- Knowledge, need and demand of eco-labelled upholstery fabrics
  at Ludvig Svensson, Svensson Markspelle

by Ulrika Korneliussen
Abstract

Consumption of goods has made a repercussion in the society and the occurrence of eco-labelled goods and services has increased in the business worlds as a result in obtaining a more sustainable society. Because of a growing awareness in the society of the environmental impact production of product cause high pressure on suppliers in improving environmental performance has increased. Due to this, the demand of products has increased as an attribute to communicate, with its “logo”, suppliers’ environmental concern. The product offered is defined in terms of both the recognitions of the specific eco-label chosen but also distinguish the product from commodity goods. In order to enlighten whether an added value is communicated and to explore the knowledge, need and demand for textiles, both the producers and customer’s perspective have been taken. Representatives at Svensson Markspelle, Ludvig Svensson involved in product development process and the EU eco-labelling scheme and also has four representatives of the particular customer segment at Svensson Markspelle been interviewed. Besides that, to give a valuable framework to the research, some representatives with knowledge in the area of sustainable textile production, eco-labelling scheme and interior design project been taken part of the research. The result shows, from a consumer perspective, that the eco-label communicates a guaranty of an environmental performance. However, from a supplier’s perspective the eco-labelling should be part of an overall marketing and environmental strategy within the company. The eco-label should be provided together with information for environmental performance a supplier makes to provide and help increase the recognition of the eco-label and also as part in increasing awareness and knowledge among customers.

Keywords: Eco-labelling, sustainability, textile production, knowledge, demand, public procurement, upholstery fabric
Executive Summary

Due to greater awareness of the need to conserve the world’s resources - one direction is to promote products with less environmental impact during manufacturing processes. There are different perspectives to understand what is driving this development towards environmental production. On one hand, producers manage their production with less environmental impact either of an integrated environmental management of the company or because of regulatory requirements in steering manufacturing, especially under circumstances in Sweden. The development may also be because of responding to market demand for eco-labelled products. My case studies have two approaches of qualitative research in order to answer the research questions: The first angle, makes a description of how a company has adapted to environmental production conditions, and examine the product development process and the choice of implementing product groups in its range. The second angle is from a customer perspective, exploring choices of specific products. The study begins with the producer Ludvig Svensson AB and their brand Svensson Markspelle of their eco-labelled furniture fabrics and then followed by a comparison of the different kind of customers within the brand. The findings of the thesis revealed that, Ludvig Svensson has adjusted to a sustainable production since before the implementation of an eco-label. It also shows that there is a need for greater information about the company’s environmental work out to customers as eco-labels is limited in its message as a communication tool, regardless whether the eco-label is part of the ongoing environmental work or not. More customer-oriented information could make a difference as an eco-label is a simple message for complex conditions. There is also an opportunity to increase knowledge. However, it is important to emphasize that although the organization Ecolabelling Sweden has a responsibility to raise awareness about eco-labels they certify for. Findings of the customer study showed that the choices that govern the public environment are complex. At many times other requirements such as washability, durability and flame resistance are put higher than the choice of an upholstery fabric. To be environmental friendly in product selection is not just about choosing a product with minor environmental impact, but high quality is such as great environmental choice. The study also showed that there are general aspects that are problematic to make environmentally conscious choices and the obstacles of lack of knowledge in some areas come from several directions with regard to conditions in the public procurement.
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It has been of sincere interest for me to explore circumstances of the textile production chain within a Swedish producing company, the procedure of an eco-labelling scheme and the drivers of fabrics in the society. Research framework has been rather complicated to explore and delimitate, literature has been rather limited for those particular circumstances. However, I hope though, that reading of this project will give inspiration for future research of textiles.
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1 Introduction

Consumption of goods has made a repercussion in the society and the occurrence of eco-labelled goods and services has increased as a result in obtaining a more sustainable environment. A lot of companies promote themselves through eco-labels. Make a Good Environmental Choice and sleep eco-friendly at Scandic hotels - which carry different eco labels on their goods and services. How does this affect decisions of suppliers trading with responsible procurers or consulting businesses in the economy sectors? My purpose with this report is to evaluate the occurrence of eco-labelled fabrics with the interest from both a producers and a costumer perspective. Those which are part of the value chain in public procurement before the upholstery fabrics end up in an interior environment - in the sofa at a hotel lounge, the seats of a train or somewhere in a municipality or any other public environment. This report will also bring up general trends and tendencies also but not the perspective of the end customer.

1.1 Background

Downstream in the supply chain are the consumers who encourage the textile and fashion industry to fulfil intense consumption patterns. Tendencies of increased consumption of textiles and fast changing trends have led to shortened lifecycles of products which effects and have many impacts on the environment. Swedish consumption of clothing & textiles has increased by almost 60 percent during the last ten years and 2007 Sweden imported approximately 9 kg of clothes and textiles per person. The total consumption of textiles only in Sweden is 24 kg per person and year (Engvall, 2008, p.6).

Producing textiles and fashion is one of the most complicated industrial value chains among manufacturing industries. The whole chain from textile fibre to finished fabric draws on extensive high-impact of resources in energy, water and labour. In order to design more sustainable textiles we need to support more sustainable ways in the production chain (Fletcher, 2008, p.41- 42).

The environmental impact of wet processing is still a concern even though companies in the textile industry have been working for awhile with reducing waste and recycling actions. Dying and printing are also used in most textiles so even though some materials can be considered as having lower impact than others it still remains an environmental issue (Burns & Chen, 2006, p. 249).

In the beginning of the 1970´s citizens highlighted and critiqued the heavy pollution and mountains of waste of which came out as results from industries. At this time the focuses were on local levels but soon also an understanding grew of the global and regional impacts
such as ozone and global warming. Legal actions and policy instruments were developed to regulate industrial point sources. Increasingly the general industry was seen both as a polluter and also the ones that should reduce their emissions (Thidell, 2009, p.1).

In 80’s and 90’s, environmental concerns of citizens focused on products and consumption both for environmental and ethical concerns. Consequences of new products and consumption patterns were identified that were impacting ecological and human health in the society. In parallel with this increased focus on product, the view that individuals had responsibility was growing. Individuals and consumers became increasingly interested in becoming environmentally conscious and started to buy less polluting products. The product concept was reshaped and rather than using advanced inventions for cleaning up the after waste of production instead pollution prevention and cleaner production solutions were considered by preventing environmental problems at their sources. This approach may be part of the same paradigm were individuals can make changes through their individual actions (Thidell, 2009, p.1-2).

1.1.1 The Emergence of Sustainability

We live in a culture where we are overwhelmed by alarms about climate change, and chemical pollution. Worries about genetically modified products and other health related and environmental risks engage us. Many people proceed in their daily life as usual not feeling that individual acts makes a difference while others instead make changes in the daily life through their consumer choices as an way to decrease the ecological footprint (Boström & Klintman, 2008, p. 1-2).

Economical crisis and heavy climate debate does not though make us consume less, but will make us consume differently. We will continue buy new products but we will choose them with care and focus on sustainable products recommended by other consumers (Dagens Möjligheter, s.3). The trend of today is also that consumers are more aware of the environmental impacts and take more concerns of how the products are produced. This encourages businesses to move in the right direction in creating more environmental and sustainable products. Public awareness of environmental issues and social responsibility has led textile industry to produce products with less environmental impact. But solutions have to involve consumers, government and industries as the judgement of the environmental aspects of products is very complex (Burns & Chen, 2006 p. 248).

The trend for the future is that consumerism and Fast Fashion will move closer to the trend of Slow Fashion. Fast Fashion is a defining characteristic of today’s textile and clothing industry where high speed production is combined with high volume and high speed consumption. Fletcher (2008) describes it as “economic speed” where time is one of the factors of produc-
tion. But yet textiles are no quicker to make than the speed of consumption - still the fibre has to grow in its own natural time regardless of the products speed to the market (Fletcher, 2008, p.162). The expression Slow Fashion is mostly considered the global clothing industry where consumption is more connected to a sustainability perspective, responsibility and awareness in the fashion of culture. Approaches where all stakeholders including, designers, buyers, retailers and consumers consider and are aware of the environmental impact products cause. From a consumer perspective it is rather about buying fewer high-value products and paying a higher price for one product that lasts much longer (Fletcher, 2008, p. 173-174).

Today’s supply chains in general have defects as they create waste and pollution. As the population increases and our resources decrease, the supply chains need to be re-designed and be environmentally friendly in order to save the resources of our earth and the whole ecosystem that lives on our earth. A company can reach better sustainability in many ways but one is to manufacture and develop products that make benefits to our environment and society. The culture has changed the Industrial Revolution - which was defective in that way, leading us into the culture of a “disposal society”- has instead led us into the Sustainable Revolution (www.mhia.org).

The economy for the next ten years will be affected by the trends of Environment and Consciousness. According to analytics, our economy will be influenced by climate and environmental questions. From an economical perspective it is also more profitable to be aware of the harm we do to the environment as the price-tag will become much higher due to environmental pollution and carbon emission (Dagens Möjigheter, p.3).

According to Fletcher (2008) spending on ecological textiles and fashion has been doubled over the last two years. The reduction of environmental impact should not though only be based on choosing ecological cotton but to concentrate also on lower impact fibre types and more efficient processing techniques (Fletcher, 2008).

1.1.2 Eco-labelled textiles

The foundation of eco-labels is based on a holistic and prevention oriented perspective where the prevention of pollution and cleaner production are considered already at the product development stage. Part of that foundation is also the paradigm were individuals can make changes through their individual actions (Thidell, 2009, p.2). Eco-labels are generally referred to a marker which present to the customer or the purchaser and is helpful to distinguish environmental friendly products from traditional ones (Boström, Klintman, 2008, p. 3).

The Swedish Society for Nature Conservation (SSNC) is an environmental organisation working for creating awareness and knowledge among consumers and different stakeholder
groups of how textiles and other products causes harm to the environment. The recommendation is to choose eco-labelled products so consumers can take action in choosing products with lower environmental harm. They stand behind the eco-label Good Environmental Choice (Bra Miljöval in Swedish) with a quite high recognition in Sweden (www.naturskyddsföreningen.se).

Ecolabelling Sweden is another Swedish organisation on the consignment from the government to offer certifications for the Nordic Eco-label and the EU Eco-label. The goal is to reach a sustainable society through sustainable consumerism. The Nordic Eco-label is the official eco-label for the Nordic countries while the EU Eco-label is an initiative from the EU commission but has so far higher recognitions within EU than in Sweden. Ecolabelling Sweden find it important that companies brand their products with the eco label so consumers can be influenced in choosing products to reach the sustainable goal (www.svanen.nu).

However, Ecological standards and labels seem to be a way for consumer to make a concrete choice when they buy environmentally friendly products and differentiate those products from the conventional ones. A product communicates that the garment or textile has at least environmental impact in the complete supply chain. Applying for a certification for an eco label is a step forward in the process for companies to decrease environmental impact in their products. Even if companies decide not use the certification itself the action of application is a step forward to a more sustainable and environmental approach (www.svanen.nu).

Boström and Klintman (2008) are defining two kinds of environmental strategies called “conscious-choice strategy” and the “consume-less strategy”. This means that only choosing green products also has it limits as the most urgent task to be environmental conscious is rather to consume fewer products. The meaning is that green label has real potential but labelling alone cannot solve environmental problems (Boström & Klintman, 2008, p. 175-176).

1.1.3 Svenssons Markspelle at Ludvig Svensson AB

This assignment and thesis research is written with the co-operation with Ludvig Svensson AB who develops and produces interior textiles for the contract market and climate screens for green houses. Ludvig Svensson has two divisions of brands which can distinguish them as a supplier. Firstly, it is the business segment for climate screens, Svensson Screens, which was set up in 1970’š. The products are developed in own laboratory and they have become a world leader in product development of screens for green houses. In the last decades greenhouse production has reached very high proportions and the climate screens are delivered all over the world, throughout the whole year. Secondly, the business segment for interior textiles, Svensson Markspelle, support fabrics intended for public environment and
contract market. This product group offers three different categories: *Upholstery textiles, curtains* and *Ups & downs*. The demands for timeless design, function, fire safety and quality are considerable high within public environment. The assortments contain of natural fibres such as cotton, linen and recyclable non-flammable materials such as Trevira CS. Svensson Markspelle offers also a large collection of upholstery fabrics consisting of wool and fire proof, washable Trevira CS ([www.ludvigsvensson.com](http://www.ludvigsvensson.com)).

Ludvig Svensson started already in the 70’s with their environmental work but during the latest years, environment has taken another focus and grew more strongly. The development has been taken progress during the years because of company policy but also individual engagement to increase the sustainability within the company. For some years, Svensson Markspelle has the certification EU Eco-label on the interior textiles for upholstery fabrics and curtains because of an increased demand in the market. They also carry the human ecological brand Oeko Tex 100 which is not the focus of this thesis project.

### 1.2 Problem Discussion

The motives for adjustments ahead to environmental friendly production may be of different characters. Companies need to be profitable and create products which the market asks for and it seems that the most successful companies are those with a deep philosophy and strong driving force of engagement to take environmental responsibility. My pre-knowledge in this area is that there are different driving forces for reaching sustainable products depending which market a specific company is acting on. Consumer markets require and put also today higher demands on producers. To be an environmental leader may also be an effective marketing tool.

Product developing companies in the textile industry in a general context knows about the trends for environmental concerns but cannot always see the demand very clearly from the customer’s point of view. At the moment there are mostly the aspects of the design, price and quality which mainly rule and control the patterns of consumption. The demand is still not really big on the general fashion and textile market, at least for clothing, produced in a more sustainable way ([Engvall, 2008](#) p. 6-7).

My pre-knowledge in this area is that one way in taking environmental responsibility from a company’s perspective is the choices to eco-label the products. The conditions for doing this are different; it has to be taken into account, time, engagement and the costs which are followed in the certification process. Whether you or are a business-to-customer or a business-to-business customer you stand in front of several choices everyday to choose a specific product.
Findings from my feasibility study\(^1\) in this area have made me assume that knowledge and demand of eco labelled textiles seem to be lower in the individual consumer market than in the bigger consumer market for textiles, such as in the public environment. On the other hand, suppliers and producers, especially those with production still in Sweden are supervised by laws, regulations and recommendation on a political level.

Examples of international companies which take environmentally action, like M&S, Tesco and Wal-Mart in England are affected because the politicians are starting to take strong actions in the climate questions. Another explanation is the growing interest among the population for environmental questions which affect the general consumption patterns. The ethical market in England, including organic and fair-trade was for the first time ever in 2005 showing a turnover higher than alcohol and tobacco. Some companies draw the conclusion that they cannot produce green products if there is no demand. On the other hand the consumers say they lack knowledge to act environmentally or the availability of products is too low. So it is not a question of individual, separate acts from either parties but an interaction between them (www.miljoaktuell.idg.se).

According to previous research, pre-knowledge from my feasibility study and my questioned company, Ludvig Svensson AB there is an opinion that it might be confusion on the market if customers really know what they demand when it comes to choosing environmentally friendly and eco-labelled textiles and whether eco-labels offer an added value. Stakeholders wish to find a clearer response to that the eco-labels are requested by the customers and if they are aware of its purposes. More importantly, lack of knowledge and information does not make it easy for suppliers and customers to make a choice of a specific eco-label. A problem is that there are several kinds of eco-labelling and standards on the market that cause confusion among customers and companies as to label is more reliable than the others and what the differences are among them. The most known eco-labels in Sweden are the Nordic eco-label, the EU eco-label and GOTS.

For companies it is difficult to choose between which eco-label they should communicate to the market and which one is most appropriate to use for their specific product range. So what are drivers for eco-labelled textiles? And do customers know what they demand when choosing eco-labelled textiles? How do businesses work against lowering environmental impacts in their products against these new trends? And how do they achieve implementing environmentally strategies within the business? It has been taken many years for large enterprises to build up a platform for environmental concerns, it is not done overnight.

\(^1\) Seminar at Proteko, “Hot eller Möjlighet”, about eco labelling, 2010-03-12
The customers in the division of Svensson Markspelle are a complex value chain with different customers and stakeholders; furniture producers, interior stockists and interior designers whom are involved in projects for public procurement.

**Figure 1: Customers in Interior Design Project, Public Procurement**

To give an understanding of the complicated environmental effort a company do in the progress of the certification of EU eco-label, the supply chain and a products flow-scheme will be described at Svensson Markspelle, Ludvig Svensson as a foundation of this research. The study will further on also be based on exploring the driving forces and occurrence of eco-labelled textiles and to identify the level of knowledge of those customers demanding them. It will include a selection of respondents, each of every kind of customers involved in this process to highlight and explore the objective and occurrence of eco-labelled textiles within this segment.

### 1.3 Research Objective

The objective for this research is to explore the level of knowledge, requirements and demand of eco labelled textiles within the customer segment for upholstery textiles in public procurement at Svensson Markspelle. Hence, it will also define the environmental progress and complex supply chain for textiles when certifying for EU eco-label. As the circumstances that surround procurement of textiles in public environment are quite complex, factors in this environment will be considered that seem most crucial. I hope to get the conclusion whether Ludvig Svensson communicate well their environmental work, not only through their eco-
labelled fabrics. What are the existing tools on the market to increase the awareness and knowledge and what can be done more efficient in the value chain of different stakeholders with connection to the upholstery fabrics of Svensson Markspelle?

1.4 Research questions

What drives the demand of eco-labelled textiles among customers?

✓ Why do customers purchase eco-labelled textiles?
✓ Is there enough knowledge about eco-labelled textiles?
✓ What are the trends and future prospects of eco-labelled textiles?

How do a company work forward for less negative environmental impact and eco-labelled textiles?

✓ Why do companies choose eco-labelling for their products?
✓ What can be done to increase knowledge or lack of information of eco-labelled textiles?

1.5 Scope of Study and Limitations

There are several aspects that might be highlighted in research about environmental textiles or the impact production of textiles cause, as throughout the whole supply chain and the complete product life cycle. The research will be connected to the product itself; how a company, Ludvig Svensson AB, work ahead reduced environmental impact connected to the production phases and certified eco-labelled upholstery fabrics. Focusing will be done on environmental requirements and aspects and not the social aspects which is often highlighted when producing textiles in developing countries.

Perspective will be done with focus on the brand Svensson Markspelle within Ludvig Svensson consisting of upholstery fabrics. The upholstery fabrics constitutes one third of the interior fabrics. Approximately 30 percent of those are eco-labelled whereof the biggest market is in Sweden constitutes by 55 percent. 90 percent of the eco-labelled upholstery fabrics are sold in Sweden. The theories will mainly consider the perspective and the prevalence of eco-labelling within the Northern countries², in particular for Sweden, where the customers of are

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² Sweden, Norway, Denmark, Finland, Åland
chosen. The thesis project will not highlight aspects on a global consumer level even though general trends will be brought up, as there are guidelines which are set up by the EU commission for sustainable development e.g. in Public Procurement. Most literature that was found, considered individual consumer market. A distinguish though, which was found in research literature, is made in the study that is necessary to remark for the reader that it is a difference between business-to-consumer and business-to-business circumstances. There are many eco-labelled initiatives on the market but it is not possible, and either not this research purpose to bring up all of them. Therefore the most known eco-labels for textiles in particular Sweden will be considered in this thesis. Also some eco-labels which are required for purchasing yarn from Ludvig Svensson subcontractors at the division Svensson Markspelle for upholstery fabrics will be described. As Svensson Markspelle carries certification of EU eco-label, which is by 90 per cent similar to the Nordic eco label, crucial aspects and future prospects will be highlighted of the EU eco-label compared to the Nordic eco-label.

1.6 Disposition and Structure of thesis

Firstly, (Chapter 1) the thesis starts with an introduction, where the background is described in the research area and ends up in the definition of the research questions.

Secondly, (Chapter 2) the methodology chapter presents a description of what research methods have been used during the project. It describes in particular data collection methods and choice of respondents for the research.

Subsequently, (Chapter 3) the theoretical framework for analysis is set up describing the textile production chain, environmental impact of materials, legalised control authorizations which control companies who have production in Sweden, the incentives of eco labelling and finally market perspectives within the research area.

The case studies (Chapter 4) are divided into three parts. Firstly, (Chapter 4:1) an overall background of Svensson Markspelle is presented that describes how Svensson Markspelle works today with their upholstery fabrics in the environment of Public Procurement. Secondly, (Chapter 4:2) in order to visualise the whole product chain, a flow scheme of the EU eco label and the product development process will be described together with interaction between the company, market, sales and the customer. Thirdly, (Chapter 4:3) the selection of customers will be presented of the different views in the area of eco-labelled upholstery textiles. It will also describe this area in a general concept e.g. from the responded companies point of view, what drives their decisions for eco labelled upholstery textiles in different environments.
Followed by Analysis and Reflections (Chapter 5) of the findings based on results from the different customer’s point of view; architects, furniture producers, stockists and wholesalers perspectives within the problem area with focus on research questions.

In the final chapter, conclusions (Chapter 6) will be drawn from the findings that has been identified and that hopefully leads to whether sufficient knowledge exists in the particular customer segment, what aspects in general needs to be improved and in what direction they might lead.

However, the conclusions might be useful for future research in other markets and stakeholders interest. As a last comment I will highlight my criticism of sources (Chapter 7) and give proposal of future research (Chapter 8).
2 Methodology

The methodology chapter discusses the methods used during the research. Specifically it concerns the methods related to interviews and collection of material as well as the analytics methods used in the valuation of the collected material. It considers also my contribution to the larger research project. Briefly, research within the thesis project has included studies of related literature in my topic to answer questions in the Problem area. Scientific journals and other research have also been studied. The research will also be performed together with field studies, interviews and visits at Ludvig Svensson and the selected respondents of customers.

2.1 Research Design

Studies can be conducted to a test hypothesis or it can be either exploratory or descriptive in nature. The case study itself is a method of solving problems or understanding of phenomena and generates knowledge in the particular area. Whether the study is descriptive, explorative or hypothesis testing depends on the nature of the study and on what level of knowledge the research proceeds at. The study might begin with being explorative where new areas are explored to become in the second stage be more descriptive where certain phenomena or characteristics are described. As a final step the hypothesis will be examined and whether the research questions have been obtained (Sekaran, 2003, p. 119).

2.1.1 Explorative Study

When not much is known in the specific research area an explorative study is undertaken. It can also be that not much information is available and that similar research has not been done in the past. Explorative studies is done when few studies are available or conducted in the same area. In order to understand the phenomena, interviews with many people might be done before the research could proceed. Qualitative studies are exploratory in its nature as data are collected through observations or interviews. Explorative studies can also be performed when some facts are known but more information is needed to be collected in order to develop a feasible theoretical framework. More over explorative studies is considerable important for obtaining an over viewing hold of the phenomena and improve the level of knowledge through subsequent testing of the hypothesis and theory building (Sekaran, 2003 p. 119 - 120).

This research project has had an explorative approach as my knowledge of eco labelled textiles and in particular within the area of public procurement was very limited at the beginning. My pre-knowledge were conducted with the help of a feasibility study before this project.
started. I would say that the study has had both the nature of being explorative and descriptive but at different moments during the research.

2.1.2 Descriptive Study

A descriptive study is undertaken in order to be able to understand characteristics of circumstances in a certain situation or undertaken in organisations to learn about and describe certain common practices. Descriptive studies might help understand characteristics within a group in a certain situation or perform and offer ideas for further research. It can also identify more systematically about aspects in this situation and help make certain decisions (Sekaran, 2003, p. 121-122).

2.1.3 Hypothesis Testing

Hypothesis testing is undertaken to explain the distinctness in certain circumstances or to foreseen organisational outcomes. Studies in hypothesis testing usually explain the nature of certain relationships or establish the differences among groups or independence of factors in a given situation. Hypothesis testing can both be done with qualitative and quantities data and offers an understanding of relationships of different variables. It might also establish cause-and-effect relationships (Sekaran, 2003, p.124-125).

The development of research questions started with my reflections that it seems markets lack knowledge about eco labelling. Together with my assigned company, questions were created to find out what kind of knowledge is lacking in the value chain in public procurement. From this point of view it was also discussed what kind of information is of value flowing from the supplier but also other organisations.

2.2 Data Collection Methods

There are various ways to collect sources of data and how it can be gathered for the purpose of testing hypothesis, analysis and answering research questions. Source of the information and the manner in which data are collected could make a big difference. Methods which are used can be collected in various of ways and in different settings, in a lab or in a field. It includes interviews, face-to-face by phone or even computer assisted. Questionnaires can be used through electronic media sent by e-mail. Observations of individuals or events can be performed with our without videotaping or audio recording. The three methods of data collection are interviewing, administering questionnaires, observing people and phenomena and will be described further below under the heading of “Qualitative Research” (Sekaran, 2003, p. 219-223). Every form of the methods has its own unique advantages but also limitations and may often complement each other. Very often researchers triangulate the methods
which means that in order to test one hypothesis more than one forms of data collections may be used (Nachmias, p.204). Sources of data can be collected and obtained from primary or secondary sources (Sekaran, 2003, p. 219 - 223).

### 2.2.1 Primary Data

Primary data concerns all information which is obtained by the researcher based on the variables for the specific purpose of the study. Examples of primary data are individuals or focus groups where different opinions might be sought. When questionnaires over internet are administrated this is also considered as primary data (Sekaran, 2003, p. 219). Primary data in this project has mainly been collected from respondents from the producer Ludvig Svensson and a selection of customer respondents.

### 2.2.2 Secondary Data

Secondary data refer to information from sources already exists e.g. literature or information obtained from records or an archive from a company, websites, internet, government publications etc. Also environment, particular settings or events can be sources of data (Sekaran, 2003, p. 219). A wide range of secondary data has been explored to receive knowledge about eco-labels and the circumstances in public procurement process to be able to understand the complete background.

### 2.3 Qualitative Research

Qualitative data can be relative unstructured as it is about handling beliefs, values, emotions and feelings. Data’s often involves other people in the research process which information needs to be constructed as it comes from interviewing people, discussing the topic and watching and observing. The construction of qualitative data is more a social activity rather than technical or neutral. These data’s has its pitfalls and advantages and are important to handle in a proper manner as these can be rather difficult and complex to construct in an meaningful way (Bond, 2006, p. 32).

There are many ways and methods to collect qualitative data but they should be collected in appropriate ways depending of the particular kind of research questions which needs to be answered. Either way can be right or wrong but more or less more appropriate or not. A distinguish can be done between that qualitative data needs to be constructed while quantitative data is constructed for you. Usually mixtures of those different data’s are used (Bond, 2006, p. 32).

There are three broad methods that can be used when construct qualitative data which is Questioning & Interviewing, Participating & Observations and Documentary research and are
explained below. The important thing is not to choose between one or another but use any or all of them that gives the most appropriate tool for collection data for the research. The most important thing is to restrict the scope and scale to what can be feasible conducted (Bond, 2006, p. 33).

2.3.1 Questioning and Interviewing

This is the most common method to collect information from people. It does not matter whether it is about use a formal questionnaire to many respondents or questioning one single person. Often are quantitative data generated by questionnaires but can also be used in more qualitative data, qualitative data need often be handled in a more quantitative way. The purpose of a questionnaire is to within a same population seek a special pattern of thoughts or behaviour. Some types of qualitative data do not work to handle as quantified data when they concern views or beliefs of small groups or individuals. The difference is that within a questionnaire the purpose is to find out how many people share the same attitude of something while interviews are more appropriate to try concluding the means of values, experiences and feelings. To uncover meanings and intentions of specific actors in a specific situation it is more suitable to use interviews as the concern more the aspects of views and beliefs of either small groups or individuals. Either kind of interview which is chosen can vary in shape depending on what you need to find out in your research project (Bond, 2006, p. 34-35).

- **Structured Open-Ended interview**

Some interviews can also be different depending on what you need to discover, they can be more like extended questionnaires where a specific pattern of questions are constructed in advance with a special order. Comparing to a questionnaire the replies are not set around specific sets of response which are the reason they are called “open-ended” (Bond, 2006, p. 35).

- **Semi Structured Interview**

Another type of way to cover the data collection is to use an interview schedule where the researcher form the interview more with the background of having and broad idea of the specific topic which needs to be covered. This is way in using the unstructured informal interview where the respondents are more left to guide a flow of conversations (Bond, 2006, p. 35).

Interviews does not necessarily need to be conducted only with one person but also within focus groups or just several participants involved where answers from different person can be stimulated by each other. This can be useful to cover different kinds of information from different types of respondent Interviews which are complete unstructed have the characteristics of that the researcher asks one or two questions at the beginning and then let the person
which are interviewed structure the content and direction. This interview technique is good to use when you wish to uncover experiences which are very significant for the respondent (Bond, 2006, p. 35).

This thesis project has been of a semi structured kind of interview primarily based on interviews and conversations with professionals. As my knowledge in the area of eco-labelled textiles at the start were limited and in particular in the area for the public procurement I were depended on that professionals could very open talk around my topic and that questions worked more as a guideline.

2.3.2 Participating and Observing

Qualitative data does not only have to involve talking to people; it can also be to observe them. This way can be covered either by complete participation or just observation. The differences here is that the data collection concerns not the view of others but own records and observation. The data is created from what they actually do rather than what they did (Bond, 206, p. 37).

2.3.3 Selection of Respondents

The important thing is that the researcher has to carefully select those sources which can provide the most relevant information whatever method of data collection is selected. Qualitative data is very often used to explore purposeful activity or emotions in a limited selection of cases. Because of limited time and resources it is preferable to rather than gathering from a whole population instead select a sample of opinions. But sometimes it is not so simple choosing respondents and the researcher has to spend a considerable time identifying the most relevant ones. The question is also how should they be selected; should they include a certain number of a specific group or should they be selected with the account of other specific details. If the focus of the research is within decisions of an institutions or company it may arise difficulties. The problem is to know whom to approach. Answering these questions which arise at the beginning of the research has to be considered together with choosing the right methods (Bond, 206, p. 41-42).

The customer selections were selected by advice from Svensson Markspelle on the following basis criteria: importance of customers, availability and a selection of different kind of companies. One of each actor which are considered as customer and have direct contact with Svensson Markspelle but each and everyone with a different kind of role and profession. Input Interiör and Kinnarps are the most important customers and are also connected to the framework agreement in the public procurement process at Region Västra Götaland. Albin i
Hyssna and White were selected both for convenience and advisement from Salesmen and Design manager at Svensson Markspelle.

**Figure 2: Selection of Customer Respondents**

Other respondents which give a framework for the research are persons I selected on the basis that they have valuable and useful knowledge in the area of eco labelled textiles and products. Those persons came from Considerate Design, Ecolabelling Sweden, The County Administrative Board and the International Institute for Industrial Environmental Economics at Lund University.

### 2.3.4 Constructing Qualitative Data

The research project begins by generating and constructing data. The large task comes when the data needs analysing and be put in a structured way. Everything needs to be put together in a meaningful way so that research questions can be analysed and answered. However, whatever amount and types of data the researcher will have, a general scheme of interpretation can be found. All qualitative data will have to go through three stages of analysis; they need to be described, classified and connected. Description is meaning to transform data which are easier to be analysed, which means for qualitative data a textual sense. Interviews in quality data is normally recorded and typed as a transcript and gives a record of what is said from each respondent. At first stage the data will be in raw form before it needs to be organised and classified. This is the analyzing stage of where the data are needed to be put in order and sorted in a meaningful way. Those three stages though do not necessary mean to be linear.
- **Described Analysis** - this involves portrayal of data in a form which are possible to be analysed, which are for qualitative data usually textual. At this stage the data has a considerable raw form.

- **Classified Analysis** - this means that the data needs to be broken up and moved around. If you as an example have several interviews with different people all on the same theme you might want to identify all the answers as an overall opinion.

- **Connected Analysis** - This involves not just identifying similarities between the different data but also analysing the interconnections between them (Bond, 206, p. 42-43).

The whole procedure in sorting qualitative data is rather complex and is more difficult to sort into workable categories than quantitative data. The categories to be used are not as straightforward and needs to be imposed by the researcher. The real skill is being able to take out the implications of the different data. The researcher should not claim too much of the data and only make conclusions of data which can be confirmed. The data which is generated should be as good as they can in order to support the conclusions (Bond, 206, p. 44). Interviews conducted by personal meetings were recorded. Interviews with respondents per telephone were partly recorded but the overall part of those conversations; careful notes were taken and documented direct after the call.

### 2.3.5 Objectivity

Objectivity means that conclusions of the data analysis should be based on the facts from the actual data and not be influenced by our own emotional or subjective values. As an example it means that a hypothesis which cannot be supported by the results make no sense and will only lead to a misleading conclusion. Objectivity is an important goal to achieve to achieve a reliable scientific investigation and result (Sekaran, 2003, p.25). The purpose of and the construction of data has been done with a high level of objectivity with systematically approach in connecting the theories with the results of the respondents in order to make a reliable analysis which leads to the final conclusion. All texts has also been sent to respondents for comments.
3 Literature Review

The literature review has the purpose to give a picture of the environmental impact textile production cause and objectives of eco-labelling. It will also give a description of how and why a company should work with environmental aspects when they develop products. The purpose is also the highlight the general objectives with the needs of the customer when buying those products. It will bring up the importance of communication through marketing and information stimulating activities between the supplying company, organisations and the customer to see the interaction of the factors knowledge, need and demand.

3.1 Ecological Clothing and Textiles

Today the occurrence of environmental friendly clothing and textiles has increased. The ecological trend has affected the fashion sensitive clothing industry and the availability of different and many choices of ecological alternatives can easily be confusing. Among the clothing and textiles on the market the main part is imported. A large part is imported from countries where the control of chemicals is considerable bad comparing to the restrictions in Sweden. Countries have though started to work ahead more sustainable textile production under pressure from NGOs, textile importers and relief agencies. It is important for purchasers to support this development to improve chemical usage and increase the value of those products (Karlström, 2006, p. 168).

3.2 Textile Fibre Materials

To understand what makes textiles sustainable, materials together with an insight in the textile production phases plays a role in this understanding. In the 90’s there were mainly focuses on recycled and natural material in the fashion world. In the 2000s, innovations were led by the interest of organic, fair-trade and renewable fibres. Materials seem to have been dominating the ideas of social and environmental responsibility. There is an increasing demand in the world wide textile consumption. Cotton and Polyester is the two fibres which dominates and since the demand of polyester have doubled over the last 15 years it has passed cotton as the most popular textile material. Cotton and Polyester account for over 80 percent in the global market (Fletcher, 2008, p. 3-4).
Natural fibres are mostly incorrectly looked as “better” than Synthetic fibres. Synthetic fibres have a big impact on the environment and human beings but comparing to the quantity of water it takes for cultivating cotton and producing polyester it is a big difference. 1 kg Cotton draws 8000 litres of water, while 1 kg Polyester uses almost no water. On the other hand manufacturing Polyester, takes twice the energy than cotton so the challenges in sustainability and fibre production look different depending on what kind of material it is and what impact different aspects give (Fletcher, 2008, p.6-7).

Figure 3: World Fibre Demand in 2005

<table>
<thead>
<tr>
<th>Natural fibres</th>
<th>World fibre demand (million tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw cotton</td>
<td>24.40</td>
</tr>
<tr>
<td>Raw wool</td>
<td>1.23</td>
</tr>
<tr>
<td>Raw silk</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25.76</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufactured fibres</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulosics</td>
<td>2.53</td>
</tr>
<tr>
<td>Synthetics</td>
<td>2.63</td>
</tr>
<tr>
<td>Acrylic</td>
<td>3.92</td>
</tr>
<tr>
<td>Nylon</td>
<td>24.70</td>
</tr>
<tr>
<td>Polyester</td>
<td>31.25</td>
</tr>
<tr>
<td><strong>Total synthetics</strong></td>
<td><strong>33.78</strong></td>
</tr>
<tr>
<td><strong>TOTAL FIBRE DEMAND</strong></td>
<td><strong>59.54</strong></td>
</tr>
</tbody>
</table>

Source: Fletcher (2008) p.6

Considering the greatest impact in the life cycle phase in producing textiles the following concerns are most important to mention:

- Non-renewable resources and the use of energy for synthetics fibres
- Air and water emissions coming from producing synthetic and cellulose fibres

Figure 4: Energy and water consumption in the production of selected fibre types

Source: Fletcher (2008) p.16
Big quantities of water and pesticides when growing cotton

Water usage linked to the production of natural fibres

Other trends in these environmental concerns have been focused on carbon dioxide and reducing oil reserves. Popularity in renewable resources have increased cause of this and the interest has shifted from Nylon and Polyester which are oil-based fibres to natural and cellulose fibres like Cotton and Lyocell which are bio-degradable. You can define fibres as natural or manufactured where Natural fibres are almost always made from plant and animal resources and manufactured fibres are made from raw materials that come from different sources involving synthetic but also animal and plant polymers (Fletcher, 2008, p. 7).

Figure 5: Textile Fibre Types

![Textile Fibre Types](Image)

Source: Fletcher (2008) p. 8

### 3.2.1 Cotton

Around the world cotton is the most important fibre. Only in United States Cotton accounts for 30 percent in the textile fibre consumption. Many consumers believe that cotton is an environmental friendly product because it is a natural cellulose fibre, comes from renewable resources and is biodegradable. The growth of Cotton though demands heavy usage of pesticides and fungicides due to the tendency of being attacked by fungi and insects. As an example cotton uses 3 percent of the worlds farmland but 25 percent of the worlds pesticides. Also is defoliants used before the harvest (Burns & Chen, 2006, p. 249).

### 3.2.2 Wool and Organic Wool

For almost every country primary purpose for sheep farming is to produce meat and therefore Wool is a secondary product, has a quite low market value and is often unfortunately a wasted resource. The merino sheep in Australia is an exception and are the most important...
Wool for production of apparel. Also in the process of cultivating Wool, pesticides are used even though quantities are much smaller than from Cotton production. The sheep’s are either dipped in pesticide baths or treated with injectable insecticides. These pesticides can affect watercourses in downstream processing but also cause harm to human health. Raw Wool contains a lot impurity and requires wet cleaning before yarn manufacture to remove grease and dirt from the wool fibre (Fletcher, 2008, p. 10). The market for organic wool is quite low but is growing. The wool comes from sheep reared on organically grown feed not treated with pesticides or dipped in pyrethroids or OPs. Scab from the sheep can be controlled by certain injectable or pour on preparations that minimize impacts on water, downstream processing and use of chemicals (Fletcher, 2008, p.25).

3.2.3 Linen

In the production of linen agricultural chemicals are commonly used. To control weeds in particular fertilizers and herbicides are used but linen can be grown without attention of those chemicals as long as water is available. The climate for cultivating linen must moist and mild and irrigation is not normally required. The common methods which are associated to environmental impacts such as pollution a soil salinization and water consumption can be avoided. Selections of the best quality fibres have of tradition been done by hand which are given environmental benefits but are costly (Fletcher, 2008, p.11).

3.2.4 Polyester

Water consumption of the polyester fibres are lower than from natural fibres but can be processed in several ways. Emissions from the production of the fibre are considered being medium or high in causing environmental damage. The agents which are used in the manufacture of polyester are petrochemicals and the main chemicals which are used are terephthalic acid (TA) which is reacted with ethylene glycol. The manufacturing process of the fibre is by purifying TA and is based on bromide-controlled oxidation. Petroleum products are used as feed stock but are also used to generate the energy which is required to convert the fibre. The amount of energy used in producing 1 kg of polyester is 109 mega joules (Fletcher, 2008, p.11-12).

3.2.5 Nylon

Nylon (Polyamide) is affected by the same issues as Polyester which is affected by the carbon industry. Producing Nylon results in emissions of nitrous oxide which are a potent greenhouse gas. The process is very energy intensive and 1 kg of fabric consumes 150 mega joules. Alternatives and a better substitute for Nylon fibre is Wool (Fletcher, 2008, p.13).
3.2.6 Acrylic

Acrylic fibres are made of mineral oil or other hydrocarbons. Acrylic polymers are produced by reacting with various combinations of process chemicals. After that it is solvent spun and washed in hot water to remove salts and solvents. Drawn in tanks of water close to the boiling point to give strength to the fibres is then finished by immersion in acid bath which gives anti-statement treatment. Acrylic is 30 percent more energy intensive and 1 kg acrylic fibre consumers 157 MJ. It is recommended to avoid acrylic fibres which are processed with vinyl acetate and the solvent dimethylformamide and a substitute fibre is wool (Fletcher, 2008, p.13).

3.2.7 Fibre Materials for Upholstery Fabrics

Interior textiles for homes and contract environments have different requirements. The whole process of procure textiles for contract environment is very different and is controlled by recommendations document. As textiles need to fulfil special criteria when it comes to flame retardant substances sometimes upholstery fabrics are treated with Pyrovatex or Pyrovatin. But upholstery fabrics to private consumers or costumers are not treated with flame-retardant substances (www.kemi.se). Textiles with flame retardant contribute towards fire spreading and both international and national standards regulate protection against fire. Fire tests show how it is possible to avoid the risk of fire with flame retardant Trevira CS textiles comparing to a conventional textiles (www.trevira.de).

3.2.7.1 Trevira CS

Trevira CS is a polyester fibre with in-built phosphor and is often used for curtains and upholstery in contract environment. Interior textiles for curtains and upholstery are often made of material with in-built flame-retardant. The important requirements for interior textiles were 1980 combined with flame-retardant Trevira fibres and yarns. The fibres are permanently flame retardant and have longer long-term security comparing to fabrics that instead receives and surface treatment (www.trevira.de).
Fibres which are given an additional flame protection (right) can lose the protection as a result of washing or wear. Trevira CS (see left) is inherently flame retardant. From an ecological aspect this is an important argument as that fibre does not need any additional fire protection treatment. Flame retardant Trevira CS fibres and filaments are certified with Oeko Tex 100 standard (www.trevira.de).
3.3 Textile Production Processes

Producing textiles and fashion is one of the most complicated industrial value chains among manufacturing industries. The whole chain from textile fibre to finished fabric draws on extensive high-impact of resources in energy, water and labour. In order to design more sustainable textiles we need to support more sustainable ways in the production chain. The key environmental challenge is to minimize the release of chemicals in the wastewater (Fletcher, 2008, p.41-45).

Figure 7: Map of Key processes, inputs and outputs in the textile production chain

Source: Fletcher (2008), p.47

3.3.1 Best Practices

Improved processing techniques have emerged from a combination of corporate drivers and legislative acts. “Best Practice”, is choice of processing choice that causes least impact and involves preventing environmental impacts. Chemicals and treatments cannot always be avoided as some of them are essential to give a certain function of the textiles. The real environmental challenge for textile producers is to consider the aspects in reducing impacts of water, energy and toxic chemicals and to release impacts in wastewater. These considerations are also conducted by EC, the European Commission through its IPPC regulation (Fletcher, 2008, p.46). Best practices technique consider e.g. to use biodegradable lubricants in spinning and knitting. Fabrics with mineral oils and PCPs should be avoided. sizing agents, should be recovered and be recycled if used in the production (Fletcher, 2008, p. 48-49).
3.3.2 Spinning, Weaving and Knitting

Spinning, weaving and knitting are through its mechanical processes an environmental burden when it comes to solid waste production and energy use. Those three processes involve applications of lubricants, size and oils to protect and strengthen the fibre. The lubricants become waste when they are washed out prior the process. As the lubricants are slowly biodegradable they are hard to treat. The environmental impact of weaving is higher than of knitting because sizing agents are applied to the warp during the weaving, to avoid breaking threads. Before any other process the sizing agents has to be removed with a large amount of water and with the help of added process chemicals. Between the weaving and fabric finishing processes some sizing agents can be reclaimed and reused but as those processes normally are separated activities and normally done by different companies and even in different countries the result is highly polluting. If the sizing agents could be reused it would cut down the pollution load by 94 per cent but more often cheap starches are used which are impossible to recover and needs to be neutralized in the treatment plant (Fletcher, 2008, p.48-49).

3.3.3 Fabric Finishing

Fabric finishing includes preparation of the fabrics to be dyed, printed or to give certain applications of fabric finishes to achieve e.g. grease resistance or water repellence. Finishing is a main cause of environmental impacts in the production phases because of significant use of water, energy and chemicals. Chemicals which often are used are copper, chromium and cobalt which contain toxics. Dioxins are known carcinogens and a hormone disrupter and formaldehyde is also a suspected carcinogen. Climatex lifecycle is an example of a furnishing fabric which is designed to biodegrade completely and safe at the end of the lifecycle. The fabric is processed coloured only with carefully selected chemicals which does not provide to a biological and ecological hazard (Fletcher, 2008, p. 49).

3.3.4 Dying

Textiles can either be dyed as fibres, yarn or fabric. Different fibres acts differently to affinity and different colours or shades use different dye classes. The dye bath contains both dyes and processing chemicals. Consumption of dyes varies between 2 and 80g per kilogram of textile. The dying process is resource intensive in chemicals, water and energy and being a source of a major pollutant of chromium, copper and zinc. No colour can be considered “best” or “worst” in environmental impacts but some shades such as green, turquoise and blue are difficult to achieve without use of heavy metals e.g. copper. But the darker the shades the greater the amount of dye and improvements can be achieved by avoiding dark shades to reduce the environmental impact. Steps have been taken to reduce environmental
impact of dyeing processes, partly because of legal restrictions, and use of toxic chemicals (Fletcher, 2008, p. 51).

3.4 Legislation for Textile Producers

Legislation has had impact and given influence on sustainable innovation in the fashion and textile sector. It also influences market forces because non-compliance is expensive and increases business risks. Important mechanisms in controlling production in a market-based economy are legislations acts, non-governmental organisation (NGOs) and pressure from consumers. Since the European commission (EC) have developed a framework of Integrated Pollution Prevention and Control (IPPC) regime requires companies make improvements upstream in the supply chain, in order to avoid and reduce environmental impact in textile processing. These improvements include a reference document and i set out in what is called BAT, “Best Available Techniques” (Fletcher, 2008, p. 44-45).

3.4.1 Swedish Chemical Agency

All companies that sell or purchases textiles have the responsibility of their own products that they do not do any harm to the environment or human health. Necessary information about the products has to be performed and harmful products must be replaced to less harmful to avoid the content of substances which are hazardous. Both consumers and purchasers have a part in making important active choices to put pressure on the sellers to fulfil this demand. Swedish Chemical Agency (Keml) is a supervisory authority under the Ministry of the Environment. They work within EU and Sweden to promote legislation that contributes to a “non-toxic environment”. Acts are passed by the Swedish Parliament and Ordinances issued by the government. Legislation on chemicals is harmonised on a European level and compliance with those rules are monitored by the Swedish Chemicals Agency (www.kemi.se).

3.4.1.1 Chemicals

The reason for using chemicals is often to obtain different functions with benefits. This can be flame-retardant treatment of upholstery textiles, anti bacterial treatments for sportswear or impregnation and anti-mould preparations for different purposes. The “good side” of the Chemicals is that they can obtain positive functions such as flame-retardant treatments of upholstery textiles or antibacterial treatments. It may also be impregnation suitable for outdoor clothing or anti-mould preparation during transports. Clothing and material may though not contain chemical substances which can be harmful for human beings and the environment and therefore there are put requirements on producers to take responsibility in these aspects (www.kemi.se).
3.4.1.2 The REACH regulation

The use of chemicals for textile production falls under the program for Registration, Evaluation and Authorization of Chemicals (REACH). The program is stated by EC which purpose is to improve the legislation of current chemical substances to regulate in all aspects when it comes to manufacture, marketing, import and end use. REACH is a challenge as it could promote transparency of chemicals use and obtaining better environmental choices. Legislation has according to Fletcher (2008) been a key driving force in the textile sector where a shift from government to companies interest in protecting their brands (Fletcher, 2008, p. 45).

3.4.2 The County Administrative Board

The county administrative board is a multifaceted and government authority which has a special position in the Swedish democratic system. Sweden is divided into 21 counties which are in turn divided into municipal areas. The work of the County Administrative board is led by the County Governor. They are an important link between municipal authorities and people and on the other hand also between central authorities, parliament and the government. One task which is included in their work is environmental protection and to ensure that environmental goals decided by the government are implemented in the county. From a sustainable perspective the environmental policy follow the goal to solve major environmental problems handing over to the next generation. The County Administrative Board has the mission in ensuring that regional environmental targets and objectives decided by the Parliament are implemented in each county (www.lanstyrelsen.se).

3.4.3 The Swedish Environmental Management Council

The Swedish Environmental Management Council (SEMCo) contributes sustainable development by supporting public organizations and companies in their environmental work. SEMCo offer three main tools which is firstly guidance in the field of Green Public Procurement (GPP), secondly, environmental management and thirdly, the use of environmental product information (www.msr.se).

3.4.3.1 Green Procurement

Environmental problems can be contributed to our consumption patterns where every individual and organization have environmental affect through consumption of goods and services and since long it has been an increased international interest in GPP. EU together with other organizations such as UN and OECD has been considered GPP to be of highest priority. Reducing environmental impact cannot only be solved by legislation and control by official bodies, it must also come from market driven initiatives. SEMCo develops criteria’s and forms of information for Green Public Procurement to help purchasers to include environ-
mental requirements in the procurement process. The criteria documents cover different and most common product categories. Public Procurement in Sweden is big buying force and amounts approx. 50 billion Euros per year. Included private sector the value of procurement would be three times higher. It believes that if more and higher environmental requirements were imposed even more environmental impact would be prevented (www.msr.se).

3.4.3.2 Environmental Product Declaration (EPD®)

Environmental Product Declaration is an information system which was launched in 1998 to describe specific facts of environmental quality of services and products. It gives a description of the products and services in a life cycle perspective and one of the most important areas for usage are in procurement for contract environment. The EPD is managed by the business world and supported by the government and the industry. The principals by the system are followed by international standards for Life Cycle Analysis (www.msr.se). It is used as a tool and is given from the supplier to the customer who wants detailed information about the environmental impact of a product from cradle-to-cradle. The EPD should give sufficient information to make an appropriate comparison between different products. When it comes to public procurement it is extra important with a good documental foundation to motivate the choice of a certain product.

An EPD usually contains:

- A specification of substances which can have impacts on the environment
- Specifications of the production steps which have impacts on the environment
- A review of how the product is taken care of when wasted

(Karlström, 2006, p.55-56).

3.4.3.3 Criteria for Textiles in Public Procurement

The EU commission has put requirements in procurement of different product groups for contract environment. The purpose is to harmonise the procurement processes so these can be used within EU as much as possible. The goal is that each member within EU should consider and observe these requirements within the frames for the own countries action plan for environmental consideration in procurement of public products. This is due to differences in national laws and regulations, different standards and different views on environmental problems. (www.msr.se).

The criteria for textiles from SEMCo falls under a mutual group for textiles and leather as B. “Mandatory product Requirements” and are developed in two levels, where the first level are both included basic requirements (Level 1) and Mandatory Product Requirements (Level 1). The Mandatory product requirements of the basic criteria on Level 1 are based on Öeko Tex
and “Textilimportörernas kemikalieguide.” The second (B.1) on Level 1 which stands for the Mandatory Product Requirements has requirements for chemicals in the products and restricts contents on a percentage level for organic compounds, heavy metals, other metals and formaldehyde. Level 2, “Higher requirements” consist of mandatory requirements which go further than Level 1. These are based on the criteria’s for the Nordic Eco label, The Nordic Eco label and Good Environmental Choice. They consider therefore environmental aspects of the finished product; fibre production included manufacturing process of the product. The second (B.2) on level 2 are mandatory product requirements as well and must meet criteria of the eco labels EU eco label, Nordic eco label, Good Environmental Choice or according to IFOAM basic standards. The requirements must be verified by a third party organisation, self declaration or a company certification. A verification of a third party can be an eco labelling in conformance to ISO 14024 or environmental management system in conformance to ISO 14001 or EPD associated with ISO 14025 (www.msr.se).

During the 90s brominated flame retardants were forbidden within EU on textiles with close skin contact. On imported textiles this can still exist. Textiles for home interior must fulfil criteria proposed by The Swedish Consumer Agency but when it comes to mandatory requirements for flame retardant in public environment there are none. The need of flame retardant on textiles should be careful be selected before purchase decision. Textiles in linen and wool for instance resist better against fire than cotton, which could be used preferable on curtains. There are also a few synthetic fibres e.g. Trevira CS and Fidion FR which are treated before weaving and have considerable lower flame retardants comparing to when the fabric has been after treated (Karlström, 2009, p.171).

3.4.4 Swedish Environmental Protection Agency

The Swedish Environmental Protection Agency responsibility is to present proposals for environmental policy and legislation and also to ensure that environmental policy decisions are implemented under mission of the Swedish Government. They were formed in 1967, as the national agency for environmental protection including nature conservation, outdoor recreation and hunting issues. According to Swedish Environmental Protection Agency, Swedish Environmental Council has difficulties in reaching out with information to the procurement for public environment when it comes to and uniformed environment requirement (www.naturvardsverket.se).

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3.4.5 The Swedish Competition Authority

Swedish Environment Protection Agency is the authority for competition and public procurement. The market is based on competitions and strengthens the ability of the Swedish Industry to maintain its position on international markets. Increased competition does not only benefit consumers by keeping the prices down but also providing a more varied range of goods and services (www.kkv.se).

3.4.5.1 Public Procurement Acts

The Public Procurement Acts regulates Public Procurement by contracting county councils, government agencies and publicly owned companies when they purchase, lease, rent services and products. Public Procurement Acts are supported by so called “threshold values” which contains of fundamental principles of non-discrimination, equal treatment, transparency, proportionality and mutual recognition.
3.5 Public Procurement

Public Procurement has become a focus area both in politics and research aspects. A reason for this is that public consumption is considerable on a European, International and National level. The figures in consumption of goods and services within Europe are approximately 15 per cent of GDP. On an international level the consumption is between 8 and 25 percent of GDP. Another important matter is the fact that money spent in public procurement comes from taxpayers’ money. Therefore, these investments are of relevance to the public. Besides economy aspects it has also a regulatory interest (Wedin, 2009, p.13 -14).

3.5.1 Three-Sector Economy

Thorpe (2007) explains and makes a definition of the economy which is divided into economies for Private, Public and Not for Profit sector. The main objective for the Private Sector is to be as profitable as possible. Profits come from the marketplace where goods, services and labour are traded with. This sector is made up of individuals and companies which are “for-profit enterprises”. The Public Sector is also recognised as what is called the “free market”. The task involves expanding markets by improving customer appeal of products. The Public Sector is financed by a certain percentage of citizens’ money, through taxation. Public sector is controlled by government instruments, such as cities, counties, states or countries. Through courts of law it makes possible for business agreements and legal contracts. Public services provide with e.g. security, transportation, education and legal systems. The third sector, Not for Profit sector, are made by organisations where objectives is rather social than financial and is mainly charity interest such as defending human rights. Funding of this sector comes from sources in the private and public sector (Thorpe, 2007, p.60-61).

3.5.2 Green Public Procurement

Green Public Procurement (GPP) has been identified as a potential in development toward a more sustainable development. Green purchasing involves replacing conventional products to greener alternatives of products. The question is though how GPP can be used to improve environmental benefits and efficient purchases. EU has called for a national action plan to identify the development of each and every country in Europe. In Sweden, the national action plan is believed to be most efficient in the construction sectors. It is also interesting as it has potential to affect environmental choices from energy sources but also use and transport of materials. Through GPP, governments combine three functions by regulating, participating and by using its purchasing power to improve construction of social rights and justice. Since purchases in public procurement involve public bodies the government is participating. Legislation instruments regulate the procurement powers (Wedin, 2009, p. 14-17)
3.5.3 TEKO

TEKO is a business and employee organisation for companies acting in the textile industry with approximately 200 members. They offer, for its members, support, guidance and consulting and have skilled personnel with knowledge in e.g. labour rights and union agreements. TEKO is an organisational member of Confederation of Swedish Enterprise\(^4\) and on an international level also a full worthy member of EURATEX\(^5\) which represents 123 000 companies in the textile industry (www.teko.se).

3.5.3.1 Environmental Product Declaration

In 1999, TEKO launched a version of an EPD, Environmental Product Declaration because of an increased demand among members to be able to better present environmental impact of products to customers in procurement process. The demand was a result of inquiries from public purchasers and private costumers. The obstacle for producers was that no standardised system existed in documental forms and that it looked different from one customer to another. This resulted in unnecessary and time consumable procedures with a need of a clear documental standardisation for increased efficiency. Many different documental foundations were developed by individuals with low level of knowledge about textile production and environmental impact of products. In parallel with this increased demand from producers and suppliers trading with the public sector, criteria for eco labelling (Type 1) were developed within the Northern countries and EU. The influences in developing the EPD were based on a foundation of criteria used with EU Eco label, Nordic Eco label and Oeko Tex 100. The EPD is moreover developed to cover a life cycle perspective but an actual LCA is not necessary. The EPD includes ten sections of necessary information: Public information about the company, information about the particular product group, environmental work at the company, production, recycling of waste, packaging, transports, and information about end usage and complementing information (www.kemi.se).

3.6 Region of Västra Götaland

Region of Västra Götaland promotes sustainable development by procuring environmental friendly products and through environment collaboration and networks. The Region was established in 1990 to strengthen democracy, improve competitiveness and rationalise resource consumption. The two primary focus areas are health care and regional development. Region of Västra Götaland is one of Europe’s leading regions in environmental expertise and in development of sustainable products and services. The many players in the Region of

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\(^4\) In Swedish: Svenskt Näringsliv, www.svensktnaringsliv.se

\(^5\) The European Apparel and Textile Confederation, www.euratex.org
Västra Götaland involves the industrial sector, education institutes, research universities, voluntary organisations, municipalities and other public actors. One of a few initiatives the Region has supported is by Considerate Design which initiated by the Environmental Committee. The project was developed as a method for creating functional, attractive public environmental with long-life products (www.vgregion.se).

### 3.6.1 The Green List by Considerate Design

The focus in the project of Considerate Design project is to design for a sustainable development where the aspects of ethics, ecology and economics are fused. Considerate Design has created a tool that allows businesses and public sector to cooperate with designers and architects to create sound ideas. It is about doing the right thing from the beginning creating an environment that last long. In the Region of Västra Götaland it was requested a good range of products that met requirements of an eco label. Those were printed in a catalogue - The Green List (Gröna Listan in Swedish) that become a success and spread in the county of Västra Götaland. Considerate Design collaborated with companies that have developed eco-labelled products for many years and the majority included in the list included Swedish companies from the western regions. Partly because of the list, Västra Götaland was awarded as the “Best Green Procurer”. Considerate Design works with spreading knowledge and encourages commitment. The aim is to be able to lead into a more sustainable direction where expertise and commitment are needed. This is done by training people at work and in university colleges. Many uses the list in Public Procurement, architects and interior design companies and also suppliers find it attractive to be involved in the list. Ludvig Svensson with its brand Svensson Markspelle is one of the producers included in the list with eco-labelled curtains and upholstery fabrics (www.designmedomtanke.se).

### 3.7 Environmental Standards and Labelling

As consumers at many times were be confused by the different labels on the market a consistency in labelling practices was needed in order to achieve confidence in different labelling system. Therefore, three different kinds of eco-labelling types were defined in 1999 by the International Standard Organisation (ISO), defined in **Type I, Type II** and **Type III**. These specify different kind of environmental communication. Type 1 means eco-labels which are independently tested on products to fulfil specific criteria. Type II is self declarations of a product and Type III is a third party report on a product (www.msr.se).

An eco label identifies the environmental performance of a specific product group, based on its whole lifecycle. Karlström (2006) defines eco-labels as a positive and a negative kind.

- **Positive** - which means it is recommended and voluntary.
The Positive kind is referring to eco-labelling which is used as an evaluation system to help the purchaser in the choice among products. It is easier to purchase a product which has an eco-label than using and EPD, Environmental Product Document. The Negative kind refers to labels from KEMI, Swedish Chemical Agency. Karlström (2006) marks further that product and services with positive eco-labelling has less harm to the environment than similar conventional goods. It does not mean though, that the goods are free from environmental harm but have advantages comparing to conventional goods. The eco-labels are firstly addressed to consumers. Some of the most leading eco-labels are The Nordic Eco-label, Good Environmental Choice, FSC and TCO which of the two first one are in the product group for textiles and will be presented below (Karlström, 2006, p.38-41).

### 3.7.1 Environmental Management Standards

#### 3.7.1.1 ISO 14000

There are several standards which are involved within the ISO 14000 series but there are two standards which are specially focused on environmental management. ISO 14000 is a tool for companies to make work more efficient on a daily basis and help as a guideline to follow regulations and needs for environmental issues. First standards in this series were ISO 14001:2004 and ISO 14004:2004. ISO 14004 is more related to the work within the organisation and ISO 14001 is related to the products which are manufactured. ISO 14001 is a management tool to help organisations to control environmental impact of its activities, products or services. It also addresses to improve environmental performance continuously and to be used as guideline in order to implement systemic approach to set environmental objectives and targets. The intentions are to give a framework for a holistic and strategic approach in the company’s policy and actions. The system examines for example Life Cycles Assessments in product development and how to use the technique to plan the system and to verify the benefits of a product. It describes and communicates the quality of the product which is connected to environmental labelling such as significant symbols and environmental declarations. In environmental labelling certain requirements are confirmed, evaluation of the competitive advantages of it and the documentation how to handle the system. (www.sis.se)

#### 3.7.1.2 EMAS

EMAS is based on the international environmental management standard ISO 14001 and is the EUs voluntary Environmental Management and Audit Scheme. Its purpose is to communicate a trustworthy message to the market but also to increase the environmental work within an organization or a company. The EMAS system has the purpose of having external
and internal advantages. Internal advantages are environmental commitment of personnel in the organization and cost savings. External advantages are related to communicate a positive attitude from the market when providing external information about the environmental work. It should also result in more efficient communication with inspection authorities (www.msr.se).

3.7.2 Eco-labelling

The foundation of eco-labelling came from Germany when governments’ ministers decided to establish the first voluntary eco label “Blue Angel”. In 1979 the first eco-labelled products were introduced in the market and in the end of 90s several eco-labelled products were available. In Sweden, by influence of Swedish Society of Nature Conservation criteria for washing detergents were developed and the first eco-labelled products were launched in the 90s. Swedish Society of Nature Conservation stands behind the eco-label Good Environmental Choice. As an initiative supported by the government, Ecolabelling Sweden was founded during this time and stands behind the Nordic Eco-label. In a report by Grolink (1999) the general opinion of questioned companies about eco-labelling were that it was considered too complicated, to slow and not communicated sufficient on an international level. Eco-labelling at that time was not considered more important than implementing environmental standards (Grolink AB, 1999, p. 4).

Interest in recent years to communicate with a logo or label has been an attempt to attract attention to consumers and guide purchasers. Leire and Thidell (2004) review research within the Northern countries on consumer perception and use of product related information. In what way is information important to increase knowledge among customers? Is it enough with an eco-label only and from whom should the information come from? (Thidell, 2009, p. 77).

There is an opinion that producers experience that consumers favour environmental products comparing to others. A significant segment of customer seems also taking environmental considerations as a criterion for their purchasers. Many different claims on the market may though be confusing as there are many declarations, symbols and logos (Thidell, 2009, p.15-16).

3.7.2.1 Product Information

Leire and Thidell, in Thidell (2009) say that so called Voluntary, Neutral or Positive schemes are suitable for encourage environmental conscious production and consumption. Information in combination with other incentives is often mentioned as a possibility to influence customers. Neutral information gives the customer freedom to judge products environmental performance controlled by individual priority while positive information can work as guideline
to more easily pointing our more environmentally preferable products. It is seen as product related information in combination with other aspects such as knowledge, attitudes and environmental awareness will lead the customers into making a choice when buying a product. Information is one of the biggest obstacles for making a conscious purchase of a product. When shaping product policies knowledge how product related environmental information is received by customers is important. In the Northern countries consumers are quite aware of that products are connected to environmental problems. The reason to this is that they have been exposed to eco-labels at a quite early stage, before the concept of sustainable development raised (Leire & Thidell, 2004, p.1061-1062).

3.7.2.2 Consumer Awareness

According to Leire and Thidell in Thidell (2009) observations are saying that the connection between products, consumption and the environmental impacts of products needs attention. Many individuals are not perceptive of environmental impacts for products and are not either interested in environmental information which is product related. According to studies, consumers are in general positive to green labelled products even though some other studies gives different information. Some studies also say that customer asks for more environmental information to be able to make greener product purchasers. It seems that consumers in general do not connect environmental problems with products and do not make clear distinctions between green and conventional products (Thidell, 2009, p. 1064-1065).

3.7.2.3 Objectives for eco-labelled textiles

An eco-labelled product gives an assessment and distinction between other products in the same category and that it is environmental friendly product or a product with less environmental impact. An eco-label represents a holistic judgement. Some goals an eco-label can achieve are - improving sales, improving image of product, create consumer awareness about the environmental impact of the specific product, lead manufacturing companies into the right direction when it comes to the environmental achievements, encouraging the work of sustainable management and to stimulate the market-driven activities by encourage the demand and supply those products to customers (www.worldjute.com). Using eco-labelling schemes is one approach to make unclear and confusing messages in environmental marketing clearer. Another reason is to use it as a marketing mechanism and make it easier for producers considering environmental characteristics when designing, producing and marketing their products. Hence, consumption of environmental sound products will in general help contribute more sustainable production and consumption patterns. The purpose of an eco-labelling scheme is to distinguish the environmental products from the traditional ones and to provide producers and suppliers with a reliable communication tool as well as a competitive advantage. It is not only to offer consumers an accurate information tool but also increase
the demand of environmental favourable products. Another purpose is to shift demand from the conventional or traditional products to the ones which are more environmental friendly (Thidell, 2009, p.15-16).

3.7.3 The EU eco label

In 1992, the European EU eco-label was established in order to increase the general interest and encourage companies to develop products and services that have less environmental impact. In July 2008 a broader action plan was adopted by the EU commission, considering Sustainable Consumption, Production and Sustainable Industrial Policy, which the EU eco-label is part of. A wide range of products are today covered under the EU eco label and continuously new products are being added. The different product groups includes e.g. cleaning products, paper products, textile, home and garden products, services and tourist accommodation. The label is valid throughout the European Union but also in EEA, European Economic Area; Norway, Iceland and Lichtenstein (ec.europa.eu).

The certification is normally valid for three years before it needs to be revised. The criteria are based on factors which consider the complete lifecycle of a product - from raw material in the pre-production phase through the production to the final distribution and disposal. New criteria for the EU eco-label has been launched and published in the Official Journal of the European Union on the 30th of January 2010 and came into force the 20th of February 2010. The aim is to make faster criteria development by reducing bureaucracy and revision procedure. The goal is to increase the number of product groups with an emphasis on the groups with most environmental impact and best potential for improvement. Textiles are covered by these product groups (ec.europa.eu).

Today there are approximately 26 product groups covered by the EU eco-label but so far there is a limited amount of products which carry the label. Mostly they are covered by textiles and paint (www.svanen.nu). According to EU there are many national eco-labelling schemes which can be used as information database for GPP on the contribution that they are appropriate in defining the product. The best well known multi criteria labels besides EU Eco-label are the Nordic Eco-label and the German Blue Angel. These labels are voluntary; life cycles based and involve certification of third parties (ec.europa.eu). Criteria consider environmental concerns such as energy consumption, toxic substances, recyclable and waste prevention (www.wikipedia.org).

The product group of textiles, including interior textiles for interior use, may consist of least 90 percent by weight of textile fibres. The criteria aim in particular to reduce water pollution during the whole textile and manufacturing process - including production of fibre, spinning, weaving, knitting, bleaching, dyeing and finishing. At some occasion it is required to provide
with special declarations, documentations and analyses of test reports to proof the criteria. It could be e.g. from subcontractors of the producer (www.svanen.nu).

The criteria are divided into three main categories which concern textile fibres, processes, chemicals and product use. Fibre specific criteria are for acrylic, cotton, cellulosic seed fibres, elastane, flax and other bast fibres, keratin fibres and wool fibres, man-made cellulose fibres, polyamide, polyester and polypropylene. If the fibre contributes to less than 5 per cent of the total weight of a certain fibre type the criteria is not needed to be met. The same is also valid for recycled fibres. At least 85 percent by weight of all fibres in the product must be either of recycled origin or in compliance with corresponding fibre-specific criteria.

3.7.4 The Nordic Eco label

The increasing trend and interest in environmental questions in the 80’s led to the need of an environmental symbol and in 1989 the Nordic Council of Ministers introduced the Nordic Eco-label as an official label within the Nordic countries. The goal is to create a more sustainable society through sustainable consumerism. Today, the label covers 66 different product groups. The requirements for the Nordic eco-label include the whole product chain in environmental, health and quality aspects. Also with consideration in usage of ecological cotton, processing and after treatments. This means that both the health of people working in the production process and the consumers are considered. To ensure that the product is of good quality, colorfastness and non-shrink properties are also tested.

- Cotton and other vegetable fibers are required to be produced according to EU constitution
- The Textile product may not contain parts of any harmful chemicals for the environmental or human health
- The product must be tested to stand washing, abrasion and light
- The usage of dangerous chemicals are limited in the production
- Pollutant of water and air is limited
- Requirements that each production unit is following country law concerning environmental and social aspects

Control of check-up is done with methods and application tests from independent laboratories certificates and control units. Nordic Eco-label is through its high recognition a cost-effective mean for business to show customers environmental concerns and commitments for the environment. Labeling can be used as an aid in improving environmental work and be viewed as a “mark of quality. The criteria for textiles are based on criteria of the EU eco-label in accordance with decisions by EU commission. Supplementary requirements are require-
ment for organic vegetable fiber, skins and leather, energy and water consumption and ethical production conditions. Interior textiles can be labeled if they consist of at least 90 per cent by weight of textile fibers (www.svanen.nu).

The criteria of the fibers apply to acrylic, cotton and natural cellulose seed fibers, bast and flax fibers, elastane, unwashed wool or other keratin fibers, polyamide, polyester and polypropylene. Other fibers can be used if it has no fiber-specific criteria and fulfill special requirements in the processing of the fiber. Exceptions from the criteria are if a particular fiber type is less than 5 percent by weight of the total textile fiber content. Recycled fibers are also an exception and at least 85 percent by weight of all fiber in the product must comply with specific criteria or contain recycled fiber.

3.7.5 GOTS

The Global Organic Textile Standard, GOTS were formed in 2002 but the first version was completed in 2005. The participating organisations behind GOTS are Soil Association in United Kingdom, the international Association Natural Textile Industry from Germany (IVN), Japan Organic Cotton Association and International Working Group on Global Organic Textile Standard (IWGGOTS) included Organic Trade Association in the United States (OTA). All of these organisations had own standards to define organic textiles but worked closely with International Federation of Organic Agricultural Movements (IFOAM) to instead develop a standard that followed IFOAM. GOTS covers the aspects from fibre to the finished production but also includes criteria for social responsibility the environmental aspects (Hustvedt & Dickson, 2008, p. 50-51).

This label is known worldwide as a leading standard for textiles made from organic fibres and the aim is to ensure an organic product from the raw material up to labelling. It also includes an environmentally and socially responsible manufacturing. The standard regulates all chemical inputs and certain environmental and toxicological must be met. For any wet processing unit a waste water treatment plant is mandatory. The standard is divided into two different label grades. Label grade 1 - concern textile products containing of at least 70 percent organic fibres. To be sold and represented as an “organic” product, the fibre content must be of 95 percent certified organic cotton. Content of non organic fibres may be included up to 5 percent of the total product. If the product on the other hand is represented and sold as made with a certain amount of organic cotton the product can be of Label grade 2. In that case no less than 70 percent of the fibre content must be of organic cotton. Up to 30 per cent of the fibre content may be of non-organic fibres and the remaining balance may contain a maximum of 10 percent of synthetic or regenerated fibres. The fibre content of balance in composition is though depending on type of product which can be read more in the criteria for GOTS (www.global-standard.org).
3.7.6 Good Environmental Choice

The eco-label Good Environmental Choice was established in 1987 by Swedish Society for Nature Conservation and started for products such as laundry detergent and paper. SSNC is an environmental organisation governed by its members and acts to spread knowledge create solutions and identify environmental threats. The organisation work to influence politicians and public authorities and to make consumers aware of environmental impacts to make good choices (ecolabelling.org).

Good Environmental Choice is divided in the following levels:

1. Good Fibre

The first level, “Good fibre” is related to the cultivating of the fibre. To get this level approved the cotton or the fibre must be ecological. Synthetic materials e.g. Polyamide, Polyester, Acryl are approved if 70 percent of the material is recycled.

2. Good Production and Processing

The second level is related to the production processes in the production of spinning, weaving, bleaching and dying. General requirements to fulfil criteria are connected to usage of chemicals, waste water purification and energy consumption.

The label is divided in two levels because it is usually easier to achieve environmental improvements in the production rather than in cultivating the fibre. Switching over to ecological cultivating and environmentally friendly growing takes longer time (www.naturskyddsforeningen.se).

3.7.7 Oeko Tex 100

Oeko Tex 100 is not considered to be an eco-label but rather a standard for human ecology safety with the focus on the end product impact on human being. Oeko Tex 100 was introduced at the beginning of the 90s as a response to the needs of textiles which posed no risk to health. The tests of harmful substances are based on the intended use of the textile. The principle is the more intensively textiles comes into contact with the skin the higher the human ecological requirements must be met. Textile products are therefore allocated to four different product classes.

Product Class 1 - Textiles and textile toys for children up to age of three. The clothing concerns underwear, romper suits and bed linen.

Product Class 2 - Textiles which have large parts of their surface in direct contact with skin e.g. underwear, bed, linen, shirts and blouses.

Product Class 3 – Textiles which involves e.g. furnishing materials for decorative purposes, table linen, curtains and floor covering
Product Class 4 – Textiles which do not have direct contact with the skin or contains of small parts e.g. jacket and coats.

3.8 Market Communication

The customers are definitely companies’ biggest stakeholders and they are also a force for the companies CSR work. Regardless whether the customer are customer to a business-to-business company or consumer she expects a value for the product she pays for which equals the value of the price. The customers also put higher demand than before and she expects that the product or the company gives values which the customer can identify herself with. Cause of higher competition it has increased the pressures for the companies to create those values. It is no longer enough to deliver only a good product, it is about deliver something containing emotional values. The company has to be environmentally friendly and to take care of the impact of outsourced production but also the employees inside the company (Löhman & Steinholz, 2004, p. 45-48).

In order to make choices which are active, they need to get information from the company what they stand for and what kind of commitment they take in social and society responsibility. The Public stands in front of different choices everyday and they want to support products and businesses which stand for good values, but they lack information. And many companies are afraid to be open about their environmental work and commitment, engagement, cause of the fear of criticism. The consumer wants to influence themselves but she needs the company as a channel. This interaction gives the company an opportunity but also power and responsibility. There is an increasing trend for consumers demanding fairer and environmentally friendly products and these kinds of products are slowly increasing their market shares as well. This means that there are more room for the good companies and products on the market (Löhman & Steinholz, 2004, p.53-57).

3.8.1 Industrial Market and Consumer Market

According to Dickson and Hustvedt (2009) the most common studied variables when it comes to environmental concern are connected to environmental consumer behaviour. Researchers in the area of environmental sociology define it as: “Environmental concerns refer to the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution”. There are ways to measure environmental attitudes and values may be helpful to understand the psychology of environmental consumers. In different studies there have been identified a relationship between environmental consumer behaviour and altruistic values. It might also be possible that an self-identification would have impact on the consumer behaviour such as
the identifying of being an "green consumer" or an "organic consumer" (Dickson & Hustvedt, s.52-53)

There appears to be, according to Van Weele (2000) a clear difference between consumer marketing and business-to-business or industrial marketing. Individual consumer markets have limited value to explore the business-to-business circumstances means Van Weele (2000). In consumer marketing it is about meeting individual needs and immediate satisfaction. But the industrial marketer on the other hand has to face institutions, governmental organisations or companies (Weele van, 2000, p. 29). This could be related to decision making in Public Procurement and what affects the buying behaviour here on the contrary to individual buying behaviour which is mentioned above.

**Figure 1.3 Differences between Industrial and Consumer markets**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Industrial Market</th>
<th>Consumer Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying Objective</td>
<td>Enable Production</td>
<td>Personal, need Satisfaction</td>
</tr>
<tr>
<td>Buying Motive</td>
<td>Mainly Rational</td>
<td>Also emotional</td>
</tr>
<tr>
<td>Purchasing Function</td>
<td>Professional Buying</td>
<td>Consumers</td>
</tr>
<tr>
<td>Decision Making</td>
<td>Many persons involved, much discussion</td>
<td>Often impulsive, without consulting others</td>
</tr>
<tr>
<td>Characteristics</td>
<td>Negotiations, intense interaction</td>
<td>Often without negotiation, little interaction</td>
</tr>
<tr>
<td>Product &amp; Market Knowledge</td>
<td>Large</td>
<td>Limited</td>
</tr>
<tr>
<td>Order Size</td>
<td>Often Large</td>
<td>Mostly small</td>
</tr>
<tr>
<td>Demand</td>
<td>Derived demand, may fluctuate strongly</td>
<td>Autonomous demand, relatively stable</td>
</tr>
<tr>
<td>Price Elasticity</td>
<td>Rather inelastic</td>
<td>Rather elastic</td>
</tr>
<tr>
<td>Number of Customers</td>
<td>Mostly limited</td>
<td>Very large</td>
</tr>
<tr>
<td>Spread of Customers</td>
<td>Sometimes large geographic concentration</td>
<td>Large geographical spread</td>
</tr>
</tbody>
</table>


Weele (200) says further that there is a derived demand where most companies sell to other companies where few manufacturing companies deliver directly to the end user. Many markets could also be of geographical concentration. Business-to-business relationship usually involves bigger quantities of goods. Unlike customer market Business-to business that the circumstances regard their market as a network.
3.9 Environmental Strategies

In the article about “Tredje generationens miljöstrategi” (in English: The third generations environmental strategy) Viktoria Olausson is summarizing an article by Dennis Pamlins in Sustainable Sweden where an distinguished definition is made between three different kind of companies and how they approach on environmental and ethical issues (www.miljoaktuellt.se).

- The Uninterested company

In this category the organisations does a minimum achievement in environmental and social questions. They follow existing regulations acts on a minimum level and have only a verbal conviction in how they concern about nature and society. In these kinds of companies other priorities are done and they usually lack a well-worked environmental strategy or environmental certification.

- The Company with a Traditional Environmental Strategy

In this category we find the companies with a traditional environmental work and strategy. The organisations have ambitions and goals in how to make improvements of environmental work. Very often they are ahead of regulation acts as they believe it result in cost benefit more than being an environmental opportunity. Development of Sustainability work is the responsibility of the environmental manager. It is not rare that decisions are made in other departments of the organisation which are not followed by the goals of the environmental manager which could create frustration and unclear messages.

- The Company with Sustainability as a Driving Force

This category is the most interesting one as ethics and environmental issues is deeply rooted in the core of the organisation as a main incentive. As a single incentive, ethics and environmental aspects will not work commercial well but will when integrated in a larger context considering quality, innovations and marketing aspects. The good examples are those who are able to integrate these parts successfully. These kinds of companies act as a role model for the business world.

The last “good example” is often characteristics as middle sized companies with a clear commitment about environmental issues. Very often they both exceed acts and regulations and make individual improvements. They have their ethical view as an base building up as a frame surrounding the core of the business concept. Examples of those companies are represented and analysed in “Talk the Walk”, UNs environmental program called UNEP. Some of the companies represented are Whole Foods, Stonyield Farm, Ben & Jerry’s, Patagonia, American Apparel and Natura. Often these companies seem reliable because they work closely with organisations and NGOs. Characteristics are that they have unique positions
and are intuition based. Usually they educate their employees and many take also the step forward in educating their customers. This strategy is similar both for the second and the third kind of company which differ from the classical marketing perspective where you listen to the market and feed it with what they want. Listen to the market is important but often the strategy among business leaders is that they say that they only follow the market forces. One of those “third generation companies” is Whole Foods which sells only ecological food in their 184 food stores and several of the stores have its roofs covered by solar cells. The ethical aspects are part of a broader concept. As an example the cornerstones of Patagonia are “quality, innovations and environment”. The marketing is usually a combination of information and product related marketing where approximately half of Patagonia’s commercials advertisements is considered as environmental messages. Successful companies like Patagonia or American Apparel spend also less on traditional marketing; instead they achieve good reputation in the press and positive word-of-mouth and they show also an increased growth over the average. Being ethical is in itself an attracting move which story you are always eager to tell (www.miljoaktuellt.se).

3.9.1 Consumer, Knowledge and Trust

To achieve better ecological lifestyles and consumption patterns Rubik and Frank (2005) are meaning that we have to communicate with citizens as domestic managers. We have to handle and act on the information around the eco-label otherwise the eco-label itself are useless as this is somehow the “image” of the label. One of the purposes for producers to choose an eco-label to communicate with customers is that consumers consider those particular products as better than other products. It is also a way for consumers to show concern in environmental awareness through their buying behaviour. Rubik and Frank (2005) express further that consumer knowledge, perception and the meaning of the eco-label is important. More importantly, what kind of information do they demand and what kind of environmental sources of information are they tend to trust? Consumer trust is important as it is difficult to verify the scientific data from the goods which are purchased. In what way should they be institutionalised to create this consumer trust? (Rubik & Frank, 2005, p.22-23).

Rubik and Frank (2005) bring up another perspective with the theory of the Dream Society by Jensen (1999). In the Dream Society the hero is the one who are able to tell a good story and the icon is the history. Future products have to appeal to our hearts rather than our heads. According to this theory business and industries needs to understand that we are moving beyond the information society to have a competitive advantage. Consumers want to buy eggs from hens which have access to the nature and earth in an old traditional way and not those eggs coming from hens walking in small cages. To a large degree, consumers are willing to pay extra for this. The reason for this is that consumers love the story about the free
range hens and do not like the story based on conventional produced eggs. In Denmark, consumption of organic eggs has increased substantially. Conclusion of this is that consumer prefers those better stories (Rubik & Frank, 2005, p. 26).
4 Case Studies

The first part of this chapter describes the background of Ludvig Svensson and circumstances which affect them as a producer and the market their business segment Svensson Markspelle is acting on. The second part gives a description of how the different departments interact during the flow scheme of the eco-labelling process. Finally in the third part of the chapter, the customer respondents, the need and the demand of eco-labelled upholstery fabrics are considered.

4.1 Svensson Markspelle

Since 1887, knowledge and experience have been cornerstones of the family business at Ludvig Svensson AB. They have over a hundred years of experience in textile manufacturing and have in total 400 employees with businesses in 25 countries. Approximately 50 persons work with international marketing and 15 persons in the product development department. What makes them unique as a producer is that they have control of the complete supply chain from fibre to finished product in production facilities in Kinna, Sweden. (www.ludvigsvensson.com)

4.1.1 General background

90 percent of the production is located in Kinna in own production facilities. 10 percent of the production is located in China, mostly for the climate screens but recently a new project has started with production of a small product range of upholstery textiles.⁶ The two sectors, the Climate control screens and Interior textiles have over time converged. All processes are managed in Kinna, from dying the raw material to the finished fabric rolled up, ready to go out to customers. In an environmental perspective it is more favourable with locally produced fabrics comparing to imported textiles. According to Siv Hansson⁷ at the County Administrative Board, Ludvig Svensson is one of few companies in its size with production still in Sweden. Comparing to similar companies she confirms that Ludvig Svenssson was early in their environmental work - in exchanging hazardous chemicals. In the 60´s there were more focus on the drying processes and emissions while today there is another focus. More actively Ludvig Svensson has put efforts since the end of the 90´s.

Krantz Amour ⁸ at Ludvig Svensson has direct contact with Ecolabelling Sweden and follows up the complete certification process from application to final certification. All departments

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⁶ Anne Krantz Amour, Environment & Quality Manager, Ludvig Svensson AB, 2010-03-17
⁷ Siv Hansson, The County Administrative Board, 2010-04-29
⁸ Anne Krantz Amour, Environment & Quality Manager, Ludvig Svensson AB, 2010-03-22
are involved during the certification process of the eco-labelled upholstery fabric collection. The driving forces in development of fabrics can come from different directions, either from own design projects or directly from the market where specific needs are wanted. The competitive advantage for Ludvig Svensson comparing to some competitors is that they have control of the whole supply chain - with local production and processing operations. The environmental profile is important and to communicate an added value concerning environmental aspects. Having knowledge of the competitors is also essential.

According to Jenny Karlsson⁹ environmental information is not pushed very much in marketing material as a communication tool to the customers. Instead the environmental marketing information flows from either Design department or the Environment & Quality department to the sales representatives who communicate this information to the customers. Krantz Amour is meaning that the salesmen are important as they are a direct channel to the customers. Salesmen need to be skilled to communicate this added value to the customers. Also, all involved parties within the certification process need to know which aspects you have to push forward and knowledge is a really important tool in that process. The education given to sales representatives is either presented by a film from the Design department or performed at special seminars from Quality & Environment department to inform and highlight the environmental approaches within the company. All the respondents I had contact with at Ludvig Svensson believe that the website could be a more efficient marketing tool and that this kind of communication needs to be improved. Information of the included products in the Green List from Considerate Designs is also available as a marketing tool. The sustainable philosophy called “Environmentality” is part of the mentality integrating smart design with a striving towards a more sustainable future at Svensson Markspelle. This information can be found in the product catalogues which are used as marketing information to the customers. This philosophy influences not only the production and the end product but the daily life within the company.

4.1.1.1 Environmental policy

The company takes responsibility for a constant environment improvement. Environmental approaches are characterized by a long-term, holistic approach. Managing director has overall responsibility for environmental activities and all employees receive training. Environmental issues are taken into account when goods and services are purchased.

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⁹ Jenny Karlsson, Marketing Coordinator, Ludvig Svensson AB, 2010-05-03
4.1.2 Drivers of eco-labelled textiles at Svensson Markspelle

According to Ludvigson the environmental awareness of today is more significant than for some years ago. As a producing company in Sweden you are depended on a certain system of regulations which consists of legislative demand and requirements for the inner and outer environment. Besides that, you also have to consider the requirements and demands from the market. Except of the legalization part, having the production facilities in Sweden is a competitive advantage for Ludvig Svensson. When a company is controlled by legal requirements you have already fulfilled very high criteria’s comparing to imported products where the environmental requirements are much lower. The textile industry has also a responsibility to give pressure in increasing the environmental friendly development and so has Ludvig Svensson worked over the years. Early generations at the company have driven the environmental development with improvements in the processing without the pressure of legal requirements. The driving force was to do and achieve something better. The aspects which have been good in the textile industry are partly the legal requirements in the outer environment but also the “Energy & Environment” group who has worked together with The County Administrative Board to make improvements. According to Ludvigson there are double messages on the market - where low price products at many times are valued higher than high quality products with sustainable production. Having an environmental management system (ISO) within a company is unfortunately not sufficient in communicating environmental progress towards the market. Most convenient would have been whether it was possible to connect the EU eco-label with the ISO certification, but the problem is that every party works individually, has individual perspectives and sets own requirements and criteria.

The requirements increase in revising how a product is produced and the questions is how to communicate this in an easy and transparent way? It is difficult to transfer knowledge and insight which took many years to achieve. How can this be communicated in an understandable way to the customers? This is where the eco-label is a step forward to communicate this environmental message.

Ludvigson believes that an information sheet to the customer how the company works with their textile production and processing could give an extra value. Svensson Markspelle at Ludvig Svensson started with certification of the EU eco-label of the upholstery fabrics during 2005 and 2006 when discovering increased environmental awareness and demand from customers. Environmental questions vary between different countries and in some countries you do not require and demand eco-labelled products at all. But among architects and inte-

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10 Anne Ludvigson, President, Ludvig Svensson AB, 2010-03-22
rior designers the question has many times been raised and awareness has been consider-
able higher.

Ludvigson confirms that it is in general difficult to choose between which eco-label suites
your particular market. Because of the costs and demanding resources which are followed by
the certification process it is not possible to have one label for each market. The EU eco-
label was chosen as this is most known on a European level; a certification of the Nordic eco
label would not cover the markets outside the Northern countries. One dissatisfactory is that
it looks like Ecolabelling Sweden (SIS) advocates the Nordic eco label over the EU eco-
label.\textsuperscript{11} Ecolabelling Swedish is given this assignment from the EU commission to represent
the EU eco-label in Sweden. When it comes to the technical textiles within the brand Svens-
son Screens, no environmental requirements are demanded, which are sometimes surprising
according to Ludvigson.

The whole value chain in public procurement is very complex. It always starts with a project
from the end consumer, which can be a business, an administrative municipality or an au-
thority. The stakeholders in this process could be architects, furniture producers, interior de-
signers, decorators or purchasers. The value chain crosses in many ways and everyone
have different functions. End customers sets requirements direct to the interior designer or
the interior design company and in most cases it is the final end customer who put the envi-
ronmental requirements. For all new projects interior designers are involved but otherwise it
is 50/50, either consulting the interior company directly e.g. Kinnarp or Input Interiör.

\textsuperscript{11} Seminar at Proteko, “Hot eller möjlighet?”, 2010-03-12
The business world put requirements according to a business perspective while public purchasers put other requirements. An interesting perspective is how the different requirements from the end customer to the next step, upstream in the value chain, is followed. The smaller the customers, the fewer requirements are set according to Ludvigson. Ericsson and Scandic Hotels are examples of end customers which are considered to purchase a lot. But why is an eco-labelled material chosen? According to Ludvigson it is the municipalities and counties who ask for these requirements and that it is the Public Procurements Acts who also rules and drives this demand. If the law would not have existed it is difficult to say where the development had been today.

One main obstacle in Public Procurement is that all 270 municipalities in Sweden all have different environmental requirements. Krantz Amour supports this as a complex problem. Therefore the knowledge appears not to be particular high. Besides that an eco-label is required the end customer also put other environmental criteria which differ between individual customers and the documentary reports from each and everyone looks different. It is huge vagueness as the Swedish Environmental Management Council has their own criteria - which are supposed to work as a guideline in the public procurement process - but is not used by the customers. At the same time, TEKO is developing another version for the members but it is so far not used.

Krantz Amour means also that a main critical aspect is that information is not very transparent which eco-label to choose between the Nordic eco label and the EU eco-label. It is also
difficult for customers to understand the difference between them. The main difference between those two is that the Nordic eco-label requires organic raw material (Cotton & Linen) and also have more ethical requirements than the EU eco-label. Secondly, Krantz Amour says, there are the other environmental requirements which differ between the customers.

4.1.2.1 Legalisation aspects

Anne Krantz Amour\textsuperscript{12} explains that Ludvig Svensson production is regulated by The County Administrative Board and the permission involves that you need to have own control and present environmental report of these results. A third party organizations needs to verify these results. Environmental work is considerable strong in the Region of Västra Götaland. It is not only to keep track of the requirements which The County Administrative Board has but also over griping control when it comes to emissions and waste. When it comes to legal requirements it is mostly recommendations which come from the Swedish environmental Management council.

Siv Hansson\textsuperscript{13} at the County Administrative Boards explains that if a company is processing and dying 200 ton per year they are obliged to report processing operations to the County Administrative Board. Concerned products from Ludvig Svensson of the obliged reporting concerns the division Svensson Markspelle, curtains and upholstery textiles, which are weaved textiles. The green house climate weaves, Svensson Screens, does not include permission in reporting as the fabrics are knitted and crochet and do not include same dying and colouring processes as the weaved textiles.

In particular Sweden a lot of progress has been done since the late 70’s when it comes to exchanging chemicals in the textile processing. It started with that The Swedish EPA published a report with recommendations and requirements of exchanging hazardous chemicals. Followed by that, a project started with the Environmental & Energy group which still exists today and where Ludvig Svensson is participants of. Because of this, companies in the textile industry started to make progresses and helped each other in this environmental approach. In that sense Textile Industry is unique, as companies in other industries have not collaborated in the same way. Hansson confirms that textile companies understood environmental aspects very early and decided to do something about it.

Flame retardant is important to highlight as an environmental aspect as it is not always necessary to use chemicals to achieve high effects. Ludvig Svenssson is pointing out also other aspects, e.g. the density of material is just as important. It is essential already at the Product development stage considers what requirements you want to fulfil in the end product. Cir-

\textsuperscript{12} Anne Krantz Amour, Quality & Environment Manager, Ludvig Svensson AB, 2010-03-17
\textsuperscript{13} Siv Hansson, The County Administrative Board, 2010-04-26
cumstances in Public Procurement are still a complicated matter because of lack in environmental awareness when environmental requirements in the use of Product Environmental Declarations are set. TEKO is developing their own Environmental Product Declaration but it fails in reaching out to the customers. Hansson believes that if the EPD would have been known among customers everything would have looked completely different and aspects in the Procurement process would have been easier. She has also the opinion that the Environmental & Energy Group should be more multi-facetted, not only those with technical knowledge, but to cover every profession from design to sales as well. Meaning that it is important for sales representatives or the ones meeting the customers is that they need to understand the EPD in order to communicate it well. A problem for producing companies, time-wise, having the resources in developing new products and at the same time considering and follow up all other aspects.

Hansson says further that Ludvig Svensson are not particular unique in their environmental work but she confirms that they have been a step ahead at an early stage. What distinguish Ludvig Svensson though in their environmental work comparing to other companies is that they highlight other environmental aspects in the end product of the product group, such as Svensson Screens where the climate weaves gives high environmental, energy benefits. Another competitive advantage, which is also an important matter when it comes to the environmental friendly aspects, is that they develop and manufacture long-lasting quality fabrics. Comparing too many other companies they are a also a modern organization where you can sense a family culture and instead of keeping distance between departments and production they have openness which means that they work together and cross communicates between departments to increase understanding. She says finally, when considering the development of those who have survived today in the Textile Industry and are most successful, it is those which have an open attitude to the employees.

4.1.3 Gröna Listan by Considerate Design

Birgitta Nilsson\textsuperscript{14} explains that the main objective with the Green list was to provide with information in making better environmental friendly purchases. The general problem some years ago was that knowledge of existing environmental friendly products and where to find them on the market did not exist. The project started in 2001 in Region of Västra Götaland, where design questions were raised due to the awareness that goods and products have a high environmental impact on consumption. The Green List has been successful because support by Region of Västra Götaland and it would not have had the same penetrating power with a several few consumers. The first catalogue contained 20 products and this year’s

\textsuperscript{14} Birgitta Nilsson, Considerate Design, 2010-03-31
catalogue, in 2010, contains 120 products. The first catalogue was launched in 2006 but it was not until in 2008, when responsibility of the catalogue was given by Considerate Design. In first catalogue there were two furniture companies included, Horreds Möbler and Alnes Möbelfabrik. The textile suppliers were Gabriel, Bogesund, Kvadrat and Ludvig Svensson. The entire interior business, says Nilsson, has in general very environmental aware customers but the entire chain has had lack of knowledge which is why interior designers, with higher level of knowledge, are seen as customers. Nilsson means that the interesting view is that - if you create a demand it becomes interesting for the customers to eco-label their products and the result is a “win-win” situation for all parties. The limitation, she says, are those whom are not included in the end procurement agreement but still has certified, eco labelled products or fulfil the criteria for an eco-label. The difference today since before is that responsible persons have been rationalized in county councils and municipalities and the responsibilities are lower delegated to managers with less knowledge. The general environmental interest has increased during the last years but the Green List has been part of that development. Nilsson believes that the supplying company probably does not notice the effect of the Green List in the same way as the interior design companies as they do not follow their product to the end customer, in the final value chain.

4.1.4 Eco-label perspectives

4.1.4.1 What are future prospect of EU eco-label?

Thidell means that a supplier or a company can choose to work with eco-labels by two major reasons;

1) A supplier or a company wants to make improvements of its environmental work including environmental product performance

2) A supplier or a company experience customer demand and find an eco-label as a communication tool for customers and other market actors

Thidell is meaning that eco-labelling must be looked upon and be considered in a greater context of a company’s overall market strategy. The eco-label should not be considered as an individual measure but as part of the company’s complete environmental work and communication. For a company it is important to have several channels of market communication and not only from a sales perspective - it can flows from different departments. When choosing an eco-label a company should evaluate and consider how fast knowledge and confidence of different labels grow and what future prospects are in their target markets. It is also important to be aware of competitors and what eco-labels they use from their assortment.

15 Åke Thidell, Assistant Professor, The University in Lund, 2010-04-29
Nordic eco-label has after all a very high level of recognition and is a strong brand within Sweden and the Nordic countries according to research. Good Environmental Choice has also a high recognition. If a customer, for instance does not have the same recognition of the EU eco-label than the Nordic Eco-label it makes it difficult to communicate the correct value, even if the product is exactly the same. It is important to distinguish the different customer groups, general customers and the particular customer group in public procurement concerning the aspects in recognition of the two eco labels.

4.1.4.2 Eco label as part of an environmental entirety at Svensson Markspelle?

According to Shahrokh Shabani\[^{16}\] the requirements of an eco-label, in a chemical perspective, could have been fulfilled at an early stage as hazardous chemicals was switched long time ago and have been a part of the environmental work at Ludvig Svensson. This means that same decisions would have been made chemical-wise, with our without the certification of the EU eco-label.

*Shabani points out that there is a major difference between those companies having their own goal in working for a better environment and taking true responsibility, than a company only adjusting for the purpose to fulfil the criteria for an eco label. It is all about considering an environmental entirety and to have an individual thinking! The critical aspect is that an eco-label cannot alone communicate the complete environmental truth about a company’s efforts.*

And also, each and every department stands in front of different decisions in this process. For a company with production in Sweden it is easier to fulfil the criteria than for importing companies. The local sewage disposal plant also requires a report of oxygen consumption, which something no one requires in China or Estonia. It is therefore a big advantage having the production in Sweden as it is impossible to fulfil these requirements in those countries.

Besides the eco-labelling, customers require different technical and chemical requirements from the product. Today it is very popular to communicate a kind of *assurance* to customers which gives a secure feeling in trusting the product. Because customers lack in knowledge it is easier to sell an assurance of the product. In one way you sell a certificate to them! It would be interesting to measure whether a customer would buy a fabric without the label. Shabani confirms that the issue about the environmental product declaration is a complicate procedure. *You do the same thing, with the same purpose but in different ways.* An eco-label should show that you already have high standards but some customers puts very specific requirements. He also means that many stakeholders have lack of knowledge about chemicals in that way that you cannot require both a fire safety and an eco-labelled fabric. The

\[^{16}\] Shahrokh Shabani, Production Manager, Dying & Processing, 2010-04-29
requirements are very different depending on the purpose of the end usage of a material. Why is also EU eco-label and the Nordic eco-label almost the same? You miss the focus and main purpose of the eco-label and very often customers do not know what the eco-label stands for. It is least as important to have some grounding knowledge what the particular eco-label stands for and what effort lies behind the certification process.

**4.2 Flow scheme of EU eco-label at Svensson Markspelle**

Svensson Markspelle has a flow scheme which visualise the process of an eco-labelling scheme and how the environmental work proceeds. The flow scheme shows how the different departments interact between each other and is a simple model of a complex reality which is not always easy to overlap time wise between departments. The scheme starts with two kinds of design processes where one starts with the direct demand from the customers which flows to the market department. The other design process are own projects from the design department. According to Krantz Amour both of these projects end up at the Product Board before anything is decided to go to final production.

When the company started with certification of the EU eco-label it was most convenient for the upholstery fabrics where the main composition is in wool. Department of Dying & Processing had since before rationalised and taken away chemicals and heavy metal dyes in the assortment. The company first carried the Nordic eco-label on some few article of upholstery fabrics because of a customized customer request. Today they carry the EU Eco-label because of that label has higher recognition in Europe.
4.2.1 Sales perspectives

According to Helge Nielsen\textsuperscript{17} the demand of eco-labelled textiles in the public environment depends on what kind of public environment they are supposed to function; whether it is hospital or an elderly caring home the environments have different requirements than from a school or office room. At times, the requirements for a flame retardant fabric and washability are higher than the requirements for an eco-labelled fabric. An eco-labelled fabric is for instance not very suitable to have in big public areas like halls in hospitals. If customers anyhow demand a cotton or linen fabric they found a eco-labelled fabric suitable. In a nursing home for elderly where washable fabric is required, linen could e.g. be a suitable material. \textit{The requirements can be so specific that they demand a fabric with the EU eco-label. It is very rare according to Nielsen that the customer asks for the meaning of the eco-label as the customer trust the eco-label itself.}

\textsuperscript{17} Helge Nielsen, Salesmen, Ludvig Svensson AB, 2010-04-16
4.2.2 Design

The issue of material composition for the raw material is important when considering an eco-label certification means Lars Kjelin\textsuperscript{18}. Already at the design phase it is important to think in material composition and what is likely to achieve an eco-label with its requirements. The Wool has its advantages as it is natural flame-retardant and the Polyamide is used to obtain a heavy-duty textile. For the upholstery fabrics it is considerable the fabrics with the composition of 85 per cent Wool and 15 per cent Polyamide which have the eco-label. The problem in public environment is that the requirements for environment friendly products and the requirement for flame retardant very often stand against each other. For instance, it is not possible to eco label the Trevira CS textiles which has the substance Antimony within the fibre.

**Figure 12: Example in variation of Fibre composition of eco-labelled upholstery fabrics**

<table>
<thead>
<tr>
<th>Fabric Composition %</th>
<th>Wool</th>
<th>Polyamide</th>
<th>Lycra</th>
<th>Polyester</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric Design-Wool</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hill</td>
<td>85</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Myr</td>
<td>89</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uno</td>
<td>85</td>
<td>12</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>85</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 13: Example of fibre composition on upholstery fabrics which are not eco-labelled**

<table>
<thead>
<tr>
<th>Fabric Composition %</th>
<th>Wool</th>
<th>Polyamide</th>
<th>Lycra</th>
<th>Polyester</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric Design-Trend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigo</td>
<td>56</td>
<td>10</td>
<td>2</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>46</td>
<td>8</td>
<td>3</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Viol</td>
<td>27</td>
<td>5</td>
<td>4</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>

Collections are launched twice a year and take approximately one year from design to ready launch. Collection Process is based considerable on responses from the market through

\textsuperscript{18} Lars Kjelin, Design manager, Ludvig Svensson AB, 2010-04-12
sales force in order to place correct decisions. Collections are mainly developed with either
feedback from the market or own projects proposed by the Product Development and Design
team. Sometimes, also customized options can be developed with the consideration of spe-
cial and unique requirements from customers. Specific requirements depend usually on what
the end customer needs but environmental demand is increasing and lasting accordingly with
environmental awareness. Knowledge in the market, depending on profession varies from
low to high according to Kjellin. Some interior architects work as an example on a high level
with environmental questions.

4.2.3 Product Board

The idea of a collection goes through the Product Board where decisions are made which
range to put into production. In the Product Board includes professions and managers in de-
sign, management sales, export, production and logistics. Svensson Markspelle at Ludvig
Svensson mainly works with a core assortment of yarns for each collection but also some
new yarns are sourced in between. Full range of tests is made before definite decision of
putting a collection into production and final launch. The tests are based on flame retardant
capacity, colour and light resistance and abrasion hardness.

It sometimes occur difficulties in the certification process of certain designs and material
composition according to Kjelin. It considers usually hard work in the development with the
existing suppliers to manage the final certification or in some cases sourcing new suppliers.
When the Product Board has decided and approved which designs that can be put into pro-
duction, the design department prepare an presentation of the collection, colour variations,
other details etc. At this stage the application starts with Ecolabelling Sweden and at the
same time Purchase department check details with suppliers and Dying & Processing de-
partment evaluate the chemical suppliers.

The time schedule for certification is depending on how the foundation looks from the raw
material supplier according to Shabani. Very often the collection process is very complex and
is highly time pressured, so when a final decision is made from the Product Board you have
to think in all aspects, finalizing production, tests, marketing material etc.

4.2.4 Quality & Environment

If it already is a certificate for a yarn with the composition in Wool and Polyamide it is easier
for the ongoing process. But once you need to change the composition of a fabric you need
to go back to the supplier/sub contractor and check details concerning emissions of espe-
cially the synthetic materials. Internally, within the different departments at Ludvig Svensson
it can also be difficult to understand these complex connections and how to work in an effi-
cient way so the time aspects are matched. Market and Sales department cannot promise products to the customers, and material and product catalogues cannot be printed until facts are completed. They can make own tests on the Wool yarns but the most convenient is to get a guaranty or certificate already from the supplier to make the complete process easier, both time-wise and cost-wise. Wool fibres are never a problem but Polyamide is always more complicated as you need measures of the emissions. If there is no certification from the supplier, Ecolabelling Sweden has readymade documentary for the subcontractor/supplier which can be filled in and complemented with the application forms. It is very important it is visible for the supplier what detailed information is needed and the forms from Swedish Eco labelling are sometimes wage. The Dying & Processing department is making own tests of colour-fastness, dimensions-quality changes and tests of emissions. All documental foundation needs to be collected as a first step in the application process. It is very important for design department and quality department to communicate so no essential information comes too late in the application process. Therefore it is really important already in the product development phase to consider these aspects to avoid complicated circumstances later on. Material solutions can be found from European suppliers but are less good due to that calculation of costs are much different.

4.2.5 Dying & Processing

Sharokh Shabani\(^{19}\) is saying that since starting with the EU eco-label, heavy metal dyes had already been changed to reactive dyes so that was not a problem. Application of the eco-label and performing tests of the products before launch are time extensive. A difficult aspect is also when the criteria are revised and changed. It is quite complicated to measure emissions for e.g. 10 products when you have 100 different products in the product range. The proposals how to measure emissions are very wage from Ecolabelling Sweden and Shabani believes that if they put requirements they should also come with proposals of measuring. When it comes to REACH, it is very limited as very few chemicals are represented and there is approximately 30,000 chemicals on the market. It is interesting to find the source in the certification process where problems occur. Shabani adds that he believes that the organizations which certificates lack knowledge because sometimes they ask for things which are irrelevant. Chemicals are very depended on what kind of colour you are dying, whether it is a light or dark colour and it is not an uncomplicated matter when you have a scale of 30 colours for one product! At this stage you need to interact with the Product Development to agree on an assortment which works practically. 10-15 years ago it was not possible having the same wide range of colour as today - when at that time it was considerable very earthy

\(^{19}\) Sharokh Shabani, Production Manager, Dying & Processing, 2010-04-12
colours. Several chemicals are used from raw material to a finished fabric. Already at the pre-wash before dying, chemicals are added and after that a reduction wash is made. Chemicals cannot be recycled but a certain “chemical mix” which is used to give certain advantages to the fabric can be reused without going to waste.

4.2.6 Purchasing & Sourcing

Most of the raw materials are purchased within Europe, in Italy, Turkey and Czechia. The requirements to collaborate with the suppliers are that the raw material, the yarn has the GOTS certificate (for curtains) Okeo Tex on the wool composition (for upholstery fabrics). For the Wool fibres requirements can also be shown by documental forms if no certification exists. Ecolabelling Sweden requires documents of production processes with detailed information in order to approve the raw material in the product for the final certification. A project has recently started to produce upholstery fabrics in China to achieve a lower price segment of the products. Environmental requirements are not at all the same as in Europe and therefore it has been a very complicated process to achieve certification for those products. The GOTS certification does not exist and they do not have the technical equipment which is required to measure emissions for the synthetic materials e.g. Polyamide. In general this process is much easier in Europe as the certification is more used. GOTS certificated Cotton, Linen and Wool material with different compositions with a lower percentage of Polyamide works well.
4.3 Customers at Svensson Markspelle

In this section four customers will be presented which have an active role in one way or another in the procurement process of an interior design project. They will be presented in the following order; White (Architect and design office), Input Interiör (Interior design company; decorators and stockiest), Kinnarps (furniture producers) Albin i Hyssna (furniture producers)

4.3.1 White

White is one of Sweden's largest architect offices with 500 employees and its head offices in Gothenburg (sv.wikipedia.org)

“In our opinion the most important matter for the future is the planets survival. Constructions are responsible of 40 per cent of energy consumption and have a major impact on the utilization of resource and emission of hazardous substances. For more than ten years our environmental specialist has worked tireless to spread knowledge and solution for a sustainable world. We integrate environmental issues in our architect assignments from day one, ensuring that we identify solution that reduces energy consumption and environmental loads” (www.white.se)

Susanna von Eyben\textsuperscript{20} is an interior architect at White and has contact with fabric suppliers by personal visits from salesmen who present new collections of fabric and colour samples. Interior design fairs are also an important channel of inspiration to see any news.

They though never place, as interior architects, orders direct to the supplier. An interior architect acts only as an ordainer (In Swedish: föreskrivare) who propose a choice of the upholstery fabric to the end customer. Then e.g. Kinnarp or Input Interiör place the final order direct to the supplier e.g. Svensson Markspelle at Ludvig Svensson. The end customer e.g. Region of Västra Götaland places the order to Kinnarps or Input Interiör.

An interior design project usually starts from the special need of the client. Besides the actual need, there are often other bacteria and environmental other requirements placed by the purchaser within a project for e.g. a hospital or nursing homes for elderly. In this environment the need of manageble fabrics and washability are higher than any other. Even though the end customer can make own decisions, it is part of the interior designers professional responsibility and knowledge to give guidelines for a better product choice in a particular environment. There are many aspects to consider and even if the customer has requirements perhaps it is something which does not function in the reality which needs to be compromised. As a main choice she would choose an eco-labelled fabric if possible. But this choice is sometimes not suitable or even possible in some environments where other requirements

\textsuperscript{20} Susanna Von Eyben, Interior Designer, White AB, 2010-04-27
are higher. A client or end customer may also have a special customized request, e.g. a particular colour in one fabric. In that case an evaluation needs to be done which supplier fulfils these requirements. Perhaps you cannot find the particular fabric you look for as an eco-labelled fabric.

An actual certification of an eco-labelled fabric is not important, but rather that the product can be proofed fulfils the requirements of the certification. The eco-label is though an easy communication tool which gives a guaranty of what the product stands for. An English company called “Bute”, von Eyben finds, gives a particular feeling of 100 percent quality and a eco-label is not needed to communicate that information. Instead the upholstery fabrics manage to communicate an extra value of unbroken completeness and totality.

A broad variety of eco-labels on the market, e.g. Global Organic Standard (GOTS), EKO Sustainable Textiles, KRAV etc. does not make it easier. The most common though are the EU eco-label and the Nordic eco-label and it is very rare any other label occurs. Von Eyben is aware of that the EU eco-label has certification in two levels, where either the processing of the product or the organic fibre is certified. She is aware of and mentions that the most common fibre composition for the upholstery textiles is with Wool and Polyester.

As earlier mentioned, if possible she firstly chooses an eco-labelled or environmental friendly fabric but as the interior design project are based on specific needs it may be that other requirements are higher of quality aspects. Besides washability, abrasion of the fabric could be just as important. You could either choose a completely eco friendly end product or you can chose either the furniture or the upholstery fabric depending on the need.

She is never requested by a client to choose one eco-label over another, e.g. The Nordic eco-label ahead of the EU eco-label. Eco-labelled fabrics could fit in all environments but sometimes also flame retardant aspects and fire protection stands higher which excludes e.g. ecological cotton in a textile. With regard to the requirements for washability, Trevira CS is rather used. Von Eyben feels the responsibility to recommend an environmental friendly alternative if it could work in a particular environment even if the customer has other demands from the beginning. The level of knowledge, is depending firstly on own personal commitment but can also be depending on what kind of company you are referring to. The demands and requirements can depend on what knowledge you have from the very beginning. At many times she thinks that the end customer has preconceived opinions of what is needed. Perhaps they require a Trevira CS material in an office room cause it stands for high fire protection, but in that case it is not necessary. Textile knowledge is important to make reliable choices.

The Green list, she believes is mainly a regional tool within the Region of Västra Götaland developed for purchasers in the procurement process. The list has made it easier for pur-
chaser to find and choose eco-labelled products. Further she thinks it is important to highlight that the list would have looked differently if a neutral party developed it. It works for everyone to use but it is important to consider why the list is developed and what it stands for. In general, county councils put different requirements. The Green List was mainly developed to put pressure on the furniture producers and suppliers which did not care about the environmental impact in producing products. It was also a tool to increase the demand. She considers the Green List as the first driving force which made furniture companies to direct the course to eco-label products. The project started as a policy question to work for a more sustainable region and increase the general demand of environmental friendly products. The supply though in the list stands only of 7 per cent of the total assortment of available products. If the eco-labelling only is hard work and an encumbering with no benefits no one wants to use their resources. Many companies see it as an attractive tool which you could make profit out of.

She finds it important to keep updated in environmental questions through media and environmental magazines. Information flows also from the own Environment Department at White. Von Eyben has the opinion of Svensson Markspelle, Ludvig Svensson that they have advantages in being able to consider each other knowledge within the company but also from their other product group, Svensson Screens with technical knowledge. An eco-labelled furniture is not more expensive than regular furniture on the contrary comparing to food where the consumer prices are still high cause of higher production costs. It is the demand which controls the prices and influence of production level. If you compare to the furniture company Norrgavel who has expensive furniture it is not a question whether they are eco-labelled or not but rather depending on other quality aspects. When I ask about the usage of Environmental Product Declaration she says it is mainly for buildings and sometimes interior but not for textiles or upholstery fabrics.

4.3.2 Input Interiör

Input Interiör is a world leading, independent interior corporate group with competence specialized within concepts for offices, hotel, restaurants, schools, education and health and care environments. Input Interiör offer with customized concepts in those areas. The business idea includes customers foundation based on Design, Profile, Function, Ergonomics and Economy. Input Interiör has 230 employees and 21 offices on 20 different locations. Turnover is 900M SEK. Input Interiör are stockiest for suppliers and have a high variety of brands within the assortment (www.inputinterior.se).
Helena Olofsdotter works as a salesman and is responsible for the counties in Marks kommun and Varbergs Kommun. Olofsdotter explains that they have profession in private and public environment. Most of the times they design own proposals direct with the customer but partly also with proposals from interior architects. Input Interiör has no standard assortment of upholstery fabrics but purchase the complete furniture after request from the customer. Hotel and conferences missions consist of a large part. Olofsdotter is placed in the local office in Kinna where 6 persons work whereof 4 persons are salesmen. In contrast to Kinnarp, they have no own production but are stockiest with a broad assortment. Kinnarp and Input Interiör are competitors but in theory Input Interiör could purchase from Kinnarp if a customer would request it as Kinnarp is both producers and stockiest. Input Interior could though give a much better deal, price-wise, to the customer as they have favorable agreements with their supplier from the beginning. Usually, there is great competition in both price and contract terms.

She has both contacts with suppliers and end customers. Continuously, they receive visits from salesmen that provide information about news and what is happening in the market. The sales forces are an important channel, but more over e.g. visiting furniture fairs are also very important. She finds that furniture producers, without exceptions, are ahead in development comparing to textile producers. Textile producers are more “neutral” to environmental matters. Olofsdotter experience that more stakeholders have awareness of the “Swedish” Nordic eco-label. Even if that Oeko Tex and EU eco-label has long been on the market there is less knowledge about them. She believes that if she would ask somebody if they know about EU eco-label at least 75 per cent would say they are not aware of its existence. It is very rare she gets a request of an eco-labelled upholstery fabric in an interior. It is however different requirements within different municipalities. Region of Västra Götaland is more demanding because of the Green List from Considerate Designs while in Mark Kommun and Varbergs Kommun does not impose any environmental requirements when purchasing products. Olofsdotter finds it more convenient in promoting the eco-labelled furniture and fabrics which are exposed in the Green List. It makes it easier to push for environmentally friendly alternatives even if the customers did not request it from the beginning.

Does it matter whether the upholstery fabric carry the Nordic eco-label or the EU eco-label? Olofsdotter has never met that particular requirement during the 4 years she has worked but more over it happens for the furniture. She does not know whether querying might differ between interior architects and interior-and decorate companies but it is primarily about trying to advocate the eco-labeled upholstery fabrics. The need though seems still to be very low. She experiences that flame-retardant and Trevira CS fabrics are more requested. She con-

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21 Helena Olofsdotter, Salesmen, Input Interiör, 2010-05-12
firms that at many times the aspects abrasion hardness, wash ability and eco-labelling guard against each other.

In general, there are more requirements on the furniture than the fabrics. Comparing to private and public sector, there is no environmental requirements placed in the private sector. Hotel and Conference industry set in regular high requirements. These requirements come from higher decisions makers. For instance, Region of Västra Götaland has en environmental policy which needs to be observed correctly and the demand is in general higher because of the Green List. Marks Kommun is supposed to be some kind of “fair-trade county” but requirements on furniture and interiors does not exist. There are those offices at Input Interiör who has agreements with Region of Västra Götaland e.g. in Borås who works continuously with the county councils. Olofsdotter finds it double-sided that companies in a way feel forced to have the certification itself and not only fulfill the requirements. Should it really be easier to eco-label a product when it cost a lot of money with the certification? She believes that a lot of companies withdraw the work with a certification because of the high costs.

The eco-label itself becomes leading and the main purpose and surroundings factors in buying an environmental product gets lost. Should companies really have to pay more to get greener?

She believes further, in order to impact the trend in the correct direction- it would possess a greater penetrating power if information e.g. would flow directly from the head office of a purchasing customer than from the fabric producer. As an example one can see how pervasive the Green List has been - the message have been flowing right down to the assistant nurse at a hospital. The nurse knows what the Green list is and that it contains environmental friendly products. For instance, in Marks kommun the responsibility are of each department and not on a central level where a coordinator is.

Like if somebody says: “hey there are desks in Skene which could be moved to Kinna to be recycled and make less environmental impact”. There are no professional purchasers and therefore one can say that decisions are made on an individual judgment. But when having a centrally controlled environmental policy there a much greater deal of penetrating power.

Jonas Andrén has so far not noticed any considerable environmental need but think that the requirements will increase. He mentions an interest organization, Svenska Möten, which acts as a booking portal for the hotel and conference business. They have recently been certified with the Nordic eco-label. This means that its members also have to fulfill those requirements from toilet paper, washing detergent to furniture and fabrics.
4.3.3 Kinnarps

*Kinnarps* is a family owned company founded in 1942 and is today the second largest corporate group within Europe for interior solutions in office environments. All production is done in own facilities in Sweden, where the largest production is placed in Kinnarp. They have approximately 2200 employees. Kinnarps design, develop and market four own brands; Kinnarps, Scandiform, NC Nordic Care and Materia.

**Environmental Policy:**

“*Kinnarps’ business must be characterized by an active commitment to the environment and by ongoing improvement. The goal of our environmental activities is long-term sustainable development. The business must aim to use the smallest possible amount of resources and have the smallest possible environmental impact. It is the joint responsibility and task of the management and all the employees to adhere to this policy.*” (www.kinnarps.com)

Tomas Ekström\(^{23}\) explains that the success of the company has its roots in the character of being a family business. Even if they are a large company the ways of decision is rather short within the organization. A significant mark in the history of their environmental work could be noted back in the beginning of the 90’s. In 1993 and 1997 Kinnarps became ISO certified for quality and environment. They are also connected to EMAS. At an early start of the family business, sustainability has been sort of a lead word because of the need in economizing the resources. Packaging material was too expensive for transporting chairs so hospital blankets were borrowed for transportation instead. Sustainable development is about creating balance between ecological, economical and social factors.

According to Ekström they feel big confidence for the Nordic Eco-label but have, for certain reasons, not chosen to have a certification of the eco label for the Swedish and Nordic market. They have though; other eco labels corresponding to the French and Australian market. On one of the biggest customers is PPT, French post office.\(^{24}\) PPT demand eco-labeled products. For the wood material they use FSC and for other products the purchase TCO. The largest customer besides the French Post Office is Försvarets Materialverk how has the coordination responsibility in forming contracts with interior suppliers for all universities, public authorities etc in Sweden. Kinnarps turnover to Försvarets Materialverk reaches 250M SEK per year.

Even though he has confidence about the Nordic Eco-label and he present to Kinnarps customers that they recommend it, he explains that he look up on it as “static”. Reason for that is that believes it does not give a complete picture of a company’s environmental work. The

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\(^{23}\) Tomas Ekström, Quality & Environment Manager, Kinnarps, 2010-05-06

\(^{24}\) PTT, Postes, télégraphes et téléphones
The label itself is valuable in that sense that it gives confidence because of its high recognition level. The criteria is that a certain limit of value of recycled metal raw material must be used but it is allowed to add a more environmental friendly product, such as aluminum, ahead of any other material, even though if the percentage of the added material is much bigger. More resources are used and the end product gets anyhow approved for the certification. You always have to stand in front of that some products has more environmental impact than others as they are never equal. He believes, unfortunately, because of difficulties in reaching out information wise, eco-labels will be considerable important even though the quality of the products are more important. The communication as an information tool is really important. It is in one way more difficult to just fulfill the requirements than use actual certification. If Eco-labelling Sweden suddenly revises the criteria without informing customers it makes it more complicated to defend your choice. Under those circumstances it is easier to have the certification ahead of only proving that you fulfill the requirement because than you have to prove it from an external party. In that way it is a pedagogical accuracy in handling eco-labelled products. Another critical aspects from their side is, if for instance, when a procurement company will undertakes procurements for several counties in Sweden where it is said that fabrics must be e.g. certified with Oeko Tex or certified by a third party organization. In that case Kinnarps is a first party and even though if Ludvig Svensson has an approval for third party organization it does not help. That is also one reason that he thinks that eco labels will be more important for the future.

In Public Procurement you are not allowed setting requirements for the certification of an eco label but you are allowed to require that it fulfills the criteria. You are not either aloud to prefer a label or brand ahead of some other label or brand. This makes I really important to communicate what kind of requirements you have and that is one reason Kinnarp have their own Environmental Product Declarations. Approximately ten years they started to check environmental aspects for textiles which they did not know much about. Concerning other material, for instance they stopped with purchasing rain forest trees and different solvents for varnish. But as they did not know anything about textiles, Kinnarps started to develop a product declaration for textiles which had nothing to do with customer demand but rather they wanted to have control of it.

Kinnarps looked upon three aspects which formed this product declaration:

- Environmental requirements
- Quality and technical aspects e.g. abrasion hardness
- Product related requirements e.g. certain amounts of errors in the material
The environmental requirements where considerable based upon a mix of the criteria for Oeko Tex, The Nordic eco-label and Good Environmental Choice. In 1995, 1996, this development was seen as an indirect demand of an eco label and occurred to be upsetting for some suppliers. But Kinnarps never demanded the certification from its supplier more than to fulfill the criteria for it. He believes that Kinnarps has helped out in the development to move the positions in Textile Industry by setting those requirements. The Environment Product Declaration which Kinnarps uses was developed before the one from The Swedish Environmental Council and if it is possible they adjust according to theirs. When it comes to the textile assortment of upholstery fabrics they work with a “standard collection” and a “costumer collection” from producers which they sell as their own - not shown for customers any supplier brand - but only material and color code for each article. The “customer collection” is nothing they promote but is something they can offer the customers if they need something special which falls outside the standard collection. The standard assortment meet the general requirements for fire protection but there is also a need in mixing fabrics for different environment e.g. also have eco-labelled fabrics. The Purchase department puts technical requirements together with Ekström and when it is proved that supplier can reach the requirements the Product Manager decides what to purchase. Even though there is no specific demand of eco-labelled fabrics the trend goes in that direction. In next procurement agreement it could be that they will demand a certain amount of eco-labelled textiles in different price segments. Whether it is EU eco-label or the Nordic eco-label has not a big difference but EU eco-label works better on a European level. Kinnarps has a responsibility also for their customers and the communication of the competence is important in order to handle external questions. The requirements from REACH also makes that Kinnarps in their turn needs to answer their customer within certain times about which chemicals which are included in the processes.

What has the Green List from Considerate Design given Kinnarp? A large part of the sales comes from procurement from the Green List but it is hard to distinguish what actually comes from the Green List as an active choice or if they just happened to be there. Kinnarps and Input Interiör are two of the involved companies which are included. Ekström believes that the Green List have had impact on the development of eco-labelled furniture but are no sure about if it is the same for textiles. Besides the increasing trend for eco-labelled textiles, he would welcome more innovative ideas for materials used in upholstery fabrics. The choice of innovative material of environmental aspects would be of interest which gives some kind of “wow”-feeling. He founds the materials hemp, linen and nettle are interesting and could perhaps be part of an more innovative development.
4.3.4 Albin i Hyssna

Albin i Hyssna produces furniture for contract environment with main target group for nursing homes for elderly. Albin i Hyssna is a family owned company in the third generation. The company celebrates 90 years in 2010. They are in total 28 employees where of approximately 20-23 works in the production.

Britt Marie Svensson\textsuperscript{25} has the profession as an indoor salesman, responsible of the fabrics. Her role is to have contact with fabric suppliers and support customers. Sales in Sweden amount to 70 percent and 30 percent from export customers, considerable in Germany and Holland. The company supply their customers after the Assemble to order (ATO) strategy which means that they do not hold inventories of finished furniture but are produced from a frame of the furniture, when an order is placed from the customer, e.g. Input Interiör. They have one salesman who meets interior companies and interior designers. The suppliers Albin i Hyssna trade with are Ludvig Svensson, Uddebo, Bogesund, Kvadrat and Gabriel.

Albin i Hyssna has no standard assortments or hold stocks of upholstery fabrics. Orders are based on request from the end customer through e.g. Kinnarp or Input Interior who makes the requirements. They trade with interior companies and stockists, not the end customers. The final order is placed by the company who has direct contact with the end customer. \textit{Albin i Hyssna can therefore disclaim any responsibility in choosing eco labelled textiles as they only order after their customers' requirements.}

The company work also with agents in Germany but so far they have not noted any special environmental demand from abroad. There are environmental concerns but the demands are not as high as in Sweden. Demands and requirements for nursing homes for elderly are considerable, separable and washable upholstery fabrics. Those requirements are considered first, ahead of eco-labelled fabrics which cannot fulfill those requirements. The Wool fabrics which are eco-labelled can work well e.g. in a church but not in an nursing homes for elderly home where the demands of flame retardant and washable capacities are much higher. But through their customers and retailers, furniture with eco-labelled fabrics can be sold in other markets and environments where those specific requirements are not needed.

Usually, as Albin i Hyssna deliver furniture to the nursing homes for elderly, often an eco-labelled fabric cannot be chosen as other demands are set higher, such as washability. Because of requirements in removing bacteria the fabric needs to be removable and washability in 60 degrees is needed. To wash a fabric in 40 degrees is not possible as it does not remove bacteria. \textit{In order to use an eco-labelled fabric it has to fulfil those washability requirements, which it does not.} So the requirement of washability is firstly considered as the high-

\textsuperscript{25} Britt Marie Svensson, Indoor Salesmen, Albin i Hyssna, 2010-04-28
est criteria. Beyond that, quality also is important - the fabric has to be heavy-duty. Albin i Hyssna have noticed an increased demand of artificial leather and that the end customers sometimes prefer this material ahead of washable fabrics as the artificial leather is possible to wipe off. Environmental aspects have also to do with sustainability and life length of a product. As an example, Albin i Hyssna got a request to exchange upholstery fabric on a 30 year old chair. In general the fabrics which are produced in this geographical area, hold very high quality standards to last for a long time. It is very rare to switch a fabric for other reasons than it is considered to be worn out; you do not switch it because it does not fit in to the interior environment. The main purpose is to create a long lasting environment.

Svensson has awareness of that the EU eco-label is valid and most common on fabrics and textiles but does not know whether it exists on furniture. She is aware of that there are several different eco-labels but mention only that the Nordic eco-label is more known in Sweden. Input Interiör e.g. is especially demanding eco-labelled products which have to do with the Green List. Because of increased external demands, Albin i Hyssna is by the moment working with implementing an eco-labelling scheme of the Nordic Eco-label on one product group. It is difficult to know which eco-label to choose and at one point you have to decide how to proceed. Albin i Hyssna consider environmental work as important. The certification of Nordic EU eco label has earlier been complicated because usage of acid-based varnish but today they have switched to water-based varnish to succeed the certification. Acid-based varnish though, is considered to be more heavy-duty. The company look upon the eco-label as sales argument. Svensson wonders if there exists some kind of symbol if you only fulfil the requirements or how do a company show that? In furniture production there are not many chemicals to consider it is mainly for the end finishing, at the varnishing process.

It is resource demanding for a small company working with the certification process. All details, screws, glue, etc which are included, needs to be measured and weighed. Additional data collection is also needed from the subcontractors. For the certification Albin i Hyssna has started with a chosen group of furniture which work as a “family”, a couch, table and chairs which can fit together or act individually. In general, there are very high environmental requirements from the end customer, from procurement in counties. It is always a consideration between environmental and other factors which are at least as important. The environment is important but it must work practically and fulfil the needs of the end product and the environment the product is supposed to fit in. Sometimes, the whole principle of being environmental friendly falls. Often, at an early stage in a procurement process, high requirements of environmental aspects are important. But in the final decision, it seems that price conquers and environmental requirements have suddenly not that big consideration! Albin i Hyssna can receive a lot of questions about transportation, detailed product specifications etc but when final judgment is done, those aspects does not seem as the most important thing. She
wished that all requirements would look the same but all customers EPD looks differently which makes the process rather difficult. It would have been much easier if the counties and county councils had the same requirements and used the same document. Recently, The Swedish Environmental Management Council has sent out a submission to producers for comments whether the requirements are relevant or not. Svensson means that at many times the requirements from the customers are totally irrelevant - It happens that purchasers send out an EPD for buildings and not furniture! This means that they put requirements which even do not exist on furniture and therefore seems like they do not know at all what requirements they ask for! It is essential of course to demand sustainable products but it is not reasonable put environmental requirements which do not exist.

The company has a problem being in the Green List. This is because it is required having separable, washable upholstery textiles to fulfil the need of the end customer. A solution would be to have eco-labelled fabrics for the exposing in the Green List but then the end customer would choose something else. In theory, it should be sufficient to fulfil the requirements of the eco-label and not the certification itself but how can that be when the certification is anyhow asked for? In that way, the Green List has affected them.
5 Analysis & Reflections

5.1 Suppliers perspective

My result of the background of Ludvig Svensson showed that the company have been working with environmental questions for a long time and that they were in ahead of environmental legislation when it comes to chemicals and reactive dyes - which are a significant aspect in the process of an eco-labelling. In despite of the certification, they have worked ahead because of an environmental commitment. In that case; what is the actual purpose of the eco-label? Ludvig Svensson started with the EU eco-label because of demand from the customers but from all respondents I talked to, no one confirmed that, neither they as a direct customer to Svensson Markspelle or the end customer requested the actually certification of the EU eco-label for the upholstery fabrics.

The findings show that if a company choose to have an eco-label it should be part of a core value in the environmental policy and marketing strategy. The problem with the eco-label is that it does not show the environmental work within a company. A step forward to communicate the environmental message could be also by educating the customers directly, not only through the sales men. The idea of an environmental handbook which was mentioned by Ludvigson I would believe could give that extra value to the customers and also increase awareness.

There are many channels to improve the environmental message and reach out to the market. Knowledge and awareness of eco-labelled product is connected to what information flows from suppliers and organisations authorities. The most successful companies use their marketing information as an environmental message. I see a potential in that they could influence the closest customer, e.g. in these case studies, White, Input Interiör, Albin i Hyssna and Kinnarp which in their turn could have some effect on the end customer where there a lower level of knowledge how to make better product choices. One obstacle, “knowledge-wise” in public procurement is that lot of responsible procurers in municipalities lack knowledge, so the decisions are not based on a professional level but rather from individual perspectives.

5.1.1 Svensson Markspelle

A lot of factors point in the direction that eco-labelled textiles has increased, at least in the area of contract environment. It is important to understand the purpose of the eco-label. According to this thesis project the main incentives has been because of an increased indirect demand. I call it an indirect demand because both the producer Ludvig Svensson and Albin i Hyssna has implemented eco-labelling schemes because of demand from their customer or
the end customer. But none of the customers White, Kinnarps or Input Interiör mean they demand the actual certification of the eco-labeled product, only that it fulfills the criteria of it.

From a market perspective, the eco-label should be looked upon as a brand, if decided to include in the assortment. You have to on one hand consider the level of recognitions-depending on, from a supplier perspective, what market one act on. On which market are the customers and which label has the highest recognition in the particular customer segment? Literature about eco-labelling brings up the advantages of a certification: improvements of the environmental impact of a product and competitive advantage as a sales argument. But among those advantages the main purpose, to be green, seems to disappear while, small and large companies invest value time and money for the certification. What is the main objective and who takes largest advantage of it - the customer, the producers or the certifying organizations? Why should it cost to be “greener” if you have had a strong environmental commitment and been ahead of environmental development in spite of supervising regulations?

Some opinions from respondents are that the eco-label communicates an environmental message because the value of environmental performance is really difficult to communicate. But the most important thing is that eco-labels do not communicate all the resources a company spends on the overall environmental work. It only communicates a simple model of complex circumstances. Information seems to be one of the obstacles to make a conscious purchase according to theories. The theories show that consumer knowledge, perception and the meaning of the eco-label is important - together with the information around the eco-label. Information is connected to knowledge and environmental awareness but also depending on some kind of added value- like the metaphor in the theory part (p.59) of that individual consumers want to buy eggs from happy hens that have access to the nature. It could be of value for the costumers in the segment at Svensson Markspelle to understand their unique and competitive advantage in having control of the complete supply chain in own production facilities in Kinna - comparing to importing companies or companies only have partly control of the supply chain. According to success strategies of companies, the most successful are those with an core value of ethical and environmental policies - not only affected by customer demand but rather strong commitment in striving for better environment. It is though important to highlight that it is difficult to say if the strategies as same as the third generations companies would have the same effect in the environment Svensson Markspelle act on – but not forgetting- behind every profession there is also individual judgments included even if the sell products in a business-to-business climate and steered by other circumstances in public environment.
5.2 Drivers

Legislation matters, demand and environmental commitment

Upholstery fabrics are produced for long lasting, quality life and are not comparable to the individual consumer market where life cycles of products are much shorter. This background is important to understand the knowledge, need and demand and what drives the development of eco-labelled fabrics. The level of environmental knowledge is stronger in public procurement than on consumer market due to regulations and environmental requirements. On a European level it is seen that consumption patterns can be improved by consumption of more environmental goods and services - the purchasing power in the Public Sector is also considerable large. In Swedish circumstances the demand for environmental friendly products varies between municipalities but is particular strong in the Region of Västra Götaland. In the municipalities with lover knowledge decisions are sometimes made on individual knowledge rather than by environmental policies. Legalisations aspects have not driven the main environmental work at Ludvig Svensson even if they are controlled by reporting to The County Administrative Board. But in general, the textile industries around Region Västra Götaland have been driven the development since the 70’s when Swedish EPA came out with a report with recommendations in switching hazardous chemicals. Drivers in this process have also been Swedish EPA and the Environmental & Quality Group. Some producers have adjusted because of environmental commitment and some other has adjusted to fulfil the requirements of the eco-label. Ludvig Svensson has been ahead of legalisation and adjusted because of environmental commitment and changed hazardous chemicals and heavy metal dyes before implementation of the eco-label. A number of the respondents confirmed that the increased demand of eco-labelled furniture and upholstery fabrics is because of the Green list. The list seems to have had affect especially on the furniture producers but this is probably because they are closer to the end customer than the producer Ludvig Svensson is. Even though the Green list had great penetrating power it is difficult to say if the choices made from the list are active choices. The list is also firstly a tool for the Region of Västra Götaland. What happens with the other companies which are not included and not participants but have eco-friendly or labelled products?

5.3 Customers perspective

The eco-label - according to customer respondents- help to ensure that the products meet environmental conditions. During the thesis project it was discovered that selection of upholstery- or interior fabrics were firstly based on the need of the client. This means that other needs were at least important than selecting an eco-friendly fabric. This was depending on what environment they were supposed to function in. Requirements such as abrasion hard-
ness washability, removable, flame retardant, and eco-labelled choices stand against each other when decision is taken. Even if an environmental better choice always is set in priority this has to stand back for other requirements. At some occasions the end customer has pre-conceived opinions about what is suitable based on individual knowledge. The level of knowledge is important in order to suggest a better material choice. Several respondents are meaning that the Green List has increased the demand of eco-labelled products and help in finding better environmental friendly product choices.

The following part shows the responds of the most important matters which the respondents said during the interviews. One of the interesting aspects to highlight was whether the respondents would select the upholstery fabric without the eco-label - if they had more information about the product. But also what the obstacles were to make an environmental friendly choice.

5.3.1 White:

- Having textile knowledge is important to make a better product proposal if the client has preconceived opinions. This means that customers at some times request an flame retardant Trevira CS for a office room - a better product choice would be an eco-labelled fabric.

- Believes that level of knowledge is depending firstly on personal commitment but also depending on what kind of company you are referring to.

- White has the advantage in that their professions as interior architects are trusted to give guidelines for making better product choices.

- Would choose a eco-friendly fabric ahead of anything else if possible

- The Interior design projects always start from the need of a client or end customer which means that other requirements, based on the need, are higher than the selection of an eco-labelled product. At many times Washability, Abrasion, Flame-protection and an eco-friendly choice stand against each other.

- The choice of an eco-friendly product must perhaps be rejected because of specific requirements e.g. wish for a special colour

- An eco-label is a good communication tool but not sufficient to make an environmental better choice. Information and the actual feeling of a product are just as important. Example: Bute, an English producer of upholstery fabrics

- They never got a request of one eco-label over another. Most common eco-labels are the Nordic eco-label and the EU eco-label which occurs in the interior design projects.
o The purpose of The Green List was to increase the demand of eco-labelled products and influence producers to make less environmental impact of products. The list have made it easier to find eco friendly products

o Eco-labelled furniture is not more expensive than conventional furniture. Price has not to do with if the product carries the eco-label or not in interior businesses.

5.3.2 Input Interiör:

o Believes that EU eco-label and Oeko Tex is rather unknown. The Nordic eco-label is considered to be more known in Sweden

o At many times the requirements of washability, abrasion hardness and eco-labelling stand against each other. More often there is a demand of flame-retardant fabrics e.g. Trevira CS

o Demand of eco-labelled products concerns more furniture than fabrics and textiles. Moreover, a special request of one eco-label over another can happen on furniture but not on fabric

o An increasing trend is influencing the hotel and conference business about eco-labelled products

o Comparing to the Public sector - no environmental demand exist in the Private sector

o Getting a request of an eco-labelled upholstery fabric is very rare, but this differ between different municipalities where environmental requirements looks differently

o Because of the Green List, the Region of Västra Götaland is more environmental demanding - but this does not at all exist, as an example in Marks or Varbergs municipalities.

o The Green List makes it easier to promote environmental friendly products even if they were not demanded at first by the end customer

o Environmental demands is considerable stronger when decisions flows from an organisation with centralized environmental policy. Believes that centrally controlled decisions by the end customer have higher impact and penetrating power than coming from the producer. This is an obstacle in many municipalities - there is no centralized control and many decisions are based on individual knowledge

o She believes that the main purpose of the certification of an eco-label disappear because of high costs - why should it cost more to be greener?
5.3.3 Kinnarps:

- An eco-label (the Nordic eco-label) is valuable because it gives a confidence of its high level of recognition. Kinnarps has chosen not to have the certification of the eco-label because they find the certification to “static”. It does not either give a complete picture of a company’s general environmental work.

- Have chosen not to have an eco-label on the Swedish market but have an French eco-label for the French market because of customer demand.

- Believes that the demand of eco-label will increase because it is easier to communicate with the certification than proof one fulfil the requirements of an eco-label. This is because of following reasons: Firstly you have to be aware of when the criteria are suddenly changed and motivate the circumstances. Ekström calls it a pedagogical accuracy - as it is more convenient having the certification itself. Secondly: It is more costly for the furniture producers to involve a third-party certification in order to show for their customer - With the eco-label, it is much more convenient. Thirdly, it is difficult to communicate an environmental message in an appropriate way.

- Kinnarps sets high environmental requirements because they have responsibility to their customers and because that they want to have control of what they purchase. Because of that they have developed the own Environmental Product Declaration.

- The Green List has affected the interior industry by an increased demand of eco-labelled products, at least for the furniture producers.

- Kinnarps has mostly fabrics which fulfil criteria for fire safety but a mixture of fabrics are desirable.

- As an eco-friendly choice- they would like to see more innovative materials e.g. hemp, linen etc.

5.3.4 Albin i Hyssna:

- Environment is important but the need for high-quality, hardware, removable fabrics are more important.

- Sustainability and environmental friendly products have also to do with the life length of the fabric.

- The main purpose is to create a long lasting environment with quality products. In general, the produced fabrics in the region are of very high quality.

- The decisions to implement eco-labelling is seen as a sales argument and it is difficult to show environmental performance without the eco label.
o Have adjusted their production by exchanging varnish in order to fulfil the criteria for the eco-labelling scheme of the Nordic eco-label

o Besides the eco-label, an obstacle in setting environmental requirements is the irrelevant Environmental Product Declarations which are used by many end customers.

o Even if Albin i Hyssna is not included in the Green List, the increased demand of eco-labelled products has affected them and that is also one reason they decide to get certified.
6 Conclusions

✓ What drives the development and demand of eco-labelled textiles among customers?

The development is driven by the fact that both production and consumption of goods have impact on our environment. It is generally seen that environmental releases of products will lead us into a more sustainable society. What affect circumstances in this subject is that Public Procurement is a big buying force. Mainly it is the end customer who demands eco-labelled products which affect the whole value chain. Environmental approaches have been lead by either legalisation or environmental commitment. The Region of Västra Götaland together with the development of the Green List has increased the demand of eco-labelled products in the region. It has driven either a direct demand or an “indirect demand” of the certification of products.

✓ Why do customers purchase eco-labelled textiles?

The eco-label has the purpose to communicate the environmental performance of a product and it gives an assurance of the product without giving and support the label with extra information. The purpose though differs in the value chain of Public Procurement. Either the customers choose it because own environmental profile to choose first an eco-friendly fabric or if the end customer requires it.

✓ Is there enough knowledge about eco-labelled textiles?

Knowledge is difficult to measure - it depends on what kind of profession you have and which questions you stand in front of every day. Knowledge is lacking in particular concerning the environmental requirements which are set up in the EPD. This is not the main purpose of this project but besides “knowledge” about eco-labelled textiles; this cannot alone be considered in the environment of public procurement as this is only one requirement between many others such as flame retardant, washability and manageable fabrics. Lack of knowledge e.g. exists whether you should choose a Trevira CS or a eco-labelled fabric in an office room. There is a combination of lack of knowledge in textile materials and the eco-label. In particular comparing to the Nordic eco-label and the EU eco-label and that they are very similar.

✓ What are the trends and future prospects of eco-labelled textiles?

According to customer respondents - at least Kinnarp and Albin i Hyssna - they think that the importance of eco-labelled products will increase. This is because it is more difficult to prove that you fulfil the requirements than having an eco-label. For important customers it should be looked upon as a customer service.
A lot of companies in the business world have a clear marketing strategy and the eco-label is part of an overall environmental policy e.g. Scandic hotels. It seems that especially the trends in hotel and conference business will increase but it is difficult to say how this will affect the producer Ludvig Svensson.

**✓ How do a company work forward for less negative environmental impact and eco-labelled textiles?**

In the product segment Svensson Markspelle, the EU eco-label flow scheme shows how product development processes proceeds and interaction between market, sales, design, product board, quality & environment, purchase and dying & processing departments are involved in this process. Ludvig Svensson has been driven by environmental commitment in taking environmental responsibility to achieve something better. Eco-labelled upholstery fabrics were implemented because of customer demand and not to improve environmental work.

**✓ Why do companies choose eco-labelling for their products?**

Svensson Markspelle at Ludvig Svensson has chosen to work with certification of EU eco-label for upholstery fabrics because of customer demand. The label itself communicates an assurance, according to customers, that the product is environmental friendly. There might be though confusion whether customer really demands the certification of the eco-label or if the value of an environmental fabric could be communicated just as well as the label itself. The eco-label is seen as tool to communicate an environmental friendly product but it would be of a preferable benefit to communicate the complete environmental work.

**✓ What can be done to increase knowledge or lack of information of eco-labelled textiles?**

Based on theoretical framework and my case studies, knowledge is connected to information flow and individual commitment of environmental aspects. Tools of marketing communication, information flows and clear environmental policies are important to increase knowledge. These are mainly external organisations, policy instruments and producers. Ecolabelling Sweden has responsible in promoting the different eco-labels; the Nordic Eco-label and the EU eco-label. According to producers it is difficult to defend and eco-label with lower recognition in the market you act on. EU wants to increase the awareness of the EU eco-label but as the Nordic eco-label has a significant higher recognition level in Northern Countries it is today difficult to see how they as two brands can be combined. As a producer you need to have a clear definition whether the eco-label should be part of the overall environmental policy and marketing strategy. As part of an overall strategy it could involve not only communicate envi-
ronmental message through salesperson but also directly to customers. More educational tools such as the homepage printed marketing material, environmental folders etc. Svensson Markspelle should create their “story” about their environmental work from fibre to ready fabric to support the extra value. I believe that they as a producer could affect some customer channels with less knowledge to increase awareness about their environmental work and also, if decided to keep the eco-label in the assortment communicate this information as well.
7 Criticism of the sources

It is sometimes different to distinguish between the demand of “eco-labelled textiles” or the “demand of fulfilling the requirements of eco-labelled textiles”. The research would have reached a higher validity with more respondents from the customer segment and with the combination of a survey. Same result would not have been possible without interviews and talking to people. It must also be considered that different kinds of professions of the customer respondents may cause different kind of replies.
8 Future Research

My view of future research would be especially consideration in:

- How Environment Product Declarations can reach out to producers and suppliers to function efficiently.

- What factors should be considered in efficient marketing communication tools to increase knowledge for the customers of textile producers in a public environment. Ludvig Svensson could evaluate and plan for how environmental messages could be performed in an efficient way.

- Check prevalence in the hotel and conference business - how will this affect consumer markets but also producers.

- How the future of the recognition about the EU eco-label compared to the Nordic Eco-label will be and how they can be combined.
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Appendix 1

Interview guide Customers

This thesis project aims to explore the occurrence of and development of eco-labelled textiles based on knowledge, need and demand. The project is an assignment within the degree of Master at the program Applied Textile Management at the Swedish School of Textiles, University of Borås. The project is done by collaboration and with the interest of Ludvig Svensson AB.

The purpose of the questions is to act as a guideline for the subject and to give the opportunity to keep openness in respect of each and every one’s individual profession. The questions are supposed to be followed up by personal contact. Same questions are aimed to interior design companies, furniture producers and architect designers.

- Can you give a description of your company background and what is your specific role in the company?

- What kind of requirements do you have when purchasing and selecting upholstery fabrics?

- In which situations is it essential to choose an eco-labelled upholstery fabric?

- Does it happen clients have specific requirements of an eco-label? E.g. EU eco-label ahead of the Nordic Eco-label

- What aspects are most important when purchasing and select an eco-labelled upholstery fabric? E.g. Quality, Price, Service, Eco-label, Other

- Do the end customers require specific eco-labels?

- Why it is important choosing eco-labelled products or textiles?

- What do you think of the difference between the most prevalent eco-labels in the North? Which ones are you aware of most?

- Is it important with textile knowledge at the choice of eco-labelled textiles? What is your understanding of the environmental impacts of conventional fabrics?

- Do you feel as if you have enough knowledge about what an eco-label stands for? Whose responsibility do you find it is to give information about environmental information and eco-labels to increase knowledge? What could be improved?

- Regarding the above: What are your expectations of your suppliers vs. external organizations?
• Are there any eco-labels you are considered to be better than others and if so, why?

• Why do you buy an eco-labelled fabric or textile? What aspects are most important for the final customer demand?

• Would you buy a textile which are not certified with an eco-label but if the company could produce environmental friendly products and perform its information in a clear manner? If yes and if no, why?

• Consider other environmental aspects in addition to the specific eco-label? E.g. if you know that the product contains recycled materials / fibers etc or other

• What happens with old upholstery fabrics when customers want to replace them—does it exist any recycling?

• Can you mention your 3-5 biggest end users of that specifically include Ludvig Svensson, eco-labelled upholstery fabrics?

• What characterized the different end-customers' demands for an environmentally certified textile? E.g. what types of customers require specific eco-labels or other high environmental standards? If possible to compare the difference between private and public enterprises

• What do you know about Ludvig Svenssons environmental work and eco-labelled upholstery fabrics? Advantages, disadvantages comparing to competitors textiles?

• How has the market changed for you since the launch of the Green List? Positive and negative?
  - E.g. how can you measure what it provides specifically for you, knowledge, gain benefits, etc.
  - Have you seen a result of increased demand for eco-labelled upholstery fabrics through the Green List?
  - Do you consider the Green List a good tool and in what way?

• Is there finally something that could be improved in order to increase knowledge of eco-labelled products or textiles? Would more information from your supplier be of value?
Appendix 2

Interview guide Svensson Markspelle, Ludvig Svensson

In the traditional research project you work for a plan how the whole arrangement, the design of the project, will be performed. It may show the content and the ingredients of the design process and how different procedures will be used (Backman, 1998, s.54.)

The plan of procedure and the interview guide are supposed to cover the insight I think I need before planning the questionnaire and interview questions for the customer in the specific customer segment at Ludvig Svensson.

Sales & Market

- What type of customers and which are the most important?
- What are the most common environmental requirements the customer are set?
- Do the requirements differ depending on what kind of customer it is?
- Do customers question about the EU eco-label or requires one eco-label over another?
- Is it sufficient to have an eco-label or what other environmental requirements are put?
- Do you believe that customers need more information e.g. what the eco-label stands for?
- Is it common that customers compare competitors concerning environmental performance and different eco-labels?
- What do you believe about the Green List? Has it increased sales or increased knowledge in anyway?
Design

• What has driven the demand of eco-labelled interior textiles and in general?

• How has the trends been concerning environmental development, choice of material etc.?

• Why is eco-labelling chosen for upholstery fabrics?

• Why was in particular the EU eco-label chosen?

• The customers you meet, architects etc do you find them having knowledge about environmental impact textiles cause?

• Do you find it important for customers to have that knowledge?

• How do you plan in the product development phase when designing a new collection to be able to be certified with the eco-label?

• What is important to think in when it comes to environmental aspects as some fibers have larger impact on the environment and perhaps more difficult for certification of an eco-label?

• Can you give more information about the ecological collections and what is “Environmental mentality”?

Quality & Environment

• Background of Ludvig Svensson environmental work? Any corner stones and green policy?

• How long has Ludvig Svensson worked with eco-labelling?

• Why did you start with eco-labelling?

• Can you explain laws and regulation for procurement of contract textiles?

• When you develop work with eco-labelling have you looked at competitors or demand? Or what have controlled that development?

• Interaction between design, marketing, sales and quality and environmental work when launching new collections?

• Do you work with other ways and improvement of lower impact environmental in product development?

• Define requirements for textiles when companies procure in contract environment?

• Can you give a background of the chosen materials connected to environmental aspects? Eco-labelling in contrast to colour resistance, flame resistance etc.
• Can low environmental fibres succeed criteria’s for contract textiles?
• Do you think it is important to be inventive related to competitors when it comes to produce environmental products?
• What is outstanding with Ludvig Svenssons products comparing to competitors?
• What does it give to you to work with The Green List by Considerate Design?

**Dying & Processing**

• How are you involved in the development of a new product range in order to complete the certification of an eco-label?
• Can you tell how you work and what kind of problems that occur in the certification process?