
Close collaboration relationships from a long term perspective, with social and technical adaptations made between us and the collaboration partner	62,5% (5)	75% (6)	37,5% (3)	50% (4)	62,5% (5)	37,5% (3)
Close collaboration relationships from a long term perspective, where we involve several collaboration partners in social and technical adaptations	62,5% (5)	62,5% (5)	37,5% (3)	50% (4)	50% (4)	37,5% (3)

#### 4.2.4. H4. Trust or contracts for long-term relations

By going into detail on the type of relationship (trust or contract based) respondents have in long-term relationships, the fourth hypothesis ***‘Long-term relations are more likely to be based on trust rather than contracts’*** is addressed. From the sample of 11 respondents, 3 respondents seem to have long-term relationships with their customers and suppliers on all the geographical levels (local, Norway, international).

On first sight, the results for the selected 3 respondents (see Table 18) seem to indicate that every type of relationship occurs for at least one of the three companies to a large extent where a *relationship based on trust together with a formal contract* seems to occur most often. Although it is difficult to claim something based on 3 respondents, there seems to be an indication in the direction of a higher use of *relationships based on contracts* for companies with long-term relationships. Compared to the results of the entire sample where relationships based entirely on contracts seem to occur for relationships with customers to 27,3% of the companies to a large extent and for 54,6% of 11 companies with their suppliers (see Table 7). Respondents claiming to have long-term relationships on all the geographical levels, seem to use more contract based relationship since this occurs for relationships with their customers for an average of 50% of the three companies, and for relationships with their suppliers for an average of 89% of the three companies. These results give a tentative indication that long-term relationships with suppliers might be more often based on contracts than on trust.

Table 18: Type of relationship of companies with long-term relationships

Relationship	Long term relationship with customer			Long term relationship with supplier		
	Local customer	Norwegian customer	International customer	Local supplier	Norwegian supplier	International supplier
Relationship completely based on trust	66,7% (2)	33,3% (1)	33,3% (1)	66,7% (2)	66,7% (2)	66,7% (2)
Trust based relationship also based on formal contracts	100% (3)	100% (3)	66,7% (2)	66,7% (2)	66,7% (2)	100% (3)
Relationship completely based on formal contracts	0	33,3% (1)	66,7% (2)	66,7% (2)	100% (3)	100% (3)

#### 4.2.5. H5. Innovative companies and long-term cooperative relationships

To see possible tendencies between the engagement in innovation and long-term relationships, the fifth hypothesis will be addressed ***'Innovative companies tend to have mainly cooperative long-term relations'***. From the sample of 11 respondents, 8 respondents seem to fit the description of 'innovative' since they made considerable improvements in their business model and products during the past 5-year period.

The results within the innovative group of 8 companies show, beside the slight increase in customer close collaboration relationships with one collaboration partner (see Table 19), no differences compared to the results of the entire sample of 11 companies (see Table 8). An average of 58% of the 8 companies claim to have with their customer close collaboration relationships with one collaboration partner, this is 13% higher than the occurrence of the same relationship in the entire sample. This might indicate that for innovative companies, close collaboration relationships with one customer seem to increase in importance.

Table 19: Innovative companies and their working relationship

Working relationship	Relationship with the customer			Relationship with the supplier		
	Local customer	Norwegian customer	International customer	Local supplier	Norwegian supplier	International supplier
Close collaboration relationships from a long term perspective, with social and technical adaptations made between us and the collaboration partner	62,5% (5)	75% (6)	37,5% (3)	50% (4)	62,5% (5)	37,5% (3)
Close collaboration relationships from a long term perspective, where we involve several collaboration partners in social and technical adaptations	62,5% (5)	62,5% (5)	37,5% (3)	50% (4)	50% (4)	37,5% (3)

#### 4.2.6. H6. Innovative companies and their participation in sustainability

By going into more detail on how innovative companies see sustainability, the sixth hypothesis that **'Companies with an internal focus on innovation and sustainability are more likely to see sustainability as an opportunity and actively participate in sustainability initiatives'** will be explored. From the entire sample of 11 respondents 8 companies made considerable changes over the past 5-year period regarding the development in their business model and products, hence the group of respondents for this hypothesis consists of 8 companies.

In the selected group of 8 respondents which made considerable innovative changes over the past 5-years, no trends could be identified regarding the degree to what sustainability should be considered in the near future for skill development and innovation (see Table 20) compared to the general results of the entire sample (see Table 10). The importance to consider sustainability for skill development and innovation seems to be recognized to the same extent by innovative companies as it is by the sample of 11 respondents.

Table 20: Degree sustainability is considered in innovative companies

	Number of companies stating to what degree sustainability should be considered for skill development and innovation
Not at all	0
To some degree	1
Regularly	7
It should be the main theme	0

Further, regarding the involvement of the group of 8 respondents *involved in innovative changes over the past 5 years* in sustainability practices (see Table 21), no tendencies could be identified when comparing the results of involvement in both environmental and social sustainability practices with the entire sample of 11 respondents (see Table 11). These results may indicate that companies who are involved in *innovative changes over the past 5 years* seem not to be more involved in sustainability practices (both environmental and social) than any other company in the sample.

Table 21: Involvement in sustainability practices by innovative companies

	Share of companies in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>	
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	87,5 (7)
Recycling of materials for the product	62,5 (5)
Certification systems	62,5 (5)
R&D – development of sustainable technologies, products and services	50 (4)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	50 (4)
Purchasing – place environmental pressure on supplier	50 (4)
Sales – Committing to environmentally aware customers	25 (2)
Life-cycle analyses (LCA)	12,5 (1)
<b>Social sustainability practices</b>	
Recruiting staff from the local community	100 (8)
Internal accounting systems	87,5 (7)
Various contributions to the local community	87,5 (7)
Purchasing – place social pressure on suppliers	37,5 (3)
Sales – commitment to socially aware customers	37,5 (3)
Donating to charities	37,5 (3)

#### 4.2.7. H7. Trust-based relationships and the involvement in sustainability

By identifying a possible tendency between trust based relationships and the involvement in sustainability practices, the seventh hypothesis ***‘There is a positive relation between a high degree of trust and the involvement in sustainability practices’*** is addressed. Because companies can have trust based relationships both with their customers and with their suppliers, a distinction is made between the involvement in sustainability practices when having a trust based relationship with either the customer or the supplier. Due to the requirements 10 respondents have been selected for having trust based relationships with their customers, and 8 respondents have been selected for having trust based relationships with their suppliers. Important to note is that it seems, because of the selection, that the respondents are more likely to have trust based relationships with their suppliers than with their customers.

The survey results within this group of respondents (see Table 22), tend not to indicate any differences compared to the entire sample’s involvement in sustainability practices (see Table 11). The respondents with trust based relationships both with their customers and with their suppliers claim to use environmental sustainability practices that are carried out within the company to the largest extent. With *efforts to reduce the use of energy, water, waste and emission of dangerous substances* as the most carried out practice by companies having trust based relationships with their customers and suppliers. Due to the similarity with the general results of the sample’s involvement in sustainability practices, and although the used groups with respective 8 and 10 respondents are close to the 11 respondents of the sample, the results on hypothesis 7 might give a tentative indication that a trust based relationship is not a prerequisite for the involvement in sustainability practices.

Table 22: Involvement in sustainability practices by companies with trust based relationships

	Share of companies with a trust based relationship with their customers in % stating that this practice is carried out to a large degree (number of companies stating this)	Share of companies with a trust based relationship with their suppliers in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>		
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	75 (6)	80 (8)
Recycling of materials for the product	62,5 (5)	70 (7)
Certification systems	50 (4)	60 (6)
R&D – development of sustainable technologies, products and services	50 (4)	60 (6)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	37,5 (3)	50 (5)
Purchasing – place environmental pressure on supplier	37,5 (3)	40 (4)
Sales – Committing to environmentally aware customers	37,5 (3)	30 (3)
Life-cycle analyses (LCA)	12,5 (1)	10 (1)
<b>Social sustainability practices</b>		
Recruiting staff from the local community	100 (8)	100 (10)
Internal accounting systems	87,5 (7)	90 (9)
Various contributions to the local community	87,5 (7)	80 (8)
Purchasing – place social pressure on suppliers	37,5 (3)	50 (5)
Sales – commitment to socially aware customers	37,5 (3)	40 (4)
Donating to charities	37,5 (3)	30 (3)

#### 4.2.8. H8. Long-term cooperative trust based relationships and the larger involvement in sustainability

Addressing the eighth hypothesis ***‘Companies with cooperative, long-term relations based on trust are likely to be more involved in sustainability practices’***, which is closely related to the seventh hypothesis, tries to identify a possible tendency between the respondents having long-term relationships based on trust (instead of contracts) and the degree to what the involvement in social and environmental sustainability occurs. Because companies can have long term trust based relationships both with their customers and with their suppliers, a distinction is made between the involvement in sustainability practices when having a long-term trust based relationship with either the customers or suppliers. Due to the requirements 10 respondents have been selected for having long-term trust based relationships with their customers, and 7 respondents have been selected for having long-term trust based relationships with their suppliers.

Compared with the general results of the sample on the involvement in environmental and social sustainability practices (see Table 11), the results of companies with long-term trust based relationships with their suppliers and customers seem not to be any different (see Table 23). Respondents claiming to have long term trust based relationship with customers and/or suppliers seem to be involved to the same extent in environmental and social sustainability practices since the same (as in the entire sample) internal environmental and social sustainability practices are the most used ones, with efforts to *reduce the use of energy, water, waste and emission of dangerous substances* on top. The companies with long term relationships based on trust claiming to participate to a high

degree in social sustainability, seem to participate mostly in internal social sustainability practices. Also the respondents with long term relationships based on trust claiming to be active in environmental sustainability practices seem to do this mostly with internal environmental sustainability practices. These results (Table 23) are similar to the results of the entire sample (see Table 11), hence no indication can be identified regarding the increased involvement in sustainability by respondents claiming to have long-term trust based relationships.

Table 23: Involvement in sustainability practices by companies with long-term cooperative trust based relationships

	Share of companies with a long-term cooperative trust based relationship with their customers in % stating that this practice is carried out to a large degree (number of companies stating this)	Share of companies with a long-term cooperative trust based relationship with their suppliers in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>		
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	71,4 (5)	80 (8)
Recycling of materials for the product	57,2 (4)	70 (7)
Certification systems	57,2 (4)	60 (6)
R&D – development of sustainable technologies, products and services	57,2 (4)	60 (6)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	42,9 (3)	50 (5)
Purchasing – place environmental pressure on supplier	42,9 (3)	40 (4)
Sales – Committing to environmentally aware customers	42,9 (3)	30 (3)
Life-cycle analyses (LCA)	14,3 (1)	10 (1)
<b>Social sustainability practices</b>		
Recruiting staff from the local community	100 (7)	100 (10)
Internal accounting systems	85,7 (6)	90 (9)
Various contributions to the local community	85,7 (6)	80 (8)
Purchasing – place social pressure on suppliers	42,9 (3)	50 (5)
Sales – commitment to socially aware customers	42,9 (3)	40 (4)
Donating to charities	28,6 (3)	30 (3)

#### 4.2.9. H9. Lack of participation in sustainability by smaller companies

To identify possible tendencies between the size of a company and the degree of participation in sustainability practices, the ninth hypothesis '**Smaller Norwegian companies (<60 employees) are less likely to actively engage in sustainability practices**' will be addressed. The European Commission's (2003) definition on SMEs state that small companies are companies with up to 50 employees. However, due to the answer possibilities for the respondents in the survey, this is rounded up to 60 employees. Meaning that from the 11 companies in the sample, 7 companies are identified as companies with a maximum of 60 employees.

In general the results in this group of 7 respondents show no significant difference (see Table 24) compared to the general sample results (see Table 11). Also within the small companies, internal efforts for environmental and social sustainability are the ones that are carried out the most, like *efforts to reduce the use of energy, water, waste and emission of dangerous substances, recycling of materials for the product, recruiting staff from the local community, and internal accounting systems*. More interesting seems to be a possible indication that small companies are more involved in *committing to environmentally and socially aware customers* than in *placing environmental and social pressure on suppliers* compared to the general sample of 11 respondents, where most of the companies are more involved in *placing environmental and social pressure on their suppliers* than *committing to environmentally and socially aware customers*.

Table 24: Involvement in sustainability practices by smaller companies

	Share of smaller companies in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>	
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	85,7 (6)
Recycling of materials for the product	71,4 (4)
R&D – development of sustainable technologies, products and services	57,2 (4)
Certification systems	57,2 (4)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	42,9 (3)
Sales – Committing to environmentally aware customers	42,9 (3)
Purchasing – place environmental pressure on supplier	28,6 (2)
Life-cycle analyses (LCA)	14,3 (1)
<b>Social sustainability practices</b>	
Recruiting staff from the local community	100 (7)
Internal accounting systems	85,7 (6)
Various contributions to the local community	71,4 (5)
Sales – commitment to socially aware customers	57,2 (4)
Purchasing – place social pressure on suppliers	42,9 (3)
Donating to charities	42,9 (3)



#### 4.2.10. H10. The leading role of larger companies with a sustainability focus

Because the survey was conducted among SMEs in the Norwegian region of Møre og Romsdal it is expected to be difficult to find any tendencies indicating that larger companies present themselves as sustainability drivers. Nevertheless, the tenth hypothesis that **'Larger companies (>120 employees) with an innovative (internal) focus tend to place themselves as sustainability drivers in the supply chain'** will be addressed. Since the hypothesis focuses on larger companies as companies with more than 120 employees, 2 respondents that fit the requirements are selected.

The results among the 2 respondents representing two firms with more than 120 employees seem not to indicate any tendency that might show that these larger companies are drivers of environmental and/or social sustainability practices (see table 25). One of the two companies places environmental and social pressure on the supplier to achieve environmental and/or social sustainability goals, but this is not considered as a tendency since this is also done by a much larger extent of the entire sample of 11 companies (see Table 11). It has to be noted that because of the extremely small group of larger companies, indications for the tenth hypothesis are almost impossible to recognize. Therefore, an indication that larger companies are drivers of environmental and social sustainability could only be partly reached when both companies claimed to place environmental and social pressure on their suppliers.

Table 25: Involvement in sustainability practices by larger companies

	Share of larger companies in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability</b>	
Purchasing – place environmental pressure on supplier	50 (1)
Sales – Committing to environmentally aware customers	0
<b>Social sustainability</b>	
Purchasing – place social pressure on suppliers	50 (1)
Sales – commitment to socially aware customers	0

4.2.11. H11. Investments in sustainability by internationalizing and growing companies

As background information it might be interesting to see if an indication for a tendency exist between growing companies that operate internationally and the degree to which these companies participate in environmental and social sustainability practices. Here, the eleventh and last hypothesis will be addressed on **'Firms that are internationalizing and growing are more likely to invest in sustainability practices'**. 3 out of the 11 companies in the sample tend to have substantial sales to foreign customers (>25% of their total sales) and at the same time claim that their the turnover compared to last year has increased.

The results on the three companies that operate internationally and have an increasing turnover (see Table 26), seem not to show any differences compared to the results of the general sample (see Table 11) regarding the degree of participation in environmental and social sustainability practices. The main topics of interest in both environmental and social sustainability practices, seems also for international and growing companies more in internal sustainability practices than external ones. As can be seen in the high degree of participation in internal practices like, *efforts to reduce the use of energy, water, waste and emission of dangerous substances* (2 out of 3 companies), *recruiting staff from the local community* (3 out of 3 companies), *internal accounting systems* (2 out of 3 companies).

Table 26: Involvement in sustainability practices by international and growing companies

	Share of larger companies in % stating that this practice is carried out to a large degree (number of companies stating this)
<b>Environmental sustainability practice</b>	
Production – efforts to reduce the use of energy and water, waste and emission of dangerous substances	66,7 (2)
Recycling of materials for the product	33,3 (1)
R&D – development of sustainable technologies, products and services	33,3 (1)
Certification systems	33,3 (1)
Transportation/distribution – reduction of transport, use of environmentally friendly transportation solutions	33,3 (1)
Purchasing – place environmental pressure on supplier	33,3 (1)
Sales – Committing to environmentally aware customers	0
Life-cycle analyses (LCA)	0
<b>Social sustainability practices</b>	
Recruiting staff from the local community	100 (3)
Various contributions to the local community	100 (3)
Internal accounting systems	66,7 (2)
Donating to charities	66,7 (2)
Sales – commitment to socially aware customers	0
Purchasing – place social pressure on suppliers	0

### 4.3. Overview of questions and filters used per hypothesis

As a summarizing overview for the empirical part of this study the used survey questions and the used filters on the sample per hypothesis are shown in the table below. It gives a clear overview of the different hypothesis linked to the questions in the survey (see Appendix C). In terms of transparency this allows researchers to reproduce the same presentation of results in further research.

Table 27: Summarizing overview of survey questions used per hypothesis

<b>Hypothesis</b>	<b>Survey question</b>	<b>Requirements filter</b>
<b>H1</b>	Q23.6, 23.7, 23.8 + Q26.6, 26.14	Q7
<b>H2</b>	Q17.7, 17.8 – 22.7, 22.8	Q17.1, 17.2 – 22.1, 22.2
<b>H3</b>	Q17.1, 17.2, 17.7, 17.8 – 22.1, 22.2, 22.7, 22.8	Q16
<b>H4</b>	Q17.1, 17.2, 17.3 – 22.1, 22.2, 22.3	Q17.7, 17.8 – 22.7, 22.8
<b>H5</b>	Q17.7, 17.8 – 22.7, 22.8	Q16
<b>H6</b>	Q15 + Q24 + Q25	Q16
<b>H7</b>	Q24 + Q25	Q17.1, 17.2 – 22.1, 22.2
<b>H8</b>	Q24 + Q25	Q17.1, 17.2, 17.7, 17.8 – 22.1, 22.2, 22.7, 22.8
<b>H9</b>	Q24 + Q25	Q7
<b>H10</b>	Q24 + Q25	Q16 + Q7
<b>H11</b>	Q24 + Q25	Q6 + Q12



## 5. Discussion

The analysis of the empirical data gives some interesting suggestions. First the relationships are being discussed, then sustainability, and lastly the hindrances and drivers of sustainability.

The first interesting suggestion is that the sample's survey results tend not to indicate a difference between the occurrence of trust-based relationships with customers or suppliers. However, there seems to be an indication that contract-based relationships occur more often with suppliers than with customers. Chen (2000) suggests that contracts are often seen as a safeguard, so the empirical data may indicate that the respondents feel more need to safeguard their relationship with suppliers than with their customers. An indication that seems not to be a total surprise, is the fact that companies are to a large extent dependent on the deliveries of their suppliers, hence the higher use of contracts with suppliers in order to ensure that the supplier 'holds promise'. Closely related to trust and contract based relationships is the type of working relationship. It seems that close collaboration relationships with customers and with suppliers occur to a large extent. On the other hand, short-term relationships seem to occur to a relatively small extent in the sample group. Coming back to the relationship with suppliers, the higher use of contracts may also be explained by the indication of a higher use of short-term relationships with suppliers than with customers. Short-term relationships are in general often characterized by a contract. However, all in all, the high degree of occurrence of close collaboration relationships in the Møre og Romsdal region may indicate that the companies are aware of the importance and benefits of having long-term relationships. Research by Geffen and Rothenberg (2000) show that collaboration relationships enable both sustainability and also innovation. This holds promise for the sample's participation in sustainability practices.

It appears that one third of the companies in the sample have done very little or nothing to improve their business model or to increase value for their customers over the past 5 years. This might indicate that a relatively large group of companies does not focus on innovation, development, and sustainability. Since none of the companies in the sample claim that sustainability should be the main theme for learning efforts in skill development and innovation, this could be a tentative indication that there is a lack of awareness and/or knowledge among the companies regarding the possibilities and benefits of environmental and social sustainability. The results also seem to show that currently around half of the companies use sustainability on a regular basis in skill development and innovation. For the near future nearly all the respondents claim that sustainability should be included on a regular basis for skill development and innovation in the company. However, since none of the companies claim that sustainability should be the main theme for skill development and innovation, together with the indication that one third of the companies have done almost nothing to improve their business model or to increase value for the customer over the past 5 years, it seems to be questionable to what extent sustainability really will be adopted on a regular basis for skill development and innovation in the near future.

An issue closely related to including sustainability in the company is the one of drivers of sustainability. The results of the survey generally show that the main focus on both environmental and social sustainability practices is placed on practices that are carried out within the company itself. Such as *efforts to reduce the use of energy, water, waste and emission of dangerous substances, recycling of materials for the product, and internal accounting systems*. All these practices do not necessarily include suppliers and customers to be carried out. Hence, the survey results indicate that the companies in Møre og Romsdal are less engaged in environmental and social sustainability practices where suppliers and customers are involved. This is also reflected in the relatively few claims of companies to *place environmental and social demands on their suppliers* and the few claims of *committing to environmentally and socially aware customers*.

Another result of the survey might give further insight in why the companies are mainly focusing on internal sustainability practices rather than external ones. The most recognized hindrance of letting sustainability become part of the business model seems to be that *customers demand sustainable products but are not willing to pay for it*. The second most recognized hindrance also revolves around customers since almost half the respondents claim that *customers do not demand sustainable products/services*. It is often recognized that the government, with for instance public procurement rules and regulations, can drive the demand for sustainability and also drive sustainability practices in industries. The results of the survey show that the current *public procurement rules and regulations* appear to be a hindrance of sustainability from becoming part of the business model for more than one third of the companies, indicating that despite of the claim by the Norwegian government to focus more on sustainability and innovation (Political platform, 2013), the actual practice might not have changed. Results from the survey seem to support this since the government is seen as one of the less important *sources of motivation for development and innovation* within a company where especially *the own staff, customers, competitors, and suppliers* are seen as an important source of motivation for development and innovation.

### 5.1. Results per hypothesis

After the discussion of the results for the entire sample this paragraph will briefly discuss the hypothesis specific results.

#### Hypothesis 1

The survey results on the first hypothesis '***Small and medium sized companies tend to recognize NGOs and governmental regulations as main drivers for sustainability***' show no indication of a larger recognition of governmental regulations and NGOs as main drivers for sustainability by SMEs when compared to the entire sample. Both within the selected group for this hypothesis as in the general sample, governmental regulations and NGOs seem to be considered as drivers for sustainability to the same, relatively low, extent. It has to be noted that the group of companies for this hypothesis consisted of 8 companies out of the sample of 11. Therefore the results on this hypothesis can be expected to be similar to the results of the entire sample.

#### Hypothesis 2

There seems to be an indication in the results on the second hypothesis '***Firms with trust based relations are likely to have long term and highly cooperative relations***'. Comparing the results on hypothesis 2 with the results of the entire sample, it shows that *close collaboration relationships* with the customer of companies with *trust based relationships* tend to occur to a higher degree than *close collaboration relationships* with customers occur for the entire sample. Next to this indication, the results also seem to suggest that within the geographical area of Norway, *close collaboration relationships* with the customer and with the supplier occur to a higher degree than close collaboration relationships with international customers and suppliers.

#### Hypothesis 3

Results on the third hypothesis '***Companies highly engaged in sustainability tend to have long-term trust based relationships***', seem to suggest that companies claiming to have made considerable changes in the last 5-year period in their business model and product improvement tend to have a higher degree of *close collaboration relationships* with their customer (on local, Norwegian, and international level) compared to the degree to which *close collaboration relationships* with customers occur for the entire sample. This might be an indication that companies who have made internal changes regarding development and innovation tend to have a higher degree of *close collaboration relationships* with their customers.

#### Hypothesis 4

The results of the fourth hypothesis '**Long-term relations are more likely to be based on trust rather than contracts**' show a tentative indication that *long-term relationships* with suppliers are, compared to the *long-term relationship* with customers, more often based on contracts than on trust. Possibly meaning that Norwegian companies feel the need to formalize the relationships with their suppliers more than with their customers. This could be caused by the dependency of the company on its suppliers, the company might try to minimize the risk of supplier failure and therefore use a contract to force the supplier to keep promise.

#### Hypothesis 5

It appears that there is an indication in the results of the fifth hypothesis that '**Innovative companies tend to have mainly cooperative long-term relations**'. Because companies that made considerable improvements in their business model and product improvement regarding innovation and development, claim to have a higher degree of close collaboration relationship together with one customer compared to the results of the entire sample. This could indicate that internal innovation is supported, or driven by, a close collaboration relationship with the customer. Further interesting research on this hypothesis could be to discover if the customer in this case drives innovation in the company.

#### Hypothesis 6

The results on the sixth hypothesis '**Companies with an internal focus on innovation and sustainability are more likely to see sustainability as an opportunity and actively participate in sustainability initiatives**' seem to indicate that companies who are involved in innovative changes over the past 5 years are not more involved in environmental and social sustainability practices than any other company of the sample.

#### Hypothesis 7

Following from the results the seventh hypothesis '**There is a positive relation between a high degree of trust and the involvement in sustainability practices**' there seems no indication for more involvement in sustainability when having a high degree of trust based relationships. Although the results on the seventh hypothesis compared to the results of the entire sample are highly similar, it might give a tentative indication the other way around; trust based relationships seem not to be a prerequisite for the involvement in sustainability practices.

#### Hypothesis 8

From the results on the eight hypothesis '**Companies with cooperative, long-term relations based on trust are likely to be more involved in sustainability practices**' no indication of a tendency could be identified regarding the involvement in sustainability practices by companies claiming to have long-term trust based relationships, the results are highly similar to the results of the entire sample.

#### Hypothesis 9

The results on the ninth hypothesis '**Smaller Norwegian companies (<60 employees) are less likely to actively engage in sustainability practices**' seem to show an interesting indication. Small companies seem to be more involved in *committing to environmentally and socially aware customers* than in *placing environmental and social pressure on suppliers* compared to the general sample of 11 respondents, where most of the companies are more involved in *placing environmental and social pressure on their suppliers* than *committing to environmentally and socially aware customers*. This might indicate that these smaller Norwegian companies are more dependent on their customers.

### Hypothesis 10

The results on the tenth hypothesis '**Larger companies (>120 employees) with an innovative (internal) focus tend to place themselves as sustainability drivers in the supply chain**' show, probably caused by the extremely small group of respondents (2) matching the requirements for this hypothesis, no indication of a tendency compared to the results of the entire sample. A quantitative research including next to SMEs also larger corporations in Norway could most likely address this hypothesis better.

### Hypothesis 11

Although the results on the eleventh hypothesis '**Firms that are internationalizing and growing (or willing to grow) are more likely to invest in sustainability**' don't show any indications for tendencies, there might be an indication that international and growing companies don't commit themselves to environmentally or socially aware customers since none of the respondents in this group claim that *commitment to environmentally and socially aware customers* occurs. However, that indication is only based on a group of 3 companies.

The following propositions have been made from the results of the discussion for further research;

- Norwegian SMEs tend to see the government and NGOs more as a hinder for implementing sustainability practices than as a driver, something that is contradictive to what literature suggest that environmental regulations are seen as the main drivers for environmental sustainability in small companies (O'Laoire and Welford, 1998; Perez-Sanchez et al., 2003).
- Compared to the local and Norwegian level, firms tend to have a lower degree of cooperative long-term relationships with their customers and suppliers outside of Norway.
- Long term relations with customers are, when the geographical distance increases, more likely to be based on contracts than on trust.
- Firms engaged in sustainability tend to have long-term close collaboration relationships more with other Norwegian based customers and suppliers than with international suppliers and customers.
- Norwegian companies that made considerable changes to the business model and product over the past 5 years, seem mainly to participate in sustainability aspects within the organizational boundaries rather than across the whole supply chain.
- Small Norwegian companies seem to participate in sustainability and half of them actually put pressure on the suppliers and customers to achieve sustainability goals.
- Norwegian companies that are growing and internationalizing seem to invest and participate in sustainability to a rather small extent.



## 6. Conclusion

The goal of this master thesis was twofold. First, to find the conceptual relationship between TTC (trust, transparency, and contracts) and the sustainable supply chain. Second, to find empirical indications on the visibility of the relationship between TTC and sustainable supply chains in the Norwegian industry. The Norwegian industry is because of the survey limited to the Møre og Romsdal region in Norway. Resulting from the literature study, a high degree of interrelation between trust, transparency, and contracts have been identified (see figure 3), and how TTC is related to the sustainable supply chain is shown. With the theoretical foundation as background, the empirical results of the sample were analyzed and indications have been identified. In this concluding part, the conclusions will be presented in relation to the extent the theoretical foundation on TTC and sustainable supply chains is visible in the Norwegian industry.

Literature shows that the basis of trust lies in honesty, openness and responsibility (Ginevicius, 2010). The aspect of openness in the basis of trust is a clear indication and link to transparency. Although many researchers have claimed that trust can go beyond formal contract, making formal control like contracts unnecessary (e.g. Das and Teng, 1998; Williams, 1988; Lane and Bachmann, 1998; Maguire et al., 2001). Most of the respondents in the survey claim to prefer a *trust based relationships together with a formal contract*. The relatively high degree of respondents claiming to have trust based relationships (with or without a formal contract) in relation to the high degree of occurrence of close collaboration relationships, tend to indicate that there is real trust. Especially since literature suggests that the extent to which such contracts are enforceable is limited, because the courts do not have access to all the specialized knowledge and information shared between the company and their supplier/customer (Deakin and Wilkinson, 1998).

A clearly shared identified aspect between the concept of trust and the concept of sustainability concerns information sharing between companies. For both sustainability and for trust it is essential that companies share information about their performance in term of financial, production, and also sustainability in order to make sustainability practices effective over the entire supply chain. Sharing of information is also important for the establishment of trust. By knowing more about a partner it is easier for companies to trust each other. From the sample's results it can be concluded that there is a clear indication for sufficient trust (Table 7), but that environmental and social sustainability practices seem mainly to revolve around internal practices. This seems to indicate, together with the claim by the respondents that there is a high degree of trust based relationships, that environmental and social sustainability practices are not part of the relationships the respondents have with their customers and suppliers. The relationship the respondents have, seems to be dependent on the geographic location of the supplier or customer. The analysis of the survey results on the second hypothesis indicate that when companies have trust based relationships with their customers, the degree to which close collaboration relationships occur seems to increase. As literature suggests, a relationship becomes more successful when it is characterized by a high degree of trust (Klein Woolthuis et al., 2005), which seems to be visible in the empirical results on the second hypothesis. However, as stated, the geographic locations seems to play a role, since the companies with trust based relationships have a significant lower degree of close collaboration relationship with international customers than with customers in Norway.

Returning to the environmental and social sustainability practices, they seem mainly to revolve around practices that can be carried out internally in the company (with practices claimed most to be carried out like; *efforts to reduce the use of energy, water, waste and emission of dangerous substances, recycling of materials for the product, and internal accounting systems*). This may indicate that top management of the companies has not yet included the concept of the sustainable supply chain into the business operations (Carter, 2005) and therefore the top management focus is limited to internal sustainability practices rather than practices that affect and involve supply chain partners.

All in all, there seems to be a visible relationship between TTC and the sustainable supply chain in Møre og Romsdal. However, this seems to be limited to the use of a high degree of close collaboration relationships based on trust (with and without a formal contract), and based on the awareness of almost all respondents, that sustainability should be considered on a regular basis as theme for innovation and development. The results seem to indicate that the Norwegian companies are in the stage of making their own company environmentally and socially sustainable, but they seem to not yet be at the point where they want to participate in environmental and social sustainability practices in cooperation with their customers and suppliers. This is in line with findings by Bommel (2010), that socialization, experimental learning, and innovative approaches on sustainability are not yet integrated in the sustainable supply chain.

## 7. Recommendations

The survey used in this study seems to address all the relevant topics for gaining a better understanding of sustainability and the sustainable supply chain in the Norwegian industry. It seems clear that the indications discussed in this study have no quantitative support and thus a quantitative research based on the same survey seems to be necessary for finding empirical proof regarding the suggestions. Together with a quantitative research among Norwegian companies, conducting an interview with a part of the participating companies seems to be a good method to gain a deeper understanding of the eventual survey results and further insight on how the survey results can be interpreted. The suggested propositions in the discussion can form a starting point for further studies, which could deepen the understanding of TTC, sustainability and the sustainable supply chain in the Norwegian industry.

Available literature on how SMEs deal with sustainability and how SMEs can improve their position towards sustainability practices, seems rather limited and thus allowing further research to explore this in more detail. With the recommendations given for further empirical research, there are possibilities for more studies on this subject.

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## Appendix A – A brief overview of the results in the project thesis

The objective of the project thesis was *“to identify the significance of trust in shared value creation in the sustainable supply chain and what this implies. In the project thesis a literature review has been conducted. Concluding from the literature review it is found that trust is not only becoming more significant in the sustainable supply chain than in the regular supply chain, but it also offers and drives a win-win situation for both the partnering companies and the society because of the sustainability aspect that is caused by trust. Since companies are more likely to keep on doing business together when there is a high degree of trust as the literature shows. Because of this, we can state, based on the literature, that an attempt to create a sustainable supply chain where a high degree of trust between the companies is missing is doomed to fail. Trust seems to be the basic need in a sustainable supply chain to sustain over time and to be actually sustainable as the definition of sustainability describes.”* (Kievitsbosch and Chaudhary, 2014)

## Appendix B – Article on the survey

### Økt kunnskap om bærekraft og vekst for selskaper i Møre og Romsdal

#### **Benytt anledningen til å påvirke!**

NTNU og en rekke selskaper med støtte fra Norges Forskningsråd har startet et prosjekt for å fremme et mer konkurransedyktig og bærekraftig norsk næringsliv. \*Selskapet\* er blant de samarbeidende selskapene i prosjektet. Masterstudenter ved NTNU er nå i gang med forskningsarbeidet, og et av elementene er å undersøke og analysere eksisterende situasjon for en rekke norske selskaper, og deretter å foreslå muligheter for utvikling.

En sentral del av forskningen er undersøkelsen som kan besvares ved å klikke her. Denne retter seg til små- og mellomstore bedrifter i Møre og Romsdal.

Spørreskjemaet blir sendt til ca. 80 små- og mellomstore bedrifter i fylket. Alle svar er viktige og selvfølgelig anonyme. Det tar ca. 15 minutter å fullføre undersøkelsen. Vi anbefaler at du fullfører hele spørreskjemaet på en gang, men det vil være mulig å lagre svarene og fortsette senere. Dine svar vil ikke bli sendt før du trykker på "send".

#### **Hva innebærer deltakelse i studien?**

Formålet med studien er å forstå på hvilke måter små- og mellomstore bedrifter kan skape miljømessig-, sosialt- og økonomisk bærekraftige produkter, prosesser og forretningsmessige relasjoner. Spørsmålene omhandler innkjøps- og markedsførings-praksis, læring og innovasjon, og hvordan selskapet er knyttet til kunder og leverandører.

#### **Hva skjer med informasjonen?**

Alle personopplysninger (du oppgir kun e-post) vil bli behandlet konfidensielt. Deltakerne er helt anonyme, og vil ikke kunne gjenkjennes i publikasjon eller lignende.

#### **Valgfri deltakelse**

Det er selvfølgelig frivillig å delta i studien, men vi oppfordrer sterkt til at du svarer siden det vil styrke datagrunnlaget. Dersom du har spørsmål til studien, ta kontakt med Malena Ingemansson Havensvid (malena.havensvid@iot.ntnu.no) som er forsker i prosjektet og hovedansvarlig for spørreundersøkelsen.

Studien er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

## Appendix C – Survey for empirical results

1. What applies for your company?
  - a) The company is independent and not part of a larger corporation
  - b) The company is part of a larger Norwegian corporation
  - c) The company is part of a larger international corporation
  
2. Which of the following descriptions best fit your company? ‘Family owned’ refers to ownership in multiple generations, ‘privately owned’ refers to ownership by single individuals but in the first generation, ‘external owners’ refers to ownership by other firms (such as larger corporations, investment companies etc.)
  - a) The company is family owned and the owners are very active in the daily management
  - b) The company is family owned and the owners are hardly or not active in the daily management of the company
  - c) The company is privately owned and the owners are very active in the daily management of the company
  - d) The company is privately owned and the owners are hardly or not active in the daily management of the company
  - e) The company has external owners that are very active in the daily management of the company
  - f) The company has external owners that are hardly or not active in the daily management of the company
  
3. For the next 5 years the ownership will probably be:
  - a) The same
  - b) Changed due to fusion with another company
  - c) Changed due to sales to another company
  - d) Changed due to issuing of shares<sup>1</sup>
  - e) I do not know
  
4. When was the company founded? Specify a year: \_\_\_\_\_
  
5. What was the company turnover in 2014 (million NOK)?
  - a) 0-20
  - b) 21-40
  - c) 41-60
  - d) 61-80
  - e) 81-100
  - f) 101-120
  - g) 121-140
  - h) More than 140

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<sup>1</sup> Introducing new shareholders

6. Considering the last 5-year period, the turnover of 2014 was:
- a) An increase
  - b) A reduction
  - c) At about the same level
7. How many are employed by the company?
- a) 1-20
  - b) 21-40
  - c) 41-50
  - d) 51-70
  - e) 71-90
  - f) 91-100
  - g) 101-120
  - h) More than 120
8. The company primarily delivers:
- a) Physically produced goods
  - b) Services
  - c) A combination of Physically produced goods and services
9. Which is/are the company's most important product/service areas? Choose one or several.
- a) Maritime
  - b) Oil and gas / Offshore
  - c) Furniture
  - d) Fish farming
  - e) Other: \_\_\_\_\_
10. Give an estimate of the share of total purchasing that is done from foreign suppliers the last year:
- a) 0-10%
  - b) 11-20%
  - c) 21-30%
  - d) 31-40%
  - e) 41-50%
  - f) More than 50%

11. These international purchases include:

- a) Primarily physical products
- b) Primarily services
- c) About half is physical products and the other half is services

12. Gove an estimate of the share of sales to foreign customers the last year:

- a) 11-20%
- b) 21-30%
- c) 31-40%
- d) 41-50%
- e) More than 50%

The following question is about skills development in the company. Skills development refer to improving the knowledge, skills and practices of the employees. This is achieved through learning-by-doing/learning-through-daily-practice, courses, mentoring etc. With “learning by doing/learning in the daily practice” we mean learning by getting instructions, follow-through assignments, observe how others work, mentoring etc.

13) What is the current situation regarding efforts for skills development?

	Does not occur	Occurs rarely	Occurs rather often	Occurs very often
Learning by doing/learning through daily practice				
Courses				
Exchanging experiences after finished projects				
Visits and discussion with the suppliers				
Visits and discussions with the customer				
If the unit is part of a larger				

corporation – visiting other units				
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The following two questions are about skills development in relation to *sustainable* products, services, processes and methods. Pursuing sustainability includes all types of effort that aim at enhancing the competitiveness of the company while also considering environmental and social aspects related to the company’s activities and products/services. Environmental sustainability refers to reducing the effect on the local and global environment due to, for example, production and transport. Social sustainability/consideration refers to contributing to sound working- and living conditions for those who are directly or indirectly affected by the company’s activities, locally as well as globally.

14) To what degree has the efforts for skills development considered sustainability?

- a) Not at all
- b) To a very small degree
- c) On several occasions this has been the main topic
- d) Sustainability is often the theme for learning efforts in the company

15) On the following question, we want you to look ahead! To what degree should the efforts for skills development consider sustainability in the near future?

- a) Not at all
- b) To some degree
- c) Regularly
- d) It should be the main theme for learning efforts in the company

16) On this question, we are interested in getting your opinion of what characterizes the last 5-year period. Which of the following descriptions best fit your company?

- a) The company has made major changes to the business model and its production methods. We have managed to create more cost-efficient operations, and the customers are now getting more value for their money through improved products.
- b) The company has conducted a line of changes in the way its operates its business and production. The customers are getting a slightly improved product.
- c) The company has implemented a few changes in the way it operates its business and production – but all in all the business is practically the same.
- d) The company has not implemented any changes, and there is a great need to do so. We think that well-proven methods and ways of operating are ready for development in order to enable a better product for the customers.

e) The company has not changed and there is no need to do so. We use well-proven methods and ways of operating that works very well for us. The customers are therefore getting the same value for their money as before.

On the following three questions we are interested in getting your opinion of what characterizes the company's' customer relationships (first the local, then the Norwegian, and finally the international). 'Technical adaptation' refers to alterations to products or production processes. 'Social adaptation' refers to changes in the way that interaction occurs or organisational adjustments.

17) Concerning our customer relationships in the local region (Møre and Romsdal), we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				

Short-term and/or long-term relationships, where technical adaptations are made				
Close collaboration relationships, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner				
Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations				



18) Concerning our Norwegian customer relationships outside the local region (outside Møre and Romsdal) we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				
Short-term and/or long-term relationships, where technical adaptations are made				
Close collaboration				

relationships, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner				
Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations				

19) Concerning our international customer relationships, we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				
Short-term and/or long-term relationships, where technical adaptations are made				
Close collaboration relationships,				

<p>also from a long-term perspective, with social and technical adaptations between us and the collaboration partner</p>				
<p>Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations</p>				

On the following three questions, we are interested in your opinion of what characterizes the company's supplier relationships (first the local, then the Norwegian, and finally the international):

20) Concerning our supplier relationships in the local region (Møre and Romsdal) we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				
Short-term and/or long-term relationships, where technical				

adaptations are made				
Close collaboration relationships, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner				
Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations				

21) Concerning our Norwegian supplier relationships outside the local region (outside Møre and Romsdal) we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				
Short-term and/or long-term relationships, where technical adaptations are made				
Close collaboration				

relationships, also from a long-term perspective, with social and technical adaptations between us and the collaboration partner				
Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations				



22) Concerning our international supplier relationships, we have...:

	Does not occur	Occurs to a very small degree	Occurs to a rather large degree	Occurs to a very large degree
Relationships completely based on trust				
Trust-based relationships also based on formal contracts				
Relationships completely based on formal contracts				
Short-term exchange of goods and information without any adaptation				
Short-term relationships with some minor social adaptations				
Short-term and/or long-term relationships, where technical adaptations are made				
Close collaboration relationships,				

<p>also from a long-term perspective, with social and technical adaptations between us and the collaboration partner</p>				
<p>Close collaboration relationships, also from a long-term perspective, where we involve several collaboration partners in social and technical adaptations</p>				

The following question is about the company's development and innovation. This includes all efforts that aim to develop and/or make use of new products, services, processes and methods to increase the competitiveness and provide the customer with a better product.

23) How important are the following sources for ideas and motivation for you and your company?

	Completely unimportant	Rather unimportant	Rather important	Very important
Customers				
Suppliers of equipment, materials, components, software or services				
Competitors				
The own staff				
Universities and other higher education institutions				
The government including public actors such as the Norwegian Research Council, Innovasjon Norge etc.				
Actors responsible for standards, certificates, rules and regulations/recommendations (both Norwegian and international)				
Non-governmental organisations that for instance engage in community development, protect the environment, ease the suffering of the poor				
Professional-, industrial associations, federations				
The unit is part of a larger corporation – investments by the corporation				

The following question is about sustainable products, services, processes and methods. Pursuing sustainability includes all types of effort that aim at enhancing the competitiveness of the company while also considering environmental and social aspects related to the company's activities and products/services. Environmental sustainability refers to reducing the effect on the local and global environment due to, for example, production and transport. Social sustainability/consideration refers to contributing to sound working- and living conditions for those who are directly or indirectly affected by the company's activities, locally as well as globally.

24) To what degree does the company engage in environmental sustainability today (by for example replacing environmentally hazardous materials, recycle/re-use materials, reduce emission, reduce long-distance transportation, improved production efficiency, develop new products etc.) within the following areas:

	To some degree	To a small degree	To a fairly large degree	To a very large degree
Through certification systems (for example ISO9001 / 14001)				
Life-cycle analyses (LCA)				
Purchasing – place environmental demands on suppliers				
Sales –committing to environmentally aware customers				
Transportation / distribution, reduction of transport, use of environmentally friendly transportation solutions				
Production – efforts to reduce the use of energy and water,				

waste and emission of dangerous substances				
Recycling of materials for the products				
R & D – development of sustainable technologies, products and services				

25) To what degree does the company engage in social sustainability today (by for example promoting working conditions for the own staff, follow up on sub-suppliers, contribute to the local community etc.) within the following areas:

	To some degree	To a small degree	To a fairly large degree	To a very large degree
Through internal accounting systems				
Purchasing –place social demands on suppliers				
Sales – commitment to socially aware customers				
Recruiting staff from the local community				
Various contributions to the local community (school, sports etc.)				
Donating to charities (Norwegian and/or international)				

26) To what degree is the following conditions hindering/preventing sustainability from becoming part of the company's business model?

	Is not preventing at all	Prevents a little	Prevents quite a lot	Is preventing very much
Customers do not demand sustainable products/services				
Customers demand sustainable products but are no willing to pay more				
Suppliers are not interested in investing/changing				
It is too costly to engage in sustainable development within the company				
It is too costly to engage in sustainable development throughout the value chain				
The company is too small to influence customers and suppliers				
We do not have a strategy for sustainability				
We would rather grow and internationalise our business				
We do not have enough knowledge about sustainability				

We do not have enough knowledge about our customers activities to influence them				
We do not have enough knowledge about our suppliers activities to influence them				
It is difficult to measure the effects of efforts to improve the environment and social responsibility				
Public procurement rules and regulations				
Norwegian/international standards do not focus on sustainability				