**ENVIRONMENTALLY RESPONSIBLE** IS THE NEW **BLACK.**

*Research on how starting brands in the apparel industry can build an environmental responsible supply chain until the stage of manufacturing*Bachelor of European Studies | Faculty of Management and Organization

The Hague University of Applied Sciences | 19th of September, 2016



*“Every time you spend money, you're casting a vote for the kind of world you want.”*

― Anna LappéFOREWORD

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This research is written as completion to the HBO Bachelor European Studies at The Hague University of Applied Sciences. The bachelor focuses on international matters within the public realm as well as the private domain. The subject of this research falls, hence perfectly in the scope of the bachelor, as it supports on one hand the apparel industry, whilst contributes to addressing issues concerning the society as a whole.

With a companion, I am starting my own business in the apparel industry. This made me realize that I find it extremely important to conduct an environmentally responsible business. However, I found it rather challenging to find tools that provide understanding of how to build a responsible business as a brand in the apparel industry. This was on one hand not extremely surprising, as quite some pressure has been put on the apparel industry during the past years. On the other hand, there is quite some information available on Corporate Social Responsibility. The latter seems however a concept under which bigger scaled businesses conduct their business to operate (more) responsibly.  The impact of the apparel industry is known, however not necessarily integrated into applicable solutions suitable for small-scaled apparel businesses. At least, not for starting brands that would like to act more responsible towards the environment without necessarily aspiring to become a ‘‘best-in-class’’ practice.

Gotong Royong World is the name of our brand and signifies *‘‘the joint sharing of burdens; the bearing of the weight of the world, together with trusted friends.’’* The brand is built on always striving to become better at doing better, simply because it is a responsibility, which is in fact one of our stated core values. As this thesis, the clothing brand allows me to merge my passion and interests into one project: doing better, humans and business strategies, clarifying my fascination for human centered approaches in economic activities.

The research had been conducted during the academic year of 2015-2016, a time frame that I did not foresee in advance. Defining a research question that was valuable to the apparel industry, feasible to research and clear for myself as an owner of a starting brand was certainly challenging at times. However, data related to recent publications after the first hand in date (May 2016), included probably the most valuable information for completing this long research.

I would like to thank Esther Schagen for her patience and encouragement through the process of searching the exact scope and writing this dissertation. Her feedback contributed hugely to understand the link of the stated information to the purpose of this research. Furthermore, I would like to thank all respondents for sharing their experiences, perspectives and expertise. My research would not have been complete without this information. I hope this research will be valuable for the starting brands that participated in this research.

*Eva Le*  **September 18, 2016 Amsterdam**

# EXECUTIVE SUMMARY

Corporate social responsibility, particularly in the field of the apparel industry, is subject to lots of discussion. Several tragedies have led to a growing concern with regard to the impact of the fashion industry on the environment. The apparel industry needs to find a balance between taking responsibility on the one hand and keeping up with the consumers’ demand for fast and low-cost apparel on the other hand. Finding a responsible way to build a responsible business seems a to be challenge, especially for smaller scaled businesses, without compromising their competitiveness in the growing jungle of fast-fashion giants.

In response to the apparel industries threat on the environment research has been conducted to find out how starting business in the apparel industry can build an environmentally responsible business by taking environmental sound decisions.

Data was acquired via scientific literature review, desk research, and semi-structured interviews with starting apparel brands. Results from scientific literature review have been cross-referenced with results from semi-structured interviews. The first three components of the supply chain seem to be a challenge for starting brands when it comes to conducting environmentally responsible business.

By means of a framework, apparel companies should be assisted in (1) gaining insight in supply chain decisions that need to be taken and (2) establishing a brand in which environmentally sound decisions can be taken within the context of priorities established according to a brand’s overall strategy. This framework considers thus the challenges of starting brands when engaging in environmental sound practices.

The three components studied in this dissertation were concept & design, suppliers and manufacturing. It appeared that no particular approach is taken in the stage of concept & design. As a consequence, opportunities are missed in the alignment of a brand’s overall strategy, a crucial factor when adopting the ‘‘right strategy’’. Also, finding matching suppliers’ carries along several dilemmas, especially in terms of logistics. Furthermore the perception of complicated processes when engaging in environmental practices often prevents starting brands from actively explore the opportunities in environmental sound practice   
 The framework addresses not merely challenges that starting brands stated literally, challenges have also been identified by exploring other given answers throughout the interview. Evidently, interviews were conducted after studying extensively literature upon the matter. The drawn conclusions of scientific literature review and desk research can be found in section 2.6. The conclusion drawn upon empirical research has been set out in chapter 5. The report concludes by presenting the developed framework, which can be found in chapter 6.

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# 1. INTRODUCTION

This chapter describes the background, problem identification, main- and sub-questions, concept definitions and objective of this dissertation.

## 1.1 Background

Corporate social responsibility, particularly in the field of the apparel industry, is subject to lots of discussion. According to Business for Social Responsiblity & Futerra (2015) *“sustainable products, services and behaviour are the future. They are better for business, consumers and the planet, and increasingly consumers are asking for them: 93% of global consumers want to see more of the brands they use support worthy social and/or environmental issues”* Yet, the era of globalization allowed – or required – for supply chains to become more and more complex and evolve at a rapid pace, in order to meet the demand of the consumer, which has had serious consequences on a social front. The Tazreen Fashion Factory and Rana Plaza Factory are just two of the many tragedies that have happened in the past few years (Burke, 2013; Westervelt, 2015). These tragedies do not only illustrate the impact of supply chains’ complexity on a social front, but also on an environmental front, since it affects both, the earth’s as well as human’s well-being.

We have come to realization that globalization comes with both, a bright side and a dark side: the United Nations stated *‘‘Globalization has two faces, one potentially very destructive, but another that presents historic opportunity for society like ours’’* (United Nations Environment Programme , 2007). Altering nature by taking away natural resources and adding unnatural elements, before it is able to restore its health, disturbs the balance of various ecosystems (Chouinard & Stanley, 2012, p. 33). In 1979 the US Environmental Protection Agency identified 62.000 of unscreened or illegitimate industrial chemicals in the marketplace, of which only few hundred were required to test.

In fact, nowadays traces of 200 chemicals can be found in your body that are unfamiliar to your ancestors (Chouinard & Stanley, The Responsible Company, 2012). Fortunately many chemicals have a harmless impact on our health when acting independently, however prove hazardous combined with another chemical (Goleman, 2009). Given that the garment industry is the most polluting industry after the oil industry (Ditty, 2015), this is not only precarious for human’s health but also affects the health of the planet. The manufacturing process of clothing does not only put pressure on the environment by the heavy usage of water and energy, but also by intensive use of chemicals when dyeing and bleaching fabrics. An estimated number of 8000 chemicals are being used in the apparel industry, being accountable for approximately 20% of industrial water pollution (Jackson, 2014). The environmental impacts to be considered in the apparel industry comprise waste generation, water, chemicals, energy use, carbon dioxide and air emissions (Nordic Fashion Association, 2016).

In response to the apparel industries threat on the environment the United Nations partnered with the Nordic Initiative Clean and Ethical (NICE) to promote responsible and sustainable business practices, addressing human rights, labour and environmental issues. The collaboration aims to create a platform to unite small and medium-sized apparel companies around the world in tackling sustainability challenges within the industry (King, 2012). NICE is not the only initiative focused on inciting responsible practices in the apparel industry. On the 4th of July 2016 an historic moment took place, as more than 50 apparel companies signed an IMVO-covenant for ‘sustainable and responsible apparel and textile’ (Bijma, 2016). MODINT[[1]](#footnote-1) Chairman Han Bekke called it *‘an historical step towards a fair and just textile and apparel industry worldwide’*. Companies that have signed the covenant promise to take demonstrable steps to improve in several areas, including labour conditions, wages, and the environment. The thread that links them all is *due diligence:* objective is to acquire a clear view of the supply chain, risk management and account for risks. Though it is a giant step forward, it is not easy to actually make this happen. A business activity in the modern supply chain seems to provoke disturbed balance in multiple dimensions. This highly impedes spotting the core of issues in a supply chain and, hence comprehending issues prevailing on various dimensions. The apparel industry seems to need to find a balance between taking responsibility on the one hand and keeping up with the consumers demand for fast and low-cost apparel on the other hand.

## 1.2 Problem identification

Supply chains seem to have become a discipline on itself, as there is no universal one-size-fits-all-approach (Thomas, 2012). Richards (n.d.) states that the right business strategy is a strategy that is aligned with the basic principles of a company’s values, mission and vision. During the last two decades businesses in the apparel industry have, intensively, sought new approaches to gain competitive advantage (Abtan, Bellaïche, & Vahle, 2013). Abtan et al. (2013) state that in order to optimize their efficiency, businesses redesigned their supply chain according to their own instincts to provide their own unique value position. Numerous approaches emerged over the years, intensified by the modern trends of globalization and digitalization (Fernie & Grant, Fashion logistics: Insights into the fashion retail supply chain, 2015, p. 7).

Finding a way to build a responsible business seems to be a challenge for Small and Medium Sized Enterprises (SMEs), without compromising their competitiveness in the growing jungle of fast-fashion giants. SMEs tend to have a narrow vision and short-oriented goals when compared to Multinational Enterprises (MNEs) (Smith, 2014). Also, the manager-owner of an SME is often the founder of the business (Smith, 2014). A small business may, therefore, have a stronger profit-oriented drive since private assets are risked in building the business, whereas a CEO at an MNE is rather a hired manager (Luthold, 2010, p. 11). When compared to an MNE, the structure of an SME differs evidently in size, which often results in a flat organizational structure, contributing to a less formal approach. Another difference between SMEs and MNEs to be pointed out is their ability to access resources (Morya & Dwivedi, 2009; Nguyen Trung & Belihu, 2010, p. 6; Paik, 2011, p. 10). Scarcity of resources affects, besides lower specialization, the access to (updated) information systems. It is for a business with limited capital difficult to keep up with the pace of modern technology and information systems (Morya & Dwivedi, 2009). A small business in the retail industry operates in a highly dynamic industry, constantly facing economic challenges as it depends highly upon the economic prosperity of a nation. It is, however, difficult to respond quickly to these market dynamics without updated information systems. These limitations relate strongly to barriers SMEs encounter when engaging with environmentally sound practices.

In light of all this, it is not a surprise that in practice it turns out to be quite difficult for SMEs to actually respect the IMVO-covenant. According to Han Bekke *“MNE’s experience the legal side of the covenant as a barrier, as it’s not yet clear what legal consequences their signature has, whereas SMEs experience mostly organizational barriers: often, SMEs do not have a manager specifically assigned to CSR and don’t know how to get a clear view of the whole supply chain. What’s more, SMEs experience to have a smaller influence when it comes to adjusting labour and environmental conditions as they often don’t order in bulk”* (Bijma, 2016). In line with this, Spence and Painter-Morland (2010) name various barriers that SMEs face when engaging with environmentally sound initiatives, including lack of awareness with regards to eco-efficiency and benefits of eco-efficiency, limited accessibility to data, expertise and tools, and governing on macro-level (Spence & Painter-Morland, 2010). Environmental matters that are in particular difficult to address for small businesses include waste programs, sustainable development of raw materials and emissions (Williams, n.d.). As the supply chain is complex in nature, these environmental aspects are thus reflected in numerous stages of the supply chain.

This could explain why, when compared to large corporations, SMEs are very little brought in conjunction with the concept of Corporate Social Responsibility (CSR) in literature (Corporate Social Responsibility for SMEs, n.d.). Although small businesses may formally not seem to partake in CSR, it does not imply that smaller companies with less impact do not have responsibilities towards environment and society.

According to Fran (2015) *‘‘doing well by doing good’’* is not merely a true cliché for starting companies, but actually has potential to result profitably. An example that supports this claim is for instance Pantagonia, of which the founder Yvon Chouinard states *‘‘At Pantagonia, making profit is not the goal because the Zen master would say ‘profits happen when you do everything else right’.’’* It seems that certain traits of smaller scaled businesses allow SMEs to engender naturally in some practices of social responsibility, which could lead to profitable results. Overall, it appears that the less-corporate nature of a small business contributes to simplifying the challenge of formally engaging with CSR practices for SMEs. This seems to be supported by a study of Battaglia, Testa, Bianchi, Iraldo, & Frey, 2014 (p. 874) in which has been stated that a responsibly acting company can result in reduction of costs and risks.

Different circumstances clarify thus the difference of CSR practices within SMEs and MNEs. These circumstances seem on one hand to impose limitations, however could on the other hand bring along opportunities. Understanding these limitations and opportunities in relation with environmental aspects allows a starting company to find the right balance to make savvy decisions while minimizing the environmental impact.

Modern trends have played a significant role in how supply chains evolved over the years. The latter seems to have influenced SMEs differently than MNEs. It seems for SMEs particularly difficult to conduct business in an environmental sound way, without compromising their competitiveness in the growing jungle of fast-fashion giants. The supply chain’s complexity makes it rather challenging to understand what decisions are involved in the supply chain and how these can be taken environmental sound, while within the limits of a small business’ capabilities. This results in the main-question as defined in the following section.

## 1.3 Main question and sub-questions

The background and problem identification lead to the following main question:

*How can starting brands in the apparel industry build an environmentally responsible*

*supply chain?*

Answering the main question requires the following sub questions to be studied:

1. What does the supply chain of the apparel industry imply?
2. What does environmentally responsible supply chain management encompass?
3. What techniques already exist to develop an environmentally responsible business?
4. What are the challenges starting apparel brands currently face in the supply chain?

## 1.4 Concept definitions

**Environmentally responsible** has in this research been defined by exploring the concepts SCM and CSR. The definition set for this research is *‘‘Taking responsibility towards the environment, ecological aspects, waste and pollution reduction processes on the employed resources by considering carefully decisions to be taken in the supply chain. The latter refers to decisions regarding production, inventory, location, transportation and information, affecting medium term longer. ’’*

**Environmental sound**, see environmentally responsible.

**Framework** defined by Business dictionary (n.d.), signifies *‘‘Broad overview, outline, or skeleton of interlinked items which supports a particular approach to a specific objective, and serves as a guide that can be modified as required by adding or deleting items.’’* In this research it has been approached as a recommended format to present the advice in.  
**Responsible Supply Chain Management** , also known as RSCM, has no univocal definition. For this research the attempt of the International Chamber of Commerce has been used *‘‘Supply chain responsibility, also referred to as responsible sourcing, can be broadly defined as a voluntary commitment by companies to manage their relationships with suppliers in a responsible way. ’’* In this thesis RSCM covers a broad spectrum, clarifying why terms as ecological, sustainable and environmental friendly have been approached as equally relevant for this research.

**SME** defined by European Commission (n.d.), signifies Small and Medium-sized Enterprises employing a maximum number 250 employees. Furthermore (a) turnover does not exceed €50 million annually or (b) the balance sheet does not exceed €50 million annually. However slightly differing in criteria, Small and Midsize Business (SMB) is the equivalent term of SME used in other regions of the world.

**Starting brand** has for this research been defined as an apparel brand that has been established since a maximum of three years. Besides the founders maximum three people work under a contract of employment.

## 1.5 Aims and objectives

The objective of this research is to provide starting brands a framework to increase understanding of the supply chain and the accompanied decisions to be taken, so that these can be considered responsibly towards the environment. The framework assists starting apparel companies to (1) gain insight in supply chain decisions to be taken, and (2) establish a brand in which environmentally sound decisions are taken within the context of priorities established according to a brand’s overall strategy, fitting to the characteristics of a starting company, rather than a strategy of a largely scaled MNE. Business exit planner, Koos Kruger, approaches a start-up as an early stage SME (Waters, 2016), considering this, such a framework would thus provide starting apparel-brands an opportunity to grow responsibly into an SME. In a broader context, the research aims to contribute to a change in the apparel industry by offering starting brands a framework in order for them to grow into SMEs on one hand, while providing the increasingly demanding consumers an environmental responsible alternative on the other hand.

Since the objective of this research is to provide assistance to starting apparel brands to establish a environmentally responsible supply chain by making environmental sound decisions, merely attention has been given to notions that give support to this endeavour. The framework will thus not provide advice on how to be more responsible on social aspects, as the focus lies merely on environmental matters. Lastly, the study encompasses the supply chain from the design stage until the manufacturing stage, in which decisions are considered addressing waste generation, water, chemicals, energy use, carbon dioxide and air emissions. Hence, matters related to distribution from the finished product on to businesses or consumers will not be taken into consideration.

## 1.6 Reading guide

The second chapter, ‘theoretical framework’, will provide an answer to sub-question 1, 2, and 3. It is a relatively long chapter, since it forms the base of this dissertation and will illustrate (1) what the supply chain of the apparel industry implies, (2) what environmentally responsible supply chain management encompasses, and (3) what techniques already exist to develop environmentally sustainable business. The third chapter will outline the methodology, covering measurement instruments, sample design, validity and reliability, and how obtained data has been processed. The challenges encountered in the apparel industry on both, strategic as well as on tactical level will be outlined in chapter four. A conclusion of the overall discussed topics and answer to the main question will be set out in chapter five. Finally, findings will be integrated into a framework that provides starting apparel brands assistance in establishing a more environmentally sound supply chain, which will be illustrated in chapter six

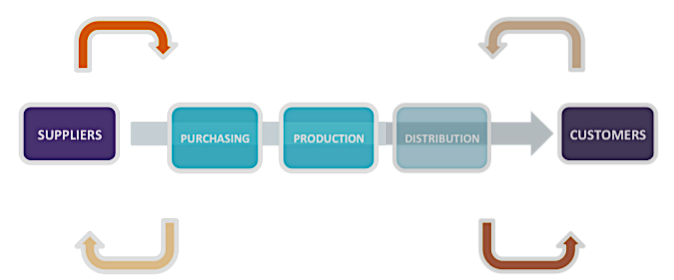
.2. THEORETICAL FRAMEWORK

The goal of this dissertation is to provide an answer to the question *“How can starting brands in the apparel industry build an environmentally responsible supply chain?”* The goal is thus, to provide starting brands with a tool, which enables them to increase understanding of the supply chain and the accompanied decisions to be taken, so that these can be considered responsibly towards the environment. In order to improve the supply chain in terms of being more environmentally responsible it is necessary to first gain understanding of the apparel’s industry supply chain in general. This section provides an answer to the first sub-question and describes *what the supply chain of the apparel industry implies.*

## 2.1 The supply chain of the apparel industry

Supplying a final product to the end-user consists of many different stages. It requires raw material, semi-finished material or products to pass through several stages of a network consisting of various companies. The companies participating in this network contribute in their own way to delivering the final product to the end-consumer. All activities that take place in this network in this process, including its participants, are called *the supply chain* (Investopedia, n.d.).

The supply chain is illustrated in Figure 1 and describes the supply chain in a relatively simple version.



Information

Communication

FOCAL COMPANY

External supply chain

Internal supply chain

Communication

Information

Figure 1: The internal and external supply chain (Bratić, 2011).

Activities in the supply chain include buying, manufacturing, moving, storing and selling products (Information Resources Management Association, 2013). In Figure 1 these activities pertain to the three blue boxes in the centre; Purchasing, Production and Distribution in the internal supply chain. The focal company regulates these three elements, indicated as a blue frame in the Figure. Besides regulating purchasing, production and distribution the focal company interacts with its suppliers and its customers, pointed out as purple boxes at the beginning and the end of the supply chain. Interacting suggests that communication takes place so that information can be transmitted, which is illustrated by the orange arrows in the figure. The activities buying, manufacturing, moving, storing and selling involve the order itself, the transportation of products and the financial transaction, suggesting that the entire supply chain comprises the flow of information, goods and funds. In this thesis the starting apparel business is the focal company. As stated in the objective, the study addresses the supply chain from the design stage until the manufacturing stage. Since an order originates from a particular idea to be converted in a product, the design process can therefore be added to these activities. Matters related to distributing the finished product on to the customers and beyond, indicated as the red dashed line in Figure 1, will thus not be discussed in this paper.

Figure 2 illustrates what aspects to be considered before the product is finished.

**MATERIALS MANAGEMENT**

**PHYSICAL DISTRIBUTION MANAGEMEMENT**

**LOGISTICS MANAGEMENT**

Figure 2: Logistics management (Fernie & Sparks, Insights into current practice and trends from leading experts, 2004)

This illustration shows that the aspects to be considered focuses mainly on materials management, which includes the elements emphasised in Figure 2: raw materials, parts, packaging and materials. As illustrated in Figure 2 logistics management consists of both materials management as physical distribution management. Materials management implies raw materials, parts, packaging and materials. Raw materials in the apparel industry refer to the basic substance of which the fabric is made. The basic substances mostly used in the apparel industry are cotton to manufacture cotton and petroleum. The latter forms the basis of the fabrics polyester, nylon and acrylic (Nordic Fashion Association, 2016). Parts refer to complementary elements to make the product ready-to-distribute; these can for instance be labels and tags. Another complementary element, however defined on it self, is packaging. Finally, the textiles, of which the clothing items are made, are in Figure 3 referred to as Materials.

However, physical distribution management and logistics management of figure 2 cannot be fully ignored. In order for raw material to result into a finished item, which determines inventory to a great extent, semi-manufactured goods have to be transported. This will be done after the order has been communicated, as has been emphasised in Figure 2. In Figure 3 the elements transportation and communication are stated as Transport and Data, framed in yellow lines; logistics management.

**>>**

**>>**

**>>**

**>>**

WAREHOUSES

**MANUFACTURERS**

CUSTOMERS

STORES

**SUPPLIERS**

Supply chain management

Logistics  
management

Figure 3: Supply chain management and logistics management (Anwar, 2010)

Besides product manufacturing, the supply chain involves logistics management. The activities of logistic management support the activities that take place in the internal supply chain, since raw material or semi-finished products have to be moved from one supply chain location to another. Maximize efficiency in moving products from one location to another requires to deal with planning and the transaction flow of goods, information and other resources between sourcing point an end consumer. The entire supply chain process consists thus of managing two core processes: Supply Chain Management (SCM) and logistics management. Anwar (2010) provides an overview on how functions of these flows interrelate (Figure 3). As in Figures 1 and 2, merely the emphasised elements will be discussed throughout this research.

Figures 1, 2 and 3 describe the supply chain in a relatively simple version. However, what the most effective supply chain looks like in detail varies per company. Another factor affecting the details of a supply chain is for a business’ choice to work with semi-finished products instead of raw material. The exact steps and order of executing these steps can vary per fashion label, suggesting that businesses’ adopt different strategies resulting in different supply chains. In other words, different approaches can be taken to manage a company’s supply chain.

To resume, advice will merely focus on assisting starting apparel brands in establishing a more environmentally responsible supply chain until the finished product. Hence, attention will thus merely been given to the first stages of the supply chain. These stages involve the focal company, regulating purchasing and production, and the company’s suppliers as been described in Figure 1. Furthermore focus will be laid on materials management pointed out in Figure 2. In addition, aspects related to transportation and communication (Figure 2) will be discussed, referred to as Transport and Data in Figure 3. These elements provide thus an answer to *what the supply chain of the apparel industry implies*, which has been stated as the first sub-question of this research.

The existence of different supply chain strategies, indicate how supply chain decisions can vary greatly. It simultaneously clarifies why the outlook on responsible supply chain decisions can be so debateable. This ambiguous perception of responsible supply chain management will therefore extensively be elaborated in section 2.2. Before doing so, attention will be given to the differences between SMEs and MNEs.

## 2.2 Different traits of start-ups, SMEs and MNEs

This section sets out a company’s characteristics to be taken into account when advising starting apparel brands. This means that the factors to be considered will be studied, supporting the endeavour of developing an effective framework rather than providing an answer on a specific sub-question.

As has been set out in the introduction SMEs and MNEs deal with different situations due to their different characteristics. This affects how supply chain management is conducted in a firm. Hence, it should be identified what these differences mean for supply chain management when taking environmental sound decisions. This section outlines these characteristics, so that advice can be given that addresses exactly the difficulties of a starting apparel brand.

It may have been noticed that throughout this research the terms starting apparel brands, - companies or - businesses have been applied, rather than the term start-up, as business exit planner Koos Kruger did in his approach; considering start-ups as an early stage SME (Waters, 2016). On Investopedia, Fontinelle (n.d.) clarifies the term start-up as the following:

*‘‘A start up is a young company that is just beginning to develop. Start-ups are usually small and initially financed and operated by a handful of founders or one individual. These companies offer a product or service that is not currently being offered elsewhere in the market, or that the founders believe is being offer in inferior manner. ’’*

This implies that it is likely for a starting apparel brand to be considered as a small business, rather than a start-up. Board member of investor group Sydney Angels, David Jackson, also points out that small business generally offer traditional products and services than advanced technology (Waters, 2016). According to these statements it can thus be stated that the definitions ‘start-up’ and ‘starting apparel company’ cannot be used interchangeably. In order to distinguish these definitions as different concepts, this research has adopted the term ‘starting apparel company’ as a reference to the focal company instead of start-up.

However, both definitions take approaches in which the element ‘start’ refers to a company’s initial stage of operations. Besides on marketing a different type of product, start-ups and small businesses show similar visions in multiple ways, entailing tech-savviness, motivate employees on a more personal level, confidence, experimenting strategies, offer employee equity and transparency for both the employees as customers (Richelson, 2015). It is important to identify these traits so that an effective framework can be designed. This implies a framework that addresses the important aspects of a starting company in its growing stage to develop into a Small and Midsize Business (SMB), or Small and Midsize Enterprises (SMEs), as how it is known in Europe (King T. , 2015). Offering employee equity is however not considered relevant for this thesis, as this is rather a reward for an employees’ longstanding commitment. The latter relates to day-to-day achievements and can thus be linked to day-to-day decisions, the operational level of SCM.

In a way, start-ups and SMEs thus show some common traits. In contrast, clear differences can be perceived between the orientation of a Multinational Enterprise (MNE) and the orientation of an SME. According to Morya & Dwivedi (2009) ‘‘the orientation of a firm is a set of priorities that defines the existence of that firm in internal and external environment’’. As stated in the problem identification, a company’s right strategy is aligned with its basic principles (Richards, n.d.). The orientation of a firm plays an important role in this strategy as these circumstances determine how expectations are going to be met, influencing eventually supply chain decisions. Details of the differences between Small Medium Enterprises (SMEs) and Multinational Enterprises (MNEs) according the classification of Morya & Dwivedi (2009) are outlined in Figure 4. Cultural aspects will, however, not be considered, as the approach (Morya & Dwivedi, 2009) is based on the assumption that SMEs interact very little with supply chain partners in other parts of the world. This assumption is, however, not applicable to the apparel industry, as the apparel industry is rather highly globalized (Major, 2015). Figure 4 sets out the elements of the orientation of a firm by Morya & Dwivedi (2009).

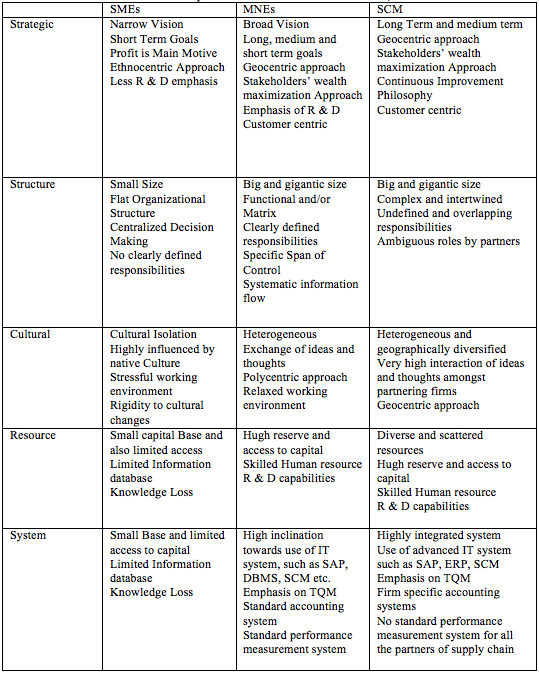


Figure 4: The orientation of SMEs, MNEs and SCM. Source: (Morya & Dwivedi, 2009)

Figure 4 shows that in terms of strategy, the vision of SMEs tends to be narrow and their goals are rather short-term oriented. The manager-owner of SMEs is often the founder of the business (Smith, 2014). A small business may, therefore have a stronger profit-oriented drive since private assets are risked in building the concerning business, whereas a CEO is rather a hired manager by a MNE (Luthold, 2010, p. 11). Compared to a MNE the structure of an SME differs evidently in size, resulting in a flat organizational structure, contributing to a less formal approach. The latter benefits the flow of communication, as a more personal approach is taken, encouraging higher engagement of management and employees in for example decision-making.

Another difference between SMEs and MNEs to be emphasised is their ability to access resources (Morya & Dwivedi, 2009; Nguyen Trung & Belihu, 2010, p. 6; Paik, 2011, p. 10).

Limited access to resources suggests that staff members are rather assigned to a variety of tasks, than having a specific specialization as a consequence of lack of employee turnover, which could affect managerial capabilities. This also implies less skilled Human Resources, and affects resources to perform auditing. Scarcity of resources affects, besides lower specialization, the access to (updated) information systems. It is for a business with limited capital difficult to keep up with the pace of modern technology and information systems (Morya & Dwivedi, 2009). A small business in the retail industry operates in a highly dynamic industry, constantly facing economic challenges as it depends highly upon the economic prosperity of a nation. Prosperity of the retail industry will follow as the economic well being flourishes and the citizens have more money to spend (Lewis, 2010). It is, however difficult to respond quickly to these market dynamics without updated information systems. These traits seem to be in accordance with the similar vision stated by Richelson (2015), which will be set out below.

1. Tech-savviness

Since small-scaled retail businesses operate in a highly dynamic industry with many economic challenges, it is in particular important to understand the opportunities of technology. In order to run a smarter business, it is crucial for business owners to understand how to employ technology in such a way so that it is able compete with its competitors while using effectively its scarce resources.

2. Motivate employees on a more personal level and confidence

As the manager-owner is often the founder of the small scaled business, the organization has rather a flat organizational structure. A flat structure makes it easy to approach on another, including the founder of the business. This could encourage higher engagement of management and employees, allowing employees to feel involved and having the opportunity to discuss individual opportunities. Also could higher encouragement between employees and managers be valuable for decision-making processes as both employees and managers experience a sense of progress and development when goals are met. Building this trust is important, as valuable information will not solely derive from hard data, but also from qualitative, personal resources. A flat organization can thus contribute tremendously to growing a business.

3. Experimenting strategies

Only because a business has progressed a lot further than its initial stages, it does not mean it should stop experimenting with strategies as an SME. In order to stay ahead of its competitors it requires a constant understanding of your variables that could be for instance, software and product categories, but also how tasks are assigned between staff members. Limited number of staff members could affect managerial capabilities as a variety of tasks are assigned to one employee, suggesting less specialized skills. Understanding the variables in the business provides an insight on how these can be influenced to improve the outcome of the operations.

4. Transparency

Growing a starting and/or small-scaled business requires building trust in the company and its offerings. Building trust is not only important for a company’s employees, but also to a business’ (potential) customers. Staff members need to know where a company heads to in order to be able to feel commitment and customers need to know what product a company offers before actually buying clarifying free trials and ‘‘tasting rooms’’. Besides getting to know the product itself, customers also a company’s disclosure of internal operations, which could for example refer to revealing ingredients, but also whether the business deals with ethical suppliers. Transparency for employees’ seem easier to achieve due to its flat organization, which has also been discussed in the second point.

It seems thus that few of these characteristics could contribute to engaging in environmental sound practices, whereas other characteristics seem rather to pose barriers. The next sections elaborate on how these characteristics fit in environmental sound approaches.

This section has shown that the size of a business determines to a great extent the nature of a company, affecting thus how supply chain decisions are taken. It is vital to understand the similarities of a starting company and a SME so that advice can be given that not merely considers the characteristics of the starting brand itself, but also allows a starting brand to develop into SME that is resilient enough to tackle the barriers SMEs face to become environmental responsible. These characteristics were investigated so that a framework, in which findings will be adopted, can be designed that addresses exactly the difficulties of a starting apparel brand. What environmental responsible supply chain decisions exactly imply will be discussed in section 2.4.

## 2.3 Responsible Supply Chain Management

In order to be able to define environmental responsible supply chain, it requires an understanding of Responsible Supply Chain Management (RSCM). This concept will thus be used as a support to define the term environmental responsible supply chain, which will be set out in section 2.4. The concept of RSCM, consists of two different elements: Corporate Social Responsibility (CSR) and Supply Chain Management (SCM). Both these concepts will be elaborated on separately.

There are various approaches of defining the term Responsible Supply Chain Management. The term has, however, no clear univocal definition (Szegedi & Kerekes, 2012, p. 69). The attempt of the International Chamber of Commerce is as follows:

*‘‘ Supply chain responsibility, also referred to as responsible sourcing, can be broadly defined as a voluntary commitment by companies to manage their relationships with suppliers in a responsible way. As a result of their purchasing activities, companies may have some opportunities to influence constructively their suppliers’ social and environmental performance. This can be done using several incentives, including information and training, as well as audits of suppliers practices. Whatever mechanism is used, the most effective way to achieve sustained improvement over time is through the development of a long-term collaborative relation between corporate buyers and their suppliers, through which suppliers can internalize change by participating in the shaping of social and environmental performance objectives based on their own perception of their business capacity and needs. ’’*

The United Nations Global Compact (2010) took a difference approach and described responsible supply chain management as:

*‘‘Supply chain sustainability” is the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services. The objective of supply chain sustainability is to create, protect and grow long-term environmental, social and economic value for all stakeholders involved in bringing products and services to market. ’’*

However, broadly defined Responsible Supply Chain Management (RSCM) implies the interaction between Corporate Social Responsibility (CSR) and Supply Chain Management (SCM) (Szegedi & Kerekes, 2012, p. 68). It pertains to the CSR strategy of a company and influences how the supply chain is managed (van Opijnen & Oldenziel, 2011, p. 13). The latter shows that strategy has thus a strong influence on the supply chain and its management. Understanding these dimensions combined requires a deeper understanding of both concepts that will be set out in subsections 2.3.1 and 2.3.2.

### 2.3.1 Corporate Social Responsibility (CSR)

RSCM relates thus strongly to the CSR strategy of a company and influences supply chain management. Several studies show that CSR is closely related to the management approach of a company, which differs from business to business as they vary in management, goals, values and culture (Rosi, Cvahte, & Jereb, 2013, p. 42; Vaaland & Owusu, 2012, p. 155). As discussed previously, the orientation of SMEs seems to have quite a potential in meeting the demands of social responsibility, efforts to take responsibility as a business entity. There has however not yet been elaborated on theories that specify the content of CSR.

In order to understand any CSR-related theory, insight should be gained on the definition and scope of the term CSR. Business dictionary (n.d.) provides definitions of business related topics and defined the term CSR as the following:

*‘‘A company’s sense of responsibility towards the community and environment (both ecological and social) in which it operates. Companies express this citizenship (1) trough their waste and pollution reduction processes, (2) by contributing educational and social programs, and (3) by earning adequate returns on the employed resources. See also corporate citizenship. ’’*

It seems, however that such a general definition, applicable to any business, contributes to improving the aspects within. The study of Vaaland & Owusu (2012, p. 155) indicates that the ambiguity of the term CSR makes it challenging to find a common understanding of CSR, complicating measuring the concept and thus complicates theoretical development. Hence, meeting the demands of CSR is difficult if elements of CSR expectations are not clearly specified. Still, few attempts have been made in endeavouring to describe elements of being environmentally responsible (Brusseau, 2016). A widely practiced CSR theory integrates the Triple Bottom Line concept, also known as TBL or 3BL (Uddin, Hassan, & Tarique, 2008). This TBL or 3BL concept is an accounting framework that describes the three pillars of sustainability in societal, environmental and economic dimension impacting people, planet and profit. Integrating the 3BL concept in CSR implementation signifies that responsibility is taken towards three different elements on the long run as a business entity: people, planet and profit.

Linking the definition of Business Dictionary and the 3BL concept to the scope of this thesis, proposes that attention will merely be given to some of the aspects. Within the definition by Business Dictionary this means that the following aspects will be covered: responsibility towards the environment, ecological aspects, waste and pollution reduction processes and earning adequate returns on the employed resources. The advice, as a result of the study of this research will then serve as an instrument for starting apparel companies, contributing eventually to educational and social programs. As the objective provides merely insight on acting environmental responsible, the employed resources refers merely to resources extracted from nature. With regards to the 3BL accounting framework this implies that the elements People and Profit will be considered out of scope as this refers rather to social structure and the added economic value of the company itself. Hence, merely the impact on Planet, remains to be discussed.

Decisions to be taken in the realm of environmental issues, impacts thus more than merely nature itself. For SMEs this could make it rather complex how to prioritize the environmental pillar in conducting their business, particularly when encompassing such a complicated concept as the supply chain. As stated earlier, the limited resources that SMEs deal with impact an SMEs’ ability to apply environmental sound practices.

In order to comprehend how CSR is applied throughout the supply chain, it is vital to understand the concept of Supply Chain Management (SCM). Details of SCM will be outlined in the next section.

### 2.3.2 Supply Chain Management (SCM)

This section describes the multiple angles SCM can be approached from, on what levels SCM takes place and how these relate to decisions in the supply chain.

Very briefly stated, Supply Chain Management refers to managing all activities involved during the manufacturing process from the supplier of raw material to delivering the final product to the end-consumer. Vaaland & Heide studied the ability of SMEs in surviving the challenges of the supply chain in which the definitions of supply chain management are classified in three different approaches (2007, p. 6): (1) actor-oriented definitions, (2) relation-oriented defnitions and (3) process-oriented definitions. These approaches combined seem to cover quite some aspects involved in managing the supply chain.

In this process several business entities participate in executing a number of different activities. These activities include sourcing, buying, making, moving and selling, which thus implies a flow of products, information and funds as has been described earlier (Figure 1). It can hence be stated that Supply Chain Management describes thus a relatively complex concept in which multiple issues may prevail at distinct moments, on different locations.

Supply chain management involve different type of managers and decisions on three different levels: strategic, tactical and operational (Po, 2012). Decisions on the strategic level involve complex matters related to policies. Strategic planning is focused on the desired outcome of the entire organization on the long run while taking internal as well external factors in consideration (BBC, n.d.). Within this scope, the foundation of the supply chain is laid to work to the mission of a business (Po, 2012). In order to achieve the desired outcome, long-term goals are determined by senior managers or top-level management. A strategic-oriented decision is for instance to become the market leader of the sector (BBC, n.d.). Figure 5 provides a summary of the different levels of management according to the hierarchy of supply chain management.

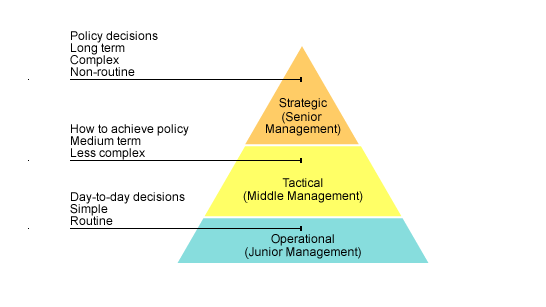


Figure 5: The three levels of supply chain management. Source: (BBC, n.d.).

To be able to achieve the mission on the long run, actions on short term have to be taken that support implementing the strategy. Tactical decisions deal with how long-term goals are going to be achieved, it involves thus planning on how objectives, determined on the strategic level, are going to be met by defining processes. Decisions on the tactical level occupy an important role in the control of costs and mitigating risks (Po, 2012). In contrast to the senior management on the strategic level, middle management is involved in decisions on the tactical level (BBC, n.d.). Launching a new concept to achieve becoming the market leader is an example of a tactical decision (BBC, n.d.).

Operational management involves day-to-day decisions, which are taken by junior management (BBC, n.d.). The operational level is related to executing strategic and tactical decisions in a way that these are rather results of the decisions taken on the strategic – and tactical level (Po, 2012). The operational level does thus not deal with decisions to be made in the supply chain. Hence, the operational level will not be discussed throughout this research.

Many decisions have to be taken on these different levels of management (Po, 2012; Palladino, 2010); it is hence likely for a variety of issues to occur. Hugos (2011) explains that supply chain decisions can be classified in five categories: production, inventory, location, transportation and information. Decisions related to production deal with the product the market demands, the quantity to be manufactured and by when. These are elements to be taken into account when scheduling the master production schedule. Inventory related matters are important as it offers your business a buffer in uncertain situations in the supply chain. It can, however unnecessarily affect your costs if not considered well. It is, hence vital to gain insight on optimal inventory levels and reorder points. The location of facilities of supply chain actors affects the efficiency of the flow of products. Deciding the location of manufacturing and inventory storage influences the time and the paths to be taken to deliver the final product to the end consumer. Decisions concerning transportation imply the methods used to move raw materials and (semi) finished products to transfer from one supply chain location to another. It influences the time taken for a final product to reach the end consumer. Besides the flow of products, information is exchanged to place orders. Optimal coordination and decision making depends highly on receiving updated and accurate information as it contributes to planning both efficiently and effectively. However, what decisions to take exactly as a focal company on strategic, operational or tactical level depends on how the supply chain is integrated. Supply chain integration has had a great influence on modern supply chains and relates to a great extent to the responsibilities carried.   
 Consisting of the two core concepts CSR and SCM, it can be concluded that RSCM covers a broad spectrum. This clarifies thus why ambiguous terms as for instance *ecological*, *sustainable* and *environmental friendly* have been approached as equally relevant for this research. This research focuses on a company’s decisions from medium-term to long-term, clarifying why merely strategic and tactical decisions are relevant for this study. Supply chain decisions considered in this thesis are related to production, inventory, location, transportation and information. These are thus supply chain decisions that can be taken environmental responsible on the medium term and longer. Different approaches on environmental sound decisions will be discussed in paragraph 2.4. However, in order to understand what environmental responsible supply chain exactly implies for this research, it requires an explanation of the definition itself. The next paragraph will elaborate on this definition.

## 2.4 Environmental responsible supply chain

In the endeavour of giving meaning to the concept of environmental responsible supply chain, the concept of RSCM has been used as a supportive theory. It has been found that RSCM consists of two core concepts of RSCM; Corporate Social Responsibility and Supply Chain Management.

As mentioned, a commonly integrated concept in CSR is the 3BL concept. However, as it entails matters related to the societal, environmental and economic dimension, it can be concluded that merely the environmental pillar is valuable for this dissertation. Furthermore, it has been found that that Supply Chain Management encompasses a variety of aspects, and hence comprises decisions on a number of areas. As stated in the previous section, these areas are production, inventory, location, transportation and information. Since decisions on the level of operational management are rather day-to-day results of supply chain decisions, than influencing actual supply decisions on the midterm and longer merely strategic and tactical are considered relevant. In the endeavour of providing starting brands a framework to increase understanding of the supply chain and the accompanied decisions to be taken environmentally sound, the following definition has been determined for the term *environmental responsible supply chain*:

*‘‘ Taking responsibility towards the environment, ecological aspects, waste and pollution reduction processes on the employed resources by considering carefully decisions to be taken in the supply chain. The latter refers to decisions regarding production, inventory, location, transportation and information, affecting medium term longer.’’*

The main-question set for this dissertation is: *‘‘How can starting brands in the apparel industry build an environmentally responsible supply chain?’’* Answering this question requires an understanding of what environmental responsible exactly means. That being said, defining environmental responsible supply chain provides thus an answer to the second sub-question: “*What does environmentally responsible supply chain management encompass?”* This definition will thus be applied throughout the research when discussing the context of environmental responsible.

## 2.5 Existing techniques contributing to an environmental sound apparel business

In the endeavour of answering the third sub-question: *“What techniques already exist to develop an environmentally responsible business?’’* this section describes multiple theories offering environmental sound solutions for the activities therein. The advice will be presented in a framework, helping starting apparel brands in the decision-making process of making environmental sound decisions. This section stresses hence the definition of a framework, various existing models in which environmental matters are addressed in the supply chain, and basic principles upon which the framework will be build.

**DEFINING FRAMEWORK**  
According Business dictionary (n.d.) the term *framework* signifies the following:

*‘‘ Broad overview, outline, or skeleton of interlinked items which supports a particular approach to a specific objective, and serves as a guide that can be modified as required by adding or deleting items.’’*

When linking this definition to the advice of this research, this implies that elements of different theories will be explored to provide a solution to the aim determined for this research, which has been stated as: assisting starting apparel brands by (1) gaining insight in supply chain decisions that need to be taken and (2) establishing a brand in which environmentally sound decisions can be taken within the context of priorities established according to a brand’s overall strategy. Related to this endeavour, relevant elements of the explored theories will be retrieved and combined. The advice presents these findings as a whole by adopting the findings in a framework. The relevance of the elements chosen will be determined by the reduction of environmental impact as reduction of costs.

These factors, reduction of environmental impact and reduction of costs, play a significant role in selecting theories fitting for this research. Section 2.4 showed that limited access to resources is one of the traits encountered by starting apparel brands. As stated in the problem identification, this has consequences in various ways, including a starting brand’s ability to engage in environmental sound practices. Furthermore, in order to gain insight on supply chain decisions, it can be extremely valuable to consult theories that describe supply chain activities supported by visualization in which the discussed elements are broken down in an overview, such as in graphs or tables. Hence, in order to find suitable theories the following questions have been considered as important:

* Does the theory discuss environmental factors?
* Does the theory address the reduction of costs?
* Does the theory support its ideas with relevant visualization where required?

Based on these criteria, the following four theories have been chosen: (1) Green Logistics, (2) Hasmik’s model, (3) Resource Efficiency and Cleaner production (RECP) and (4) the Waste Hierarchy. These theories will be described below.

**EXISTING THEORIES ON ENVIRONMENTAL FRIENDLY SUPPLY CHAIN ACTIVITIES**

1. Green Logistics

According to Gunjal, Nalwade, Dhondge, Ingale, & Patil (2015) logistics activities are accountable for 11% of the global emission of carbon dioxide. Figure 6 illustrates the average supply chain of Consumer Packaged Goods (CPG) and its environmental impact caused by the activities therein.

Figure 6: Supply chain CPG and environmental impact. Source: (Gunjal, Nalwade, Dhondge, Ingale, & Patil, 2015)

IMPACT

WATER, ENERGY

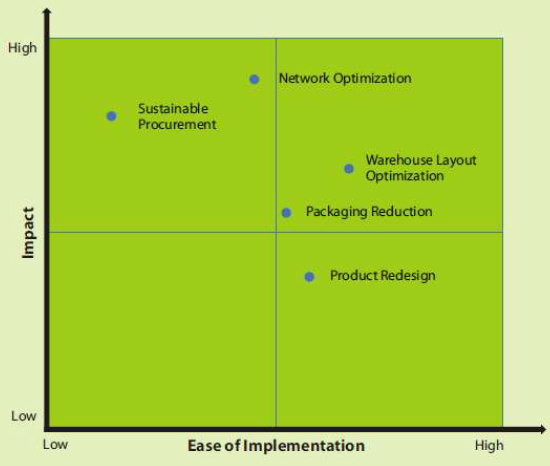
AIR, WATER, WASTE

INPUT

Resources intensively used in the processes of the supply chain are water and energy. During this process this input will however come out in a way that severely affects the environment, suggesting air pollution, water pollution and generation of waste. The latter is shown as illustrated as impact in Figure 6. This illustration is also applicable to the supply chain of the apparel industry as clothing pertains to one of the classifications of CPG (Investopedia, n.d.).

Gunjal et al. (2015) describe the approach of Green Logistics in which advanced technology is applied in planning and executing supply chain activities, of which the endeavour is both, minimizing environmental pollution as well as reducing the use of resources throughout the activities of the core process logistics management.

The study points out four methods of Green Logistics that have a varying degree, however fairly high, positive impact on the environment. As illustrated in Figure 7, these methods include (1) sustainable procurement, (2) network optimization, (3) warehouse layout optimization and (4) packaging reduction. Besides a varying degree of impact, these methods also vary in ease of implementation, as shown in the same figure.

  
Figure 7: Green logistics, Impact vs. Ease of implementation. Source: (Gunjal, Nalwade, Dhondge, Ingale, & Patil, 2015)

As indicated in Figure 7, according Gunjal et al. (2015) redesigning a product has a fairly low impact. The theory of Gunjal et al. (2015) does hence not elaborate on product redesign. Despite the fairly high impact, the method of warehouse layout optimization will not be discussed, as this thesis provides merely advice for starting apparel brands until the stage of manufacturing. Also, sustainable procurement will not be elaborated, as the theory of Green Logistics does not mention specific solutions for sustainable procurement. However, it does address the value of sustainable procurement, it will therefore be attached in Appendix VII.

*Network optimization*

Gunjal et al. (2015) state the importance of network optimization, as it enables a company to reduce 11% of its costs, while reducing 10% of carbon emissions. These emissions are linked to a number of causes related to inefficient movement of products. These causes include rerouting vehicles, unstable demand and transporting goods at unproductive speed, causing higher emissions per travelled km. Restructuring the network, also considered as the supply chain, allows the company to optimize the flow of transportation and to optimize hierarchy. In the context of optimizing the network, Gunjal et al. (2015) emphasize the importance of minimizing a good’s travelling distance trough the approach of Green Logistics. Reduce travelling distance of goods throughout the supply chain not only results in a smaller carbon footprint, but could also reduce shipping costs, as sourcing locally is highly effective in cutting travelling distance. Sourcing locally might implicate higher expenses for raw material, however seems, besides a smaller carbon footprint and less shipping costs, also to be balanced by cutting down a number of supply chain risks, which comprise unpredictable fuel prices, long and erratic lead times, and the risks of currency exchange.

Packaging reduction

It may have been noticed that packaging has been marked in Figure 2, whereas initially packaging reduction may not seem the first thing one thinks about when manufacturing a brand’s core product.  
Yet, it can be relevant to the purpose of this study, as packaging addresses not only the environmental dimension, but could also work as an efficient cost-driver.

According to Gunjal et al. (2015), packaging not only serves a powerful marketing tool, but also as an efficient cost-driver, as it accounts for 12% of supply chain costs. This combination makes it appealing to employ a greener supply chain strategy for packaging. Gunjal et al. (2015) elaborate on a strategy focused on redesigning packaging while delivering brand value called 5Rs: Rethink, Re-engineer, Remove, Reduce and Recycle.

* **R**ethink: studying the behavior and expectation of the consumer could show that there are better alternatives for both the product and packaging relevant for engineers, marketers and designers.
* **R**e-engineer: before improvements can be executed by the designers, there should be a clear picture of the current methods applied to the supply chain. This implies not merely analyzing the packaging, but also the current way of manufacturing, logistics, retail and considering limitations for consumers. Engineers and marketers play an important role in this process.
* **R**emove: optimize packaging elements, while meeting consumer’s expectations, without comprimising on the key functions of packaging.
* **R**educe: eliminate unnecessary elements in the packaging without comprimising on product performance during the various stages; manufacturing, transportation, distribution and during using the product.
* **R**ecycle: this stage focuses on improving the ability of used material to be re-used, which suggests after consumption by the user. The life cycle of the product’s packaging should hence particularly be approached from the connsumer’s perception.

IT solution

Besides sustainable procurement, network optimization and packaging reduction, Gunjal et al. (2015) depict the value of IT solutions in the success of Green Logistics. This topic is highly relevant for this thesis as the ability to transmit information plays an important role in communicating the correct information throughout the network. IT has proven to play a significant role in achieving desired goals related to making the supply chain more environmental sound. These goals include: supply chain optimization, green supply chain realization and green supply chain collaborarion. Each goal will be shortly explained below:

* Supply chain optimization: integrating Information Techonology in a business enables not only transportation routes to be planned more efficiently, but also allow products to be delivered by a energy efficient and cost effective approach. Automizing the process of transporation planning provides a bsuiness the opportunnity to optimizate operations, identify non-value added processes conducted manually and implement dashboard for metrics. For instance, the principles of Lean Six Sigma[[2]](#footnote-2) have proven to be a succesful approach as it minimizes variability and addresses supply chain’s complexities.
* Green supply chain realization: incorporating IT solutions can result in requiering lesss resources, while increasing efficiency of processes. The ability to transmit information digitally can contribute to a great extent to reducing resources. Gunjal et al. (2015) mention two effective methods contributing to a supply chain more environmental sound; end-to-end paperless processes and Radio Frequency Identification Device (RFID) technology.

In order to achieve paperless processes, it requires a platform allowing documents to be shared and a competent mail program enabling the exchange of emails internally and externally, also known as mobility solutions. These mobility solutions will be very valuable if it has the option to schedule transportations tasks dynamically and real time tracking.

Another method to make supply chain more environmental sound is to adopt Radio Frequency Identification Device (RFID) technology in tags. These tags can for instance carry information regarding the enegry footptint, such as carbon footprint, enabling a company to gain insight on the ‘‘who-why-how’’ of the product reached the emissions measured in each stage of the supply chain. Collecting this data allows supply chain members to analyze and monitor their activities from different environmental perspectives.

* Green supply chain collaboration: IT solutions enable a realm in which all supply chain members are involved. As it facilitates supply chain members the opportunity to engage in supply chain activities, it benefits also to a great extent to planning transportation. Insight in supply chain activities for all participants in the supply chain allows transportation assets to be employed more efficiently, resulting in reduction of overall enery requirements.

Green Logistics provides thus merely solutions for the logistics management. The solutions offered focus on **network optimization, packaging reduction, and the application of technology**. The environmental factors water-usage, energy-usage and carbon dioxide have been considered in this theory. Product redesign has not been set out as, according the theory of Green Logistics, product redesign has a fairly low impact. This seems to be quite in contrast with Hasmik’s research, which will be discussed below.

2. Hasmik’s model

Perspectives of consumers have not been mentioned earlier in this research. It is, however worth to mention, as it addresses two important aspects: the environmental impact and the limited resources available for starting apparel brands. Matevosyan (2015), developer of Hasmik’s model, studied how a better balance can be found in the apparel industry and states that altering the fashion industry into good fashion is possible. In fact, that it is possible to turn the fashion industry into a contributing industry. Hasmik developed a model in which apparel is manufactured in an ethical and environmental friendly approach, while still being profitable for businesses, yet affordable and attractive for consumers. Hasmik’s study showed that 30% of the clothes that brands manufacture would never be sold. This implies that it would not even matter how responsible clothes are manufactured, as this amount of overproduction suggests that at least 30% of waste is created by fashion brands regardless. The research showed that the latter seems to be caused by manufacturing clothes based on assumptions rather than understanding consumer demands. Hence, in order to prevent overproduction, Matevosyan (2015) developed an approach in which she puts an emphasis on engaging a dialogue with a brand’s target group before actual production, allowing consumers to be involved in the stages of design and thus can influence the final design. The four steps in the design system to be taken, according the approach of Matevosyan (2015), are as follows: (1) explore, (2) visualise, (3) reflect and (4) create. This thesis will however not elaborate on the stage of creating, as Hasmik’s model does not address environmental aspects in this stage. The other three aspects will be explained below. Lastly, the model will be concluded with a breakdown of the activities according Hasmik’s approach compared to a traditional approach.

1. Explore

The stage of exploring focuses on identifying the needs, expectations and desires of the company’s (potential) customers by listening to discomforts and needs of the target audience. Opening a dialogue with the target audience not only increases the possibility of a design that matches their ideas, but also allows the company to establish a relationship before the actual product is created. Hasmik provides five different methods to engage a dialogue with the target audience:

1. Customer journey map

The customer journey map allows the brand to understand how a customer experiences the brand and collections. This method requires a brand’s (potential) customers to document their journey when shopping for a clothing item by taking photos along their way and/or posing particular question to investigate. Aspects relevant to study can either be directly linked or indirectly linked to the brand. An aspect directly linked is for instance how a customer experiences the clothing item when trying it on. Aspects indirectly linked can relate to dressing rooms or geographic aspects or the shop itself. As it goes trough the stages before the moment of actual purchase, documenting these settings provides an understanding of a customer’s line of thought when searching for a product.

1. Shadowing

In shadowing, additional data is consulted to gain understanding of a customer’s experience. This method can thus be used alongside the customer journey map. Additional data can for instance be retrieved from observing camera recordings, but also Google analytics and data related to transactions. This data can help a brand to clarify a customer’s line of thought; why it is experienced as it was experienced. It provides thus an understanding of a customer’s overall experience, offering the company to improve customer engagement with the brand.

1. Contextual interviews

Information gathered from contextual interviews gives a notion of how customers take care of their clothes by observing how the customer’s wardrobe is organized. Knowing what one’s wardrobe is composed of allows a brand to identify the missing pieces; what would complement one’s wardrobe. Interviews can be held in a real-life setting, as for instance by a visiting a customer and observe the home surrounding including the wardrobe, but can nowadays also be held online through social media channels.

1. Expectations map

The expectations map considers the price that the target audience is willing to pay for that what they expect from the product. This is not merely relevant when determining the price, but also allows a brand to carefully consider the adjustments the brand had planned in the coming collections. For instance, a loyal customer might not expect the alteration the brand did in the design of the basics, which can result in a disappointing customer or worse, losing one. In fact, identifying what aspects customers’ value exactly in advance not only prevents a brand from making undesired alterations, but also helps to gain knowledge of why committed customers constantly come back.

1. Personas

The method of personas helps a brand to illustrate what the target audience represents. It requires the overall data that can be gained by the four previously mentioned methods allowing a brand to structure the expectations, psychological needs and physical needs. Hasmik suggests to classify these needs in order of priority related to the new designs. Classifying these in the order of priority contributes to defining guidelines that are valuable for the next stage of designing.

Hasmik calls these methods *service design thinking by a human centred approach*. These methods can be used combined, however can also be applied solely. Hasmik suggests an approach that a brand believes it suits best.

1. Visualise

After exploring, the stage of visualisation follows. Hasmik states that it is often thought that designs for the purpose of selling make concessions on a designer’s creativity, as it requires the designer to listen to consumers - whom have no expertise in designing. The customer’s point of view should however not be underestimated. In fact, it addresses the designer’s skill to be creative, as the challenge rests in interpreting a customer’s motivation of giving a certain an answer rather than literally following a customer’s word.

Hasmik explains, that customers’ point of view can be highly valuable, as their opinion can then be translated into a brand’s creativity by interpreting their needs into designs of a collection. Needs that can be expressed by customers are for instance: why a certain trouser is a favourite on a hot day; why something is one’s favourite when travelling; why something fits to their style; but also why certain wardrobe items are worn less. These answers could reveal a lot about their ideas, varying from ideas about functionality to how one would like to be seen in society. These aspects can then be taken into account when generating new ideas for a collection. Hasmik discusses three tools to find out these aspects. Again, these can be used combined as independently.

1. Idea generation

In this stage answers of the target audience will be analysed. The information retrieved will then be structured in relevant categories that can be relevant for the brand in an overview, as for instance on a mood board or mind map. Hasmik emphasises the importance of hanging these on a noticeable place, in order for it to serve as an inspiration. Aspects relevant for the brand can be product related, but could also be about services or communication tools. Combining the retrieved information with a designer’s creativity could then result then into a valuable product and/or improvement for the customer.

1. Design scenarios

As the need of a customer can be interpreted differently in terms of creativity, there are multiple solutions for a specific issue or desire of a customer resulting thus in a different creation with for instance varying fabrics, details and/or length. Hasmik suggests to experiment with a design by creating fifteen sketches of one idea each with a slightly different construction, allowing designers to compare the different versions. These differences can be in terms of details as for example a shorter zip, functionality like the position of the pockets and/or simply a different material. The designs that will finally be selected depend on a number of facets, including financial resources, impact on the environment, the taste of the target audience, and other stakeholders.

1. Visual interviews

These interviews can take place both online as well as offline and consists of multiple-choice questions regarding the product, which can again be about details, functionality as well as material. The interview should however leave room for answers requiring further explanation. Hasmik recommends complementing the interview questions with requesting pictures, if valuable for clarifying given answers.

Hasmik compares her system with traditional systems, on which she explains that collections are designed first without involving the target audience. Subsequently, marketing campaigns follow that assess the demand. The traditional system seems thus to be both inefficient and expensive. Hasmik elaborates on a number of reasons why her system could prove valuable for a brand.

First, it allows a brand to define its target audience, as opening the dialog requires the target audience to be involved. Secondly, it helps a brand gain trust of the target audience, since expectations, needs and desires are considered in the decision-making process of designing a new collection. The latter serves simultaneously as a tool to market the brand and product before an actual product is created. Thirdly, if interpreted correctly, these expectations, needs and desires are being addressed in new designs, enabling a brand to pilot its products with the highest chances of success. This suggests not only a trial collection in which the chance of design-errors are eliminated, but also piloting a collection at its most profitable way, since no financial investments are made in details that have little to no value for the target audience. Hasmik’s model provides thus a clear picture of how a new design should look and feel in terms of shape, colour, material and other details. Assessing all these matters prior to creating the actual product would hence automatically result in designs valuable for the target audience, which clarifies why designs created by Hasmik’s system will lead to a successful collection.

1. Reflect

Reflecting focuses on how to pilot the samples and how to gather feedback after the pilot. Hasmik’s model sets out three tools that can help a brand in the stage of reflecting. These tools are directly applicable and include: sample testing, service staging and usage staging. Usage staging will be attached in the Appendix VIII, however not be discussed as the advice merely fits to the stages until manufacturing. The other two tools are explained below:

1. Sample testing

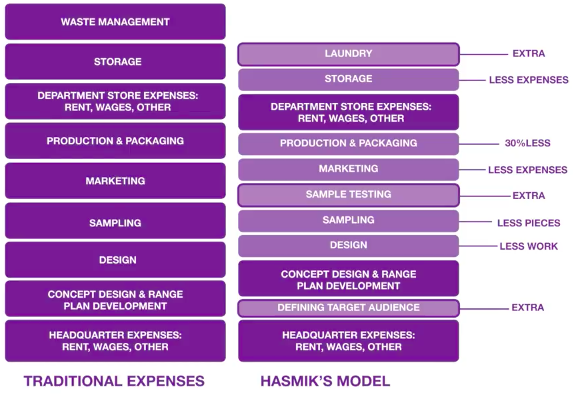
Traditional systems assess the measurements, size and quality that can be delivered by the manufacturing company when giving the order for a pilot batch. Ordering this pilot batch provides an indication of both, the actual time required to manufacture a collection as well as the estimated price. The pilot batch will then be modified, resulting generally in a sample that will be shown to retailers: the salesmen sample. Full batches will be ordered upon demand of retailers. The key difference between traditional systems and Hasmik’s system is the more personal approach in how samples are examined during a pilot. Hasmik recommends piloting the samples on the actual target audience, rather than merely on retailers. Testing on retailers leaves quite some room for assumptions, which involves uncertainties and thus risks. Hence, she suggests an approach in which hundred people meet the criteria of the ideal customer in terms of demographics, lifestyle, needs and desires: representing the target audience. The target audience should then report their experience with the sample during a period from two to four weeks. Reporting how they look and feel can be done through videos, audios and/or by writing their experience down. This enables a brand to collect data regarding inconvenient details of the design, maintenance practices of the clothing item and responses from surroundings on the item. The latter serves simultaneously as a marketing tool, as the topic could trigger various social environments to engage in a conversation about the brand and/or product. Finally, a dialogue can be opened about their overall experience by a contacting them personally or simply by conducting questionnaires to collect feedback. The results of these processes allow a brand to measure popularity of a certain item, which provides a more accurate number to be ordered as a full batch, rather than ordering an estimation based on assumptions.

1. Service staging

Service staging is focused on enhancing the brand by adding or improving a service for customers. This service can be in different formats as for instance providing an application or offering a video call with a stylist. Examining the quality of the current services requires an understanding of how products of the brand are currently presented, both online as well as offline. Another relevant aspect to research is not only how a customer looks and feels when wearing a design, but also a customer’s experience when unpacking the item and the item’s maintenance requirements. Furthermore, insight should be gained on the ease of disposing of the product.

Breakdown of activities according to Hasmik’s model

Matevosyan (2015) compares her approach to the traditional by listing the activities of an apparel brand. Figure 8 breaks down the activities and classifies these in extra, less expenses, 30% less, less pieces and less work. These classifications will be explained below the figure.

  
Figure 8: breakdown of activities. Source: (Matevosyan, 2015)

Extra  
Extra refers to extra activities. In Hasmik’s model laundry, sample testing and defining the target audience are extra activities compared to traditional models.

Laundry refers to learn about customer’s laundry habits and educating customers upon which mostly is been given attention to in stage of reflecting. However, since laundry instructions pertain to usage staging, this activity can exclusively take place after manufacturing and will therefore thus not be considered valuable for this thesis.

Sample testing is a lot more work in Hasmik’s approach than a traditional approach, as it requires determining criteria of the ideal customer and analysing the reported data during the pilot as well as afterwards.

Closely involving the target audience in the process of designing allows a brand to establish a strong relationship with the ideal customer. This helps to a great extent to determine and thus define target audience quite carefully. Traditional systems however, find out the actual target audience after having assessed the actual demand, when products have already been created and in stores.

Less expenses and 30% less

Since the production of 30% less garment is used as a preventive strategy to avoid waste, it suggests that also packaging reduces with 30%. Obviously this results also in lower expenses for storage. Closely involving the target audience in the decision-making process of designing helps a brand establishing a strong relationship with the target audience, that could be saved in marketing activities. Another factor clarifying lower costs in marketing is giving different social environments a topic to talk about by exposing the product during the pilot period in various social contexts, meaning thus exposure before actual launching.

Less pieces

Less pieces are required during sampling, as the pilot involves mainly individuals that represent your ideal customer rather than risking on customers of retailers.

Less work

Co-designing a collection with the target audience provides the designer already a direction prior to actually starting with the design process. This implies thus less work for the designer as the target audience has already determined certain criteria for the designer’s new design.

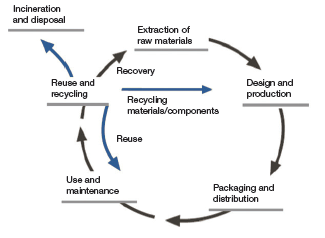
In contrast with the theory of Green Logistics, Hasmik’s model emphasizes the importance of the design of a product. She provides multiple methods how to identify the needs of the target audience, how to generate these needs into possible designs and test these samples while closely involving the target audience. Building brand trust at such an early stage contributes to reducing marketing costs. In terms of environmental aspects, the theory addresses waste generation, water use and energy use. Hasmik’s theory does not provide any solutions for logistics management.

3. Resource Efficiency and Cleaner Production (RECP)

RECP takes a different approach compared to the previously discussed theories. It does not provide extensive solutions on how to approach supply chain activities particularly. Instead of extensively elaborating on steps to be taken, it poses a general approach in which the method of production should be carefully considered. This method addresses all factors related to the environmental impact.

Ideally, a product should be manufactured with as minimum of raw material as possible and at a lower cost than when any unnecessary material would have been processed in the product. Still, this does not necessarily pertain to a sustainable method of manufacturing, as replacement seems to be an intrinsic characteristic that many products carry. Examples of such products are disposable razors and cigarette lighters. In order to manufacture a product that is as sustainable as possible, it requires to carefully considering the elements processed in the product.

The United Nations Environment Programme (UNEP) and United Nations Industrial Development Organization (UNIDO) introduced a strategy called Resource Efficiency and Cleaner Production in which each stage of a product lifecycle is carefully considered. This means considering energy usage and other resources during activities in a product’s lifecycle, which include extraction and refining of raw material, component manufacturing, final assembly, distributing, retail, usage, recycling and waste management. Figure 9 provides an overview of the considerable phases during such a lifecycle. RECP emerged as one concept as a result of intensifying circumstances in the economic and environmental crises. The strategy addresses the environmental impact caused by companies benefitting environmental management, production efficiency, and human development and is applicable to processes, goods and services. Since the research covers stages until the manufacturing stage, mainly the first two phases seem relevant for this research.

  
Figure 9: general overview of product lifecycle from raw material until end-of-life management. Source: (United Nations, 2015)

By studying each stage of a product lifecycle the strategy contributes to enhancing the lifecycle of a product. Studying each stage enables a brand to identify more specifically how production efficiency can be improved in their processes and provides thus an insight on whether inputs should be modified or reduced, meeting the conditions of the triple bottom line. Resource efficiency focuses on generating less waste in the overall production system by minimising the use of resources, simultaneously resulting in less contamination of the environment. Production efficiency allows a company to eliminate materials that do not add value to the product; to avoid unnecessary costs; and to minimize energy usage during production. Efficient and cleaner processes benefit businesses to a great extent, however affects mostly humans as citizens of the planet, as it promotes prudent use of resources. Figure 10 elaborates on the RECP approach. Measures according the strategy of RECP comprise environmentally sound technologies, introducing process modification and substitution of raw materials.

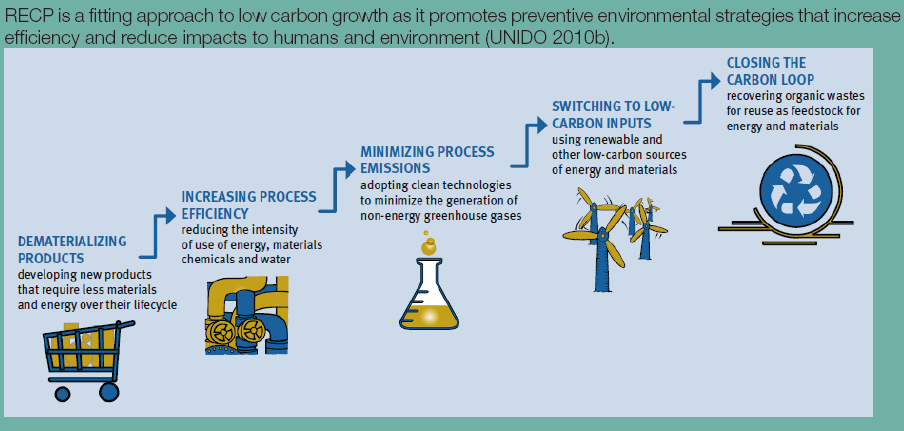
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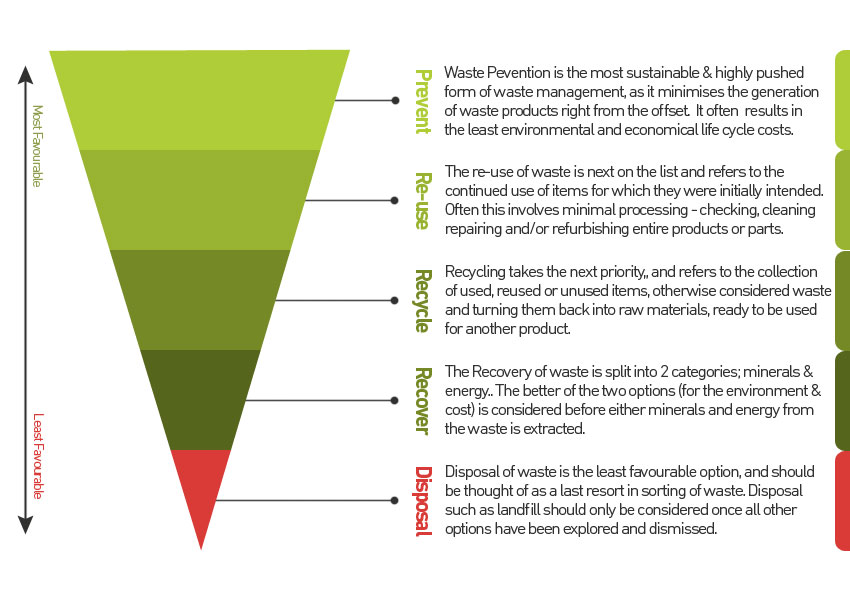
Figure 10: RECP for low carbon development. Source: (United Nations, 2015)

4. Waste Hierarchy

As the theory RECP, the Waste hierarchy does not provide specific instructions on how to deal with particular supply chain activities. The Waste Hierarchy, also called Waste management hierarchy (United Nations, 2015), poses different methods of dealing with waste. It seems therefore rather to serve as a method to take environmental sound decisions, rather than providing specific instructions on supply chain activities.

The principles of the Waste Hierarchy have been determined according the Waste Framework Directive (European Commission, 2016). It endeavours to find an approach that is most the most resourceful-efficient and is likely to result in the most environmentally sound choices (European Commission, n.d.). This means the Waste Hierarchy As illustrated in Figure 11 these approached are ranked in order of priority, starting with the most recommended method; waste prevention indicated in the bright green, and approaching disposal of waste as the least preferred method, indicated in red. The figure describes each method extensively. Besides addressing waste generation and resources, the Waste Hierarchy addresses the limited resources of the company by diminishing costs by waste costs (Kellett, 2014).

Applying this to the research of this thesis, the above stated strategies seem to fit perfectly in the most sustainable approach of the waste management hierarchy; prevent. Relating this to the previous theories, it seems that each theory can be considered as a preventive environmental strategy. The theories Green Logistics, Hasmik’s model, RECP on generating less waste rather than tackling waste generation afterwards.

  
Figure 11: The Waste Hierarchy. Source: (European Commission, n.d.)

Overall it seems thus that methods posed by Green Logistics addresses matters related to logistics management; transportation and information. Hasmik’s model and RECP focus on the approach of manufacturing, pertaining thus to activities of SCM. The Waste Hierarchy can be considered as a supportive theory, meaning that it can be consulted when in doubt about what materials to use. The latter can relate to a variety of matters; for instance the product itself, but also packaging and labels.

**PRINCIPLES CONSIDERED IN THE DECISION-MAKING PROCESS STRATEGY**

In order to find a plausible approach in building the framework, research has been done upon how environmental responsible actions can be integrated in an effective strategy in decision-making. Waas, Huge, Block, Wright, Benitez-Capistros, & Verbruggen (2014) linked sustainability and decision making to gain insight on conceptualizing sustainable development as a decision-making strategy. The study determined that the several challenges should be taken into account when developing a decision-making strategy to have actual potential to be applied. These challenges include interpretation, information and influence. Figure 12 provides an overview of these challenges, its definition and how this relates to the context of this research.

|  |  |  |
| --- | --- | --- |
| DEFINITION | MEANING | CONTEXT OF RESEARCH |
| Interpretation | Sustainability should be perceived according to its organizing principles, so that the meaning is linked to its socio-environmental context. | Sustainability is presented as a part of Environmental responsible supply chain management, applied to starting apparel brands in the context of the apparel industry. |
| Information structuring | Presenting a decision-making strategy suitable for actual implementation requires communicating clearly the strategy. Due to the complex nature of sustainability it should therefore be structured into operational information units. | A framework is chosen in which the operational information units will be presented. These units consist of concept & design, suppliers, manufacturing, transportation and information. |
| Influence | In order for a decision-making strategy to be effective, sustainability information should affect decision-making and foster objectives in the area of sustainability. | The study aims to contribute to a change in the apparel industry by offering a framework in order for starting brands to grow into SMEs on one hand, while providing consumers an environmental responsible alternative on the other hand. |

Figure 12: Challenges of conceptualizing sustainability linked to context of research

These principles will be used as basic criteria to design a valid framework.

The theories discussed show a great potential to be applied in the supply chain of the apparel industry of a starting brand as these approaches map clearly the steps to be taken from scratch in activities that take place both in the process of SCM as well as logistics management, which are the core processes of the supply chain. Factors that all these models have in common are the consideration of environmental aspects and reduction of costs, addressing the limited resources available of starting brands.

## 2.6 Conclusion and conceptual model

The aim of this research is to assist starting apparel brands in making their practices more environmental sound by gaining understanding of supply chain decisions until the manufacturing stage. The previous chapters have therefore elaborated on the supply chain decisions to be taken, how an environmental responsible supply chain is defined and the traits of a starting brand to be considered. This chapter outlines conclusions of the findings presented in previous chapters. The drawn conclusions will be elaborated per chapter. Each paragraph concludes with a conceptual model, related to the conclusion drawn in that particular paragraph.

In section 2.1 elements of a supply chain until the manufacturing stage were outlined in the context of the apparel industry. After having determined and agreed upon the design of a product, orders will be placed to convert the idea into an actual product. An order will then be communicated, where the product starts it journey trough the supply chain. The supply chain consists of a number of activities that relate to supply chain decisions that can be classified in five categories: production, inventory, location, transportation and information. These activities pertain to one of the two core processes of the supply chain; supply chain management or logistics management. Translating these activities into steps to be taken in an apparel brand, supply chain decisions will have to be taken regarding: concept & design, selecting suppliers, select manufacturer, determine transportation method and transmit data effectively for optimal communication.

**SELECT** MANUFACTURERS

**SELECT** SUPPLIERS

**CONCEPT**

**&**

**DESIGN**

Supply chain management

TRANSMIT DATA //

EFFECTIVE COMMUNICATION

Logistics management

DETERMINE

TRANSPORTATION

METHOD

Figure 13: supply chain categories translated into supply chain decisions

In section 2.3 the concept of environmental responsible supply chain has been explored by studying the concept of Responsible Supply Chain Management. As a result, the following definition has been determined for Environmental Responsible Supply Chain:

*‘‘ Taking responsibility towards the environment, ecological aspects, waste and pollution reduction processes on the employed resources by considering carefully decisions to be taken in the supply chain. The latter refers to decisions regarding production, inventory, location, transportation and information, affecting medium term longer.’’*

Within the scope of this definition it has been determined that waste generation, water, chemicals, energy use, carbon dioxide and air emissions are the environmental impacts to be considered in the apparel industry. Relating these environmental factors to supply chain decisions the framework considers thus methods to reduce waste generation, usage of water, usage of chemicals, usage of energy and lowering carbon dioxide when deciding on production, inventory, location, transportation and information.

Figure 14: environmental impacts by the apparel industry

It has been found that starting apparel brands carry very different traits than the bigger scaled, MNEs. In order provide starting apparel-brands an opportunity to grow responsibly into an SME it is thus not merely vital to understand what characteristics work in their disadvantage, but also to identify characteristics that can be rather valuable when engaging in environmental sound practices. Investigating the traits of starting companies, SMEs and MNEs it appeared that start-ups/starting companies, and SMEs share very similar visions in various areas that include tech-savviness, motivate employees on a more personal level, confidence, experimenting strategies, offer employee equity, and transparency for both the employees as customers. To an extent, it can thus be stated that starting companies and SMEs attach importance to the same variables. Section 2.3 concludes with how the traits of an SME relate with these similar visions.

The existing tools that have been discussed in section 2.4 seem to address these four characteristics to a great extent. Figure 15 sets out the relevance of each tool per trait by linking the characteristics to the discussed tools of section 2.4, resulting in an overview of solutions offered per variable.

In a way all elements can be ticked in the table of environmental impact, as each theory is build on the vision of reducing waste by producing less that affect eventually all elements. It should therefore be mentioned that the input, as illustrated in Figure 6, has been taken as the standard resources employed. For Figure 15 this means that water - and energy use have been ticked as a standard in the table of environmental impact. This standard is completed with the elements that have been specifically emphasised in the theory itself.



RECP   
Waste Hierarchy

Green Logistics  
Hasmik;s model

Macintosh HD:Users:evale:Desktop:Screen Shot 2016-09-07 at 5.14.03 PM.png

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SUPPLY CHAIN DECISIONS \\ TOOLS |  | Macintosh HD:Users:evale:Desktop:Screen Shot 2016-09-07 at 5.14.03 PM.png |  |  |
| Location | **O** |  |  |  |
| Production | **O** | **O** | **O** | **O** |
| Inventory |  | **O** |  |  |
| Information | **O** |  |  |  |
| Transportation | **O** |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SUPPLY CHAIN DECISIONS \\ TOOLS |  | Macintosh HD:Users:evale:Desktop:Screen Shot 2016-09-07 at 5.14.03 PM.png |  |  |
| Waste generation |  | **O** | **O** | **O** |
| Water use |  | **O** | **O** | **O** |
| Chemicals |  |  | **O** |  |
| Energy use |  | **O** | **O** | **O** |
| Carbon dioxide | **O** |  | **O** |  |
| Air emissions | **O** |  | **O** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SUPPLY CHAIN DECISIONS \\ TOOLS |  | Macintosh HD:Users:evale:Desktop:Screen Shot 2016-09-07 at 5.14.03 PM.png |  |  |
| Tech savvy | **O** |  | **O** |  |
| Personal approach |  | **O** |  |  |
| Experimenting | **O** | **O** | **O** | **O** |
| Transparency |  | **O** |  |  |

Figure 15: starting brand’s variables linked to solutions offered by existing tools

Finally, the advice will thus be a framework consisting of the factors stated in the conclusions drawn above. This framework would however not be effective if challenges of starting apparel brands have not been taken into account, which will be discussed in the next section. Putting together all these factors the conceptual model will result in the model as illustrated in Figure 16.

ADVICE:   
FRAMEWORK

Figure 16: factors to be considered in the advice product

This chapter elaborated on the conclusions that can be drawn from the theoretical framework presented in various conceptual models. By means of desk research and scientific literature review various concepts have been studied to answer the first three sub-questions:

* *What does the supply chain of the apparel industry imply?*
* *What does environmentally responsible supply chain management encompass?*
* *What techniques already exist to develop an environmentally responsible business?*

This suggests that the fourth, and thus final, sub-question remained to be answered that is:

* *What are the challenges starting apparel brands currently face in the supply chain?*

Semi-structured interviews with starting apparel companies in the apparel industry will be held to obtain the answer to this final sub-question. The next chapter elaborates on the field research of the final sub-question.

# 3. METHODOLOGY

Several qualitative research methods have been used in order to answer the main- and sub-questions. Qualitative research was considered fit to this dissertation, because findings contribute to understanding the overall vision towards environmental sound practices. Importance should not only be attached to the concept mentioned in the given answers, but also to the wording of the interviewee. An outline of the methodological approach is given below. Measurement instruments, sample design, validity and reliability, and how obtained data will be processed will be discussed.

## 3.1 Measurement instruments

The first sub-question, *“What does the supply chain of the apparel industry imply?”* has been answered by means of desk research and scientific literature review.

The second sub-question, *“What does environmentally responsible supply chain management encompass?”* has, too, been answered by means of desk research and scientific literature review.

The third sub-question, *“What techniques already exist to develop an environmentally responsible business?”* has been answered by means of desk research and scientific literature review.

The fourth sub-question, *“What are the challenges starting apparel brands currently face in the supply chain?”* has been answered by means of semi-structured interviews with starting apparel companies. A starting brand is in this research considered as a brand that has been established not longer than three years ago and does not employ more than three people beside the founders themselves. Semi-structured interviews allow for two-way communication, which enables the interviewer to go more in-depth when needed. Also, respondents can ask questions as well, instead of basically orally answering to a survey, which means there is more space to gather information, since the interview can interrogate new topics that come up during the interview (Verhoeven, 2011).

### 3.1.1 Elaboration interviews starting apparel brands

In order to acquire an answer on the fourth sub-question, *what challenges starting apparel brands encounter in the supply chain*, starting apparel brands have been interviewed. Due to confidentiality purposes, brand names are not being provided. Three key concepts have been used to design the interview questions. These concepts include the brand overall’s strategy, supply chain activities and identification of challenges.

It has been stated that, regardless the orientation, the right business strategy is a strategy that is aligned with the basic principles of a company’s values, mission and vision. In order to find out to what extent this is aligned, two questions have been asked *Where does you brand stand for and what is your approach towards being environmental responsible?* and *Since when has this brand been established?* These questions provide an answer on that what they stand for as a brand and their business life cycle.

These questions do not lead directly to the answer, however by comparing each answer by their stated vision as a brand, it provides an insight on whether other matters are approached in way that aligns with the brand’s stated mission, vision and/or values.

The key concept supply chain activities have been linked to question numbers three until seven. A question has been posed on each supply chain activity implying the design stage, selecting suppliers, manufacturing and logistics management. These questions provide an insight on how supply chain activities are currently being conducted.

The final four questions relate to identifying challenges of starting brands when engaging in environmental sound practices. In order to find out how willing starting brands are to participate in environmental practices, various questions have been asked on this topic. An overview of the 11 questions, linked to the mentioned key concepts, can be found in Appendix I.

## 3.2 Sample design semi-structured interviews

In order to understand how starting apparel brands deal currently with the thoughts of becoming environmental responsible semi-structured interviews been applied to explore the fourth sub-question: *What are the challenges SMEs currently face in the supply chain?*

All interview questions are based the topics derived from scientific literature review. Based on the topic list, determined in subsection 3.1.1, the interview consists of 11 questions related to three key concepts which include the brand’s overall strategy, supply chain activities and exploring the current mind-set, so that challenges to become environmental responsible could be identified from their current approach ( I).

In order to gather detailed information and finding out opinions on certain matters, hardly any closed questions have been included in the interview. Questions focused on retrieving detailed information are for instance *‘‘In terms of being environmentally responsible, what do you consider as most challenging?’’* and *‘‘How do you select suppliers?’’* Questions exploring on a participant’s opinion for example *‘‘What is your opinion on eco-certification labels and can you explain why you do (not) participate in this?’’* The final question however, has been posed as a closed question. It serves as a concluding word that leaves some space, rather than gaining in-depth information.

In total five interviews have been conducted starting companies in the apparel industry. These are all clothing brands in their initial stages that participate in supply chain activities across the borders of the country being officially located.

## 3.3 Validity and reliability

Prior to conducting semi-structured interviews, scientific literature review took place. Interviews could then be linked to and based on scientific findings, which is said to increase reliability of research (Buunk & Veen, 1995). Also, the interviews have first been tested on one start-up to see whether the interview questions were comprehensible and clear for the target group. This, too, should increase reliability (Buunk & Veen, 1995). It turned out that all interview questions were fully understood. It is said that data should be gathered until data reveals less and less surprises and ‘‘no more patterns or themes are emerging from the data’’ (Salma Patel, 2015). Hence, the number of conducted interviews relate to the amount of new findings deriving per extra interview. In order to be able to perform thematic analysis a minimum of two interviews should be conducted (Fugard & Potts, 2015). In this research it appeared that a sample of five interviews complied. All apparel brands showed similar habits, suggesting that no new patterns could be identified.

## 3.4 Processing obtained data

In order to detect a structure in obtained data, transcribing is necessary (Verhoeven, 2011). Therefore, semi-structured interviews will be transcribed upon which they will be coded. Contrary to quantitative research, qualitative research has an inductive character, which means that the researcher will try to find a structure in obtained data after collecting data, instead of testing a hypothesis formulated prior to the research (Verhoeven, 2011). Semi-structured interviews will be coded with help of MAXQDATA, a tool that helps to analyse and structure unstructured data such as interviews. The transcribed interviews and coded segments retrieved by MAXQDATA can be found in Appendix II and Appendix III. In order to be able to analyse the obtained data, several code segments have been applied. Codes applied to the obtained data are: brand overall’s strategy, supply chain activities, challenges and vision towards environmental practices. The three key concepts that were set for designing the interview questions have thus also been applied as a code segment to analyse the obtained data. In addition, Vision towards the environment has been applied as a fourth code segment, as given answers not provide merely an insight on how the explored theory is practiced, but also reveal the interviewee’s thoughts on specific ideas by their wording. This specific idea refers in this research thus thoughts on the environment and environmental sound practices. The question numbers have been linked to the particular key concept in the same way as has been shown in Appendix I. The letter behind these numbers in the cells of the given answers refers to the concerning interview in which the specific answer has been given. An overview of all data processed can be found in the coding chart, Appendix IV.

## 3.5 Limitations

In total 11 questions have been asked over various key concepts. However, when breaking down the key concept it appears that merely one question could be asked per sub-concept in order to be able to limit the length of the interview. This means for instance that only question has been posed per supply chain activity, limiting the opportunity to explore a starting brand’s practices more in-depth.

4. SUPPLY CHAIN CHALLENGES ENCOUNTERED BY   
STARTING APPAREL BRANDS

In this chapter results of semi-structured interviews will be set out. Interviews conducted with experts in the field will be used as supportive material, clarifying why these have not been given attention to in this research, and therefore neither have been coded. Given that, this chapter contains information deriving from multiple appendices. These include the coding chart in Appendix IV, interviews with starting brands in Appendix II, interviews with experts in   
Appendix V andAppendix VI, a figure that has been discussed with an expert.

As stated in section 3.4 key concepts have been linked to the question number. However, when processing the data it appeared that not merely the linked question numbers provide an insight on that particular key concept **(**Appendix III**)**. Answers given on other questions often revealed the thoughts on other key concepts as well. Conclusions will be drawn below, and will be elaborated on per applied coded segment when processing the data. The latter includes thus the overall’s brand strategy, supply chain activities, challenges and vision towards the environments. Findings will be underpinned by data acquired via scientific literature review and desk research.

The brand’s overall strategy

The first two question were linked to the key concept of the brand’s overall strategy. These questions provided an answer on the business lifecycle and their vision as a brand. The business lifecycle determined to be relevant for this research is thus a starting company, a company that exists since maximum three years. Linking these two questions to the answers given on other questions provides an understanding of how their activities are aligned with that that the interviewees’ have claimed to stand for. The latter clarifies why not merely question numbers 1 and 2 were relevant for this key concept. Van Waes, 2016) provides an example of the shoe brand Toms, upon which she sates ‘‘The concept is good that they do business in such a way that they would like to contribute something to a better world. However, this is not good enough for us if it involves products not being manufactured in a responsible way.’’

It appeared that the packaging is always linked to the overall image of the brand. Three out of the five respondents refer literally to this link when answering the question ‘‘*Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?’’* An element of an answer given by interviewee E is for instance *‘‘as it fits the ima*ge *of whom we are as a brand’’.* In fact, one respondent emphasises the importance of the consistency in material used in the packaging for the brand image.

Another finding to be highlighted is the alignment of thoughts with the brand’s supplier(s). Some define it in a more concrete way what they look for in a supplier, however all interviewees attach value to the vision of the supplier. An element of answer given by interviewee C was even *‘‘we discuss their vision and how they are interested in doing better’’.* This suggests thus that there is room for debate. Exchanging thoughts with parties a brand does its business with seems to be appreciated. As an owner of a concept store, van Waes (2016) notes ‘‘There are always reasons why certain things are not possible because a brand is still in a certain stage for example. So if then we discuss this and the brand is able to define their direction, clarify what aspects have not been addressed yet and stating what and they lack to address the concerning issues it is already a different story. ’’

All interviewees seem to strongly agree on integrating certification labels. The respondents consider this as a loss of identity, as these certification limits their actions to that what they stand for. One of the interviewees stated the consideration of environment even to be *‘‘rather a responsibility than the rules of certification’’*. Interviewee A says upon this *‘‘Certification labels are not specifically appealing to me. As an apparel brand you should see what is important to you and integrate that in your brand, as those values contribute to your identity as a brand ’’.* Interviewee E did indicate to have an interest on a certification label, however passively by saying *‘‘maybe an eco-certification label’’*. It appears that this is also in line with their vision *‘‘Our brand stands for casual urban that can be worn by all ages and genders, as our designs are unisex. Comfortable and caring about ethics are important aspects for us.’’* It could therefore also be questioned whether the motive relates to the brand image or is actual sincere interest.Overall answers of all interviewees indicate that certification labels seem to be rather perceived as dreadful rather than appealing. Although certification labels do prove some value for a concept store, van Waes (2016) agrees with the unique story of a brand upon which there are different ways of acting responsibly, ‘‘You need to find and follow your own path as an apparel brand. Each apparel brand has its own identity so you cannot do all the same’’ (van Waes, 2016).

These findings have shown thus that packaging and brand image are strongly related, alignment with a supplier’s idea is important and certification labels are not appealing to starting apparel brands.

Supply chain activities

Key concept supply chain activities were linked to question number 3 until question number 8. The coding chart shows that data upon supply activities could indeed merely be retrieved from the linked question numbers.

All starting brands seem to deliberate the designs with a team before ordering a sample and order samples when all agree with the design. Some consult the design team as a way of deliberating, however no particular attention seems to be given in the strategy of designing and ordering samples. Interviewee E states upon the design stage *‘‘Together we discuss what new items we would like to have and discuss these ideas together. When agreed upon, we give these criteria to our design team, consisting of four people. They come up with ideas and possible designs.’’* This means thus that there is a lot of room for assumptions, just as has been stated in Hasmik’s model. A way to design more effectively could be by considering the purpose of the product upon which Douro (2016) states ‘‘A raincoat has different criteria than a t-shirt’’

An interesting finding to be pointed out is the answer of interviewee C upon suppliers. This interviewee emphasised her experience in the industry upon which she states *‘‘So much experience in this industry, because it helps me quite well with finding suppliers.’’* An answer by someone claiming to be experienced indicates that it is plausible to assume that generally it is rather difficult to find the right suppliers.

Various answers suggest that location plays an important role in conducting supply chain activities. Various answers of different interviewees included the elements *‘‘another benefit is that we easily come there to check’’, ‘‘keep activities as local as possible’’* and *‘‘They are all close to each other’’*. A term mentioned that can be related to the location is drop shipping[[3]](#footnote-3), which has been mentioned by two interviewees. As has been discussed in chapter 2, logistics play thus an important role in the supply chain. CSR specialist in the apparel industry, Meerman (2016), discusses the considerations of logistics in Appendix VI.

These findings gave an insight on the design stage, selecting suppliers and the importance attached to the location of suppliers. Designing clothing items seems not to be executed according a specific approach. Generally deliberating on the design seems to be enough to order the samples. Furthermore it seems to be challenging to find matching suppliers. Location appears to be important various contexts, which include: checking the supplier, keeping activities local and travelling distance.

Challenges

The key concept challenges is linked to the last four questions of the interview, question number 8 until question number 11. As with other key concepts, relevant information for this key concept could also be retrieved from other questions. Statements expressing directly frustration were fitting for this key concept. Also terms that could be perceived as annoyance, hesitating and/or an assumption have been linked to the key concept, clarifying why answers from question numbers of the key concept supply chain activities also provide value in identifying challenges for starting brands. Terms perceived as frustrating is for instance ‘‘*it’s still easier for me than (...)*’’ and ‘‘*we try to (...)*’’. Terms perceived as hesitating is for example ‘‘*I believe (...)* ’’ Statements perceived and assumption is for instance ‘‘*since else they wouldn’t have (...)*’’.

Various respondents have mentioned the term communication in multiple contexts. An element of a given answer is for instance *‘‘As I work often from a distance, the possibilities to communicate’’*. Another interviewee related the ease of expressing herself in another language by stating *‘‘Even though it’s not exactly the same, it’s still easier for me than communicating in English’’*. Communication plays thus an important role in the relationship with the suppliers.

Travelling distance has been indirectly referred to in various contexts. In fact, the previously mentioned statements could also be linked to travelling distance. Other statements on distance include ‘‘*Such a location, within the borders of Europe, makes everything a lot more manageable*’’, ‘‘*we try to keep our activities as local as possible*’’ and ‘‘*I wouldn’t know how to do this with a low environmental impact if located further*’’. It seems thus that the travelling distance can carry multiple implications. Related to the travelling distance, Douro (2016) poses the following solution ‘‘you can try to minimize the number of suppliers you have, source directly as possible so without unnecessary agents, which makes your supply chain shorter. It reduces the extra miles in transportation, thus less pollution, and provides insight on local business practices.’’

Multiple interviewees referred to their access to resources in different contexts. Terms used upon this are ‘‘*financially possible*’’ and ‘‘*compromise in costs*’’. This indicates that it requires a serious effort when assessing the financial savviness of a decision. This aspect was also related in the context of the possibilities engaging in environmental sound practices ‘‘*we know it carries some extra costs, which makes it certainly not profitable for now*’’.

In fact, engaging in environmental practices seems generally to be perceived as difficult and challenging. Various statements have been made in which some interest is expressed about environmental sound practices, however also has it been expressed in a way that reveals its low priority. When asking about the current interest in participating in environmental practices answers included elements as *‘‘we’ll focus first on (…)’’* and *‘‘we’d like to balance a bit’’*.

It can be stated that starting brands encounter a variety of challenges involving the topics communication, travelling distance and financial resources. The latter seems in fact to be contributing to a starting brand’s motive to not engage with environmental sound practices. Besides being limited by starting companies’ characteristics, it seems also to relate with the founder’s perspective on how much of a hassle it is to engage with environmental sound practices. An elaboration on the vision towards the environment will be given in the next paragraph.

Vision towards the environment

As can be seen in the coding chart, there are no question numbers linked to this key concept. The key concept has been added particularly for coding the interviews. This extra code allows findings to be presented in a way that reveals how the topic of environment is perceived throughout the entire interview. This means thus an answer on any question can be relevant for this key concept.

None of the interviewees seem to take a convincing approach in environmental sound practices. There seems to be an interest in a passive way, as no particular actions are taken to engage in such practices. Various answers confirm this ‘‘passive’’ behaviour. Elements of a few answers are for instance, *‘‘we have asked their vision and possibilities, just in case’’, ‘‘ probably results in lower carbon emissions’’* and *‘‘I suppose these many travels are being considered as environmental friendly’’.* The terms used can be considered as hesitating language, suggesting not a convinced approach. One interviewee states in fact ‘‘*if I face an issue in which a more environmental friendly alternative is presented, I would certainly consider* that*’’.* It seems thus that there is some interest, however not to the extent that it triggers an immediate impulse to act.

Another interesting finding is the starting brand’s approach in how packaging has been determined. Merely two respondents expressed their consideration of environmental impact upon which the following statement have been made: *‘‘chose to have paper bags over plastic bags for the environment indeed’’* and *‘‘because it is indeed better for the environment and fits the image who we are as a brand, but it is not certified or produced in a special way or so’’.* One respondent says using plastic bags as packaging. Overall it seems that packaging is merely linked to brand image, and is less associated with of environmental factors in that process. Furthermore the answers suggest that that none of the brands have revised their packaging since launching, as all brands point out that the packaging had already been determined when launching.

It has been found that starting brands do not take an active approach on environmental sound practices. There seems to be however still an interest in participating when *‘‘the alternative is presented’’.* This finding is in accordance with the challenges encountered by starting brands, that it is too much of a hassle for the brand itself. This means that interest would be there if it requires not too much effort for the brand. Furthermore it can be concluded that packaging and environmental factors are not directly being associated with one and another. Since packaging pertains to brand image, this suggests that there is no awareness on opportunities in environmental factors for a company’s brand image.

Various conclusions can be drawn from this data. Engaging with environmental sound practices appears overall to be perceived as requiring too much effort. This suggests thus there is a need for an initiative that makes it easier to engage in environmental sound practices. Furthermore it can be concluded that financial resources is considered as a challenge meaning that it requires effort to make financial savvy decisions for starting brands. Financial aspects should thus be reconsidered in each decision. In order to understand how all other drawn conclusions fit in the context of this research, an overview is presented in which conclusions are linked to the supply chain decisions that have been illustrated earlier in the thesis in Figure 13, section 2.6. This overview is illustrated in Figure 17.

**SELECT** SUPPLIERS

* Alignment with supplier’s vision is important
* Certification labels not appealing to starting brands
* Communication is important as issues occur in different ways
* Location important

SELECT MANUFACTURERS

* Communication issues occur in different ways
* Certification labels not appealing to starting brands

EFFECTIVE COMMUNICATION

* Communication is important as issues occur in different ways
* Certification labels not appealing to starting brands

**CONCEPT & DESIGN**

* No specific approach
* Deliberating design suffices to order samples
* Relation packaging/brand image
* No awareness relation packaging/brand image/environment

DETERMINE TRANSPORTATION

* Communication issues occur in different ways
* Location important

Supply chain management

Brand overall’s strategy  
Supply chain activities  
Identified challenges  
Vision towards environment

Logistics management

Figure 17: identified practices of starting brands in the context of supply chain decisions

The total context of these statements can be found in the conducted interviews in Appendix II. The final figure presented the overall conclusions that can be drawn from the interviews conducted with starting apparel brands. Given that, the fourth, and thus final, sub-question has been answered that is *‘‘What are the challenges starting apparel brands currently face in the supply chain?’’* The next chapter presents thus the overall conclusion of this research by elaborating on all the sub-questions defined for this research.

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# 5. CONCLUSION

Based on results described earlier conclusions can be drawn for each sub-question. This chapter will give a brief overview of all sub-questions. In addition, an answer to the main question will be given. Also, methodological limitations will be discussed. The study encompasses the supply chain from the design stage until the manufacturing stage, suggesting that merely conclusions within this scope will be covered.

By means of desk research and scientific literature review an answer has been given on the first sub-question, *“What does the supply chain of the apparel industry imply?”*

It appears that various models can be used to explain the supply chain and the activities therein. The illustrations used in this thesis have shown that the supply chain comprises the flow of information, goods and funds consisting of different activities and participants. These activities take place in one of the two core processes of the supply chain: supply chain management or logistics management. Activities of supply chain management determined to be relevant for this research are: supplying, selecting suppliers the company purchases from and manufacturing. Activities of logistics management determined to be relevant for this research are determine transportation method and the flow of information, which can be translated as data or communication. Materials being involved in this process are: raw materials, parts, packaging and materials. This relates to inventory as the quantity of material determines how much can be produced.

The second sub-question, *“What does environmentally responsible supply chain management encompass?”* has, too, been answered by means of desk research and scientific literature review.

Environmental responsible supply chain has been investigated by means of studying the concept RSCM, which consists of two concepts CSR and SCM. The concept of CSR is built on the 3BL, referring to people, planet and profit. Since this research addresses concerns in the environmental dimension, merely the environmental pillar is relevant for this study. SCM involves decisions that can be taken on different levels. Since advice is based on the alignment of a company’s vision with its actions, decisions on strategic and tactical level have been determined to be relevant. Decisions to be taken relate to production, inventory, location, transportation and information. Based on this research, Environmental responsible supply chain has been defined as the following:

*Taking responsibility towards the environment, ecological aspects, waste and pollution reduction processes on the employed resources by considering carefully decisions to be taken in the supply chain. The latter refers to decisions regarding production, inventory, location, transportation and information, affecting medium term longer*

Just as the previous sub-questions, the third sub-question, *“What techniques already exist to develop an environmentally responsible business?”* has been studied by means of desk research and scientific literature review.

In order to be able to present a tool in a format that is applicable, the definition of framework has been explored. Valuable theories that show a great potential to be adopted in the framework include Green Logistics, Hasmik’s model, RECP and the Waste Hierarchy. Green logistics presents various solutions for activities of the core process logistics management, involving transportation processes and technology. In contrast, Hasmik’s model and RECP provide rather approaches on manufacturing, which relates to SCM. Hasmik’s model proposes various solutions by elaborating extensively on design approaches. The latter can affect manufacturing to a great extent. RECP provides a less detailed approach, however does offer general guidelines on how to achieve a cleaner production. Compared to the previously mentioned theories, the Waste Hierarchy does not provide any specific solutions on supply chain activities. Yet, it seems to be valuable as it proposes a method that contributes to the endeavour of how to take decisions that are environmentally sound. In order to determine criteria that is built on a valid set of principles, research has been done upon how environmental responsible actions can be integrated in an effective strategy in decision-making. Waas et al. (2014) identifies three challenges that should be taken into account when conceptualizing sustainable development as a decision-making strategy. These challenges include interpretation according to its socio-eco environment, information structuring and its influence on the actual decision.

The fourth, and thus final, sub-question, *“What are the challenges starting apparel brands currently face in the supply chain?”* has been investigated by field research. By means of semi-structured interviews with starting apparel brands a variety of conclusions could be drawn as it allows perspectives to be studied more in-depth.

Challenges starting brands encounter have been assessed in various contexts by identifying them in different ways. This includes by asking literally, but also by comparing different by paying attention to language use and compare different answers to the first given answer, which includes the vision a brand. As the same challenges appear in different contexts, findings can often be correlated. This also leaves room for different solutions. For instance, communication does not only link to transmitting information/data, but can also relate to the distance to be travelled to clarify matters face to face. In that way, communication can also be associated with location. Findings that have been identified as challenging for starting brands are:

* Alignment with supplier’s vision is important
* Certification labels not appealing to starting brands
* Communication is important as issues occur in different ways
* Location important
* No specific approach on designing and sampling
* Deliberating design suffices to order samples
* Relation packaging/brand image
* No awareness relation packaging/brand image/environment

How findings can fit in different contexts is illustrated in Figure 17. Furthermore it has been found that it can be difficult for starting brands to make financial savvy decisions. Another finding to be pointed out is the passive attitude towards environmental sound practices. These last two findings confirm in fact the need for an initiative that is not only affordable, but also easy to apply.

Lastly, but most importantly, answering these four sub-questions provided an answer to the main question that has been defined as:

*How can starting brands in the apparel industry build an environmentally responsible*

*supply chain?*

As has been stated in the problem identification by Richards (n.d.) ‘‘the right business strategy is a strategy that is aligned with the basic principles of a company’s values, mission and vision.’’ Given that, it is for a starting brand thus crucial to understand its own mission, vision and values. Combining that what a brand stands for, with its organizational characteristics, allows a starting brand not only to gain insight on its opportunities and limitations in general, but also in making environmental sound decisions.

As has been mentioned in problem identification, organizational barriers prevent small organization often from engaging in environmental sound practices. In order to assist starting apparel brands in gaining insight on its supply chain decisions, a framework has been chosen as a format to present various methods on taking supply chain decisions environmentally sound. It includes the environmental impact caused by the apparel industry in particular. This means that the framework includes decisions regarding concept & design, suppliers, manufacturing, transportation and communication and addresses waste generation, water, chemicals, energy use, carbon dioxide and air emissions. In order for the framework to be effective for starting apparel brands, challenges of starting apparel brands have been explored. It can be concluded that the following should be taken into account when designing the framework:

* Alignment with supplier’s vision is important for starting brands
* Certification labels are not appealing to starting brands
* The instrument should propose approaches contributing to effective communication between starting brand and suppliers
* Starting brands attach importance to a strategic location
* A specific approach on designing and sampling is recommended as it can reduce both costs as environmental impacts to a great extent
* Raise awareness relation of packaging / brand image/ environment, as it can reduce both costs as environmental impacts

However, in order to design a framework that is applicable, it requires an understanding of the challenges related to the process of conceptualizing sustainable development as a decision-making strategy. These challenges include interpretation according to its socio-eco environment, information structuring and its influence on the actual decision. To increase the framework’s potential to serve as an effective decision making strategy, these three aspects have been used as basic principles.

For a starting brand it appears that compromises often have to be made, so that financial savvy decisions can be made. On the other hand, it also appears that starting brands have a passive attitude towards engaging actively in environmental sound practices due to the perception of being a hassle. There seems thus to be a need for a solution that considers both the limited financial resources and the ease to apply the solution. Findings of the research have thus been adopted in the framework that will be presented in the next chapter.

## 5.1 Limitations

The essence of this study was providing small-scaled businesses, that are in particular starting brands, a tool to assist them in making supply chain decisions. The research focused however merely on the definition of SME according European standards, as it appeared that the definition of SME varies from region to region. The impact of these differences has not been explored, which could impact the value of the advice given.

As the concept RSCM has no univocal definition, multiple concepts were explored. The term RSCM has therefore been taken broadly in this research. As a consequence, a variety of terms could fall in the scope of responsibility, clarifying why these have been considered equally valuable for this research. Examples of these terms are *green*, *sustainable* and *organic*. This means that this research has not considered the debate of differences between these definitions, implying that these terms have been used interchangeably within the scope of RSCM.

Lastly, the use of saturation in research methods has its flaws as no specific number is considered as correctly applied. Guidelines for thematic analysis indicate numbers varying from 2 to 400+ interviews and do not specify clear criteria on values in between (Fugard & Potts, 2015). This suggests thus that outcomes may differ significantly.

# 6. ADVICE

In the endeavour of assisting starting apparel brands in (1) gaining insight on supply chain decisions to be taken, and (2) establish a brand in which environmentally sound decisions are taken within the context of priorities established according to a brand’s overall strategy, a framework has been designed. This framework adopts findings from both interviews as well as the discussed theories. The latter includes notions of the existing tools discussed.

The framework addresses the limited financial resources and the environmental impact.

In terms of financially effective the following aspects are addressed:

* The steps of Concept & Design enable a brand to design as efficient and effective as possible. Eliminating non-valuable elements in a clothing item and packaging will reduce costs. The presented approach allows a brand to do this, without compromising on the looks and quality.
* Packaging accounts for 12% of supply chain costs and has besides the function of packaging, also its function to promote your brand efficiently. Combined this with a brand’s vision, this is can be an opportunity to save marketing costs.
* Given that 30% of the manufactured items will not be sold, it is thus extra important to consider carefully what you produce as a brand, in terms of quantity, but also in terms of value for the customer.

The framework addresses the environmental impact to a great extent as it is built on a preventive strategy. This means that the steps contribute to carefully considering the impact prior to actual Production and Transportation.   
 Related to Production this means that low impact material is considered, unnecessary material will be eliminated and functions of elements and details will be optimized. Selecting suppliers carefully enables a brand to execute the environmentally conscious approach effectively. Also does the number of suppliers play a role in the environmental impact, since a long supply chain has multiple consequences for Transportation. Planning transportation carefully contributes to a smaller carbon footprint, reduction of shipping costs and cutting down a number of supply chain risks. The latter includes: unpredictable fuel prices, long and erratic lead times, and the risk of currency exchange

Overall the framework covers activities of both core processes SCM and logistics management. Activities of SCM include concept & design, suppliers and manufacturing. Activities of logistics management include transportation and data. Notions from Hasmik’s model and the Waste Hierarchy have been applied to the stage of concept and design. Data obtained from interviews and the theory of RECP will be linked to (selection of) suppliers. Due to careful consideration prior to actually manufacturing, manufacturing has already been determined to a great extent in this stage. It serves therefore mainly as a summarizing checklist, rather than actually still influence manufacturing. How suppliers are selected plays an important role in addressing environmental aspects. The focus will therefore return on the selected suppliers, before the final part is presented, that is logistics. The activities of logistics management will be linked to solution presented in the theory of Green Logistics.

However, in order to make responsible decisions on the strategic level it requires understanding of what you stand for as a brand, the overall strategy, so that these values are reflected in the decisions to be taken and thus the actions to be taken, decisions on the tactical level. Simply put, is that what a business says it stands for also visible in its actions. This seems to be in accordance with the statement of (Richards, n.d.), in which he emphasizes the importance of a strategy aligned with the basic principles of a business’ values mission and vision. The framework, starting on the next page, will therefore start with asking the participant to state the mission, vision and values as a reminder.

**STATE THE BRAND’S**

Reduces costs with least 30%

 Addresses waste: at least 30%

2. Classify

customer’s needs

! Rank in order

of priority.

1. Open dialog with (potential) customers

4. Determine purpose of

the item

3. Identify

customer’s

expectations

! Rank in order

of priority.

**CONCEPT**

Rethink the item by **studying consumer’s behavior and your current packaging**.

Integrate findings in mood board.



Experiment

with **material**

Experiment with **length**

Experiment with **details**:

* Number of buttons?
* Length zipper?
* Angle of pockets?  
  etc.

Don’t forget the

item its **function!**

 Addresses lifecycle of the product

Reduces unnecessary costs

**DESIGN SCENARIOS**

Experiment ideas in different designs. Considering **different options** enables a brand to

reduce unnecessary material, remove non-valuable details and use low impact materials.

Try also to use your waste fabrics in this process.



**SUPPLIERS**

**×**

**SUPPLIER #3**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**SUPPLIER #1**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**SUPPLIER #2**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**SUPPLIER #...**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**SUPPLIER #...**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**SUPPLIER #4**

o Packaging

o Raw material  
o Material  
o Parts

o Domestic / o Overseas

**READY TO MANUFACTURE?**

**4.** These will be manufactured

by a supplier who (will) ..

o adopt clean technology

o switch to low-carbon

methods

**3.** Resulting thus in a product and packaging (re)designed in such a way that is has the lowest environmental impact possible, without compromising on looks & quality

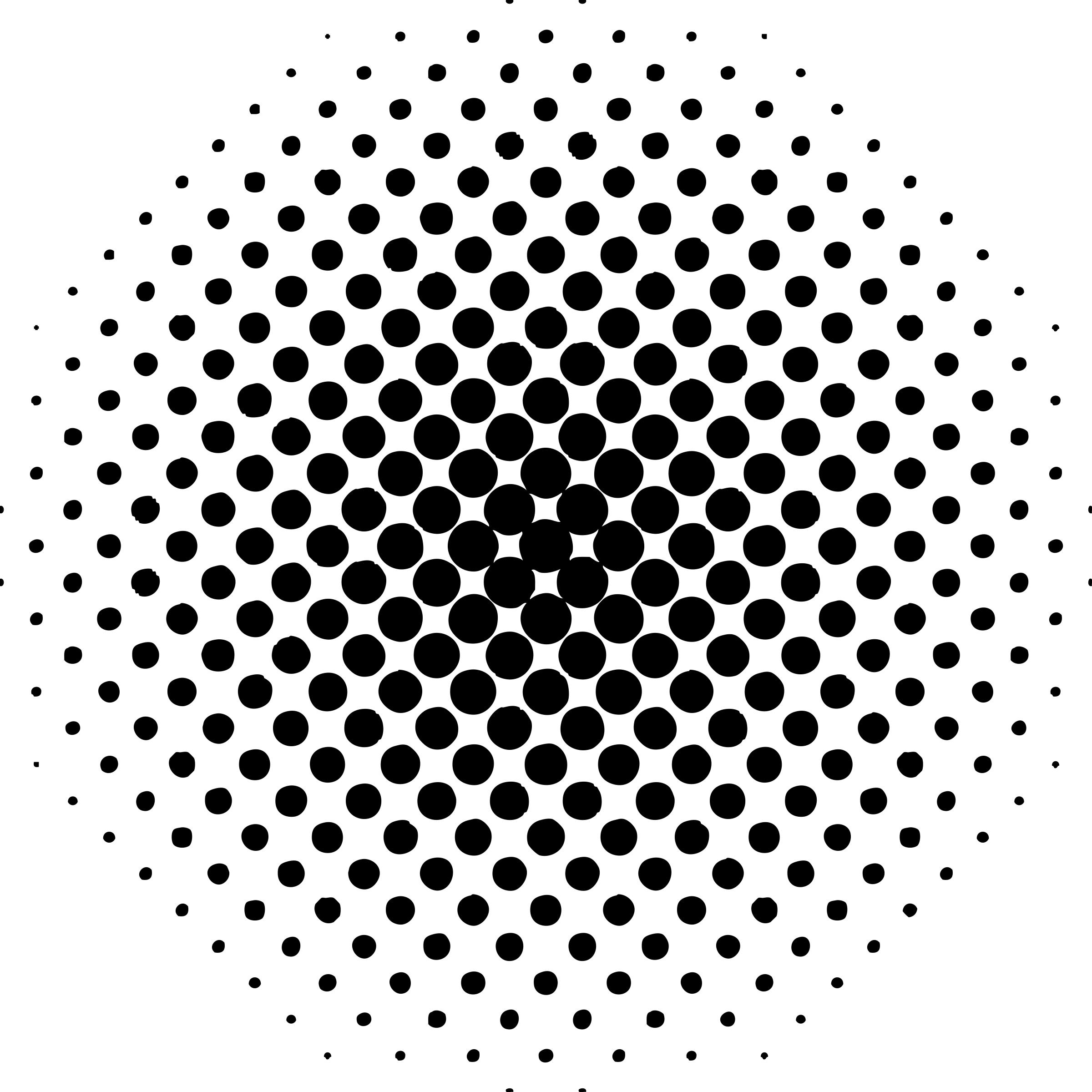
o YES o NO

**2.** The consumer’s desires and expectations have been adopted in the design.

o YES o NO

**1.** Production will take place at supplier(s) who operate in line with our mission, vision and values.

o YES o NO





 Pilot samples directly on (potential) customers; people who represent exactly your target group. This prevents unnecessary financial investments on samples on indirect customers.

  
…

suppliers are located **domestically**

  
…

suppliers are located **overseas**

Thus we have  
  
…

suppliers for **material**

Thus we have  
  
…

suppliers for **material**

Thus we have  
  
…

suppliers for **raw material**

Thus we have  
  
…

suppliers for **packaging**

**LOGISTICS**

IT solutions provide assistance in

**TRANSPORTATION**

**COMMUNICATION**

SINGLE/  
MULTIPLE?

LOCATION CUSTOMERS?

NUMBER OF  
SUPPLIERS?

LOCATION COMPANY?

LOCATION SUPPLIERS?

SPECIALIZED/

MULTI-SKILLED?

**km/h**

**mph**

# 

**SUPPLY CHAIN OPTIMIZATION**

Plan transportation routes more efficiently. Use data gained so far.

**GREEN SUPPLY CHAIN REALIZATION**

RFID tags carry information about energy footprint. Data can be used to find ways to reduce for instance carbon footprint.

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End-to=end paperless processes

**EXECUTE**

**EFFICIENT**

**ROUTEPLANNING**

**TRANSPARENCY**

Don’t forget to involve your employees and customers in achieving the brand’s mission.

Communication is key!

**GREEN SUPPLY CHAIN COLLABORATION**

A portal enables all supply chain members to be involved

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**APPENDICES**

**APPENDIX I: Operational model, interviews**

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| --- | --- | --- |
| Key concepts | Indicators/criteria | Questions |
| Brand’s overall strategy | Values, mission, vision | Where does you brand stand for and what is your approach towards being environmental responsible? |
|  | Start-up | Since when has this brand been established? |
| Supply chain activities | SCM, design stage, design system | How does a design come to existence? |
|  | SCM, design stage, design system, packaging | Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly? |
|  | SCM, selecting suppliers | How do you select suppliers? |
|  | SCM, Manufacturing, production | How are clothing items currently being produced? |
|  | Logistics management | How are logistics being arranged currently? |
| (Identification) of challenges; what keeps a apparel start-up from acting environmental responsible | Current approach | To what extent do you pay attention to environmental aspects at the moment? |
|  | Current challenges | In terms of being environmentally responsible, what do you consider as most challenging? |
|  | Current perspective on eco-labels | What is you opinion on eco-certification labels and can you explain why you do (not) participate in this? |
|  | Current interest in participating | Are there any environmentally initiatives you like to participate in? If so, which and why? |

**APPENDIX II: MAXQDATA transcribed interviews starting brands**

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| 1 | **INTERVIEW A** |
| 2 | **1. Where does you brand stand for and what is your approach towards being environmental responsible?** |
| 3 | We aim to make cool clothes in a fun way. Everyone who works on our items gets the chance to transmit their story. You can see immediately who made your clothes through our item. Our concept initially started with the thought of creating more employment in Ghana. However, we did not want to do this in a ‘’fairtrade-idea’’, we wanted to do this in a fun way. We started to look for nice designs in which African fabrics could be integrated nicely, however within the possibilities of what our tailors are able to deliver. In terms of sustainability, we focus generally on social aspects, however if a situation occurs that I can make an environmental conscious decision I will do this. |
| 4 | **2. Since when has this brand been established?** |
| 5 | The brand has been established since 2014. |
| 6 | **3. How does a design come to existence?** |
| 7 | My team here in the Netherlands makes designs of various clothing items and I determine which designs I like enough to produce. Based on the selected designs I select fabrics in Ghana with my business partner. As I own a physical shop nowadays in the Netherlands, I help my business partner mostly from a distance by exchanging pictures of the fabrics. Important for the design is not only selecting fabrics I like, but also I believe my customers would like. Samples are then made at the tailor and we will check whether these are according satisfactory. Based on that we check whether adjustments should be made or a full batch will be ordered. |
| 8 | **4. Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?** |
| 9 | Hmm well the design of our packaging was established before we launched officially, but I don’t have any specific requirements for that. We have paper bags, because I like these squared bags that you can unfold if you know what I mean. You cannot achieve that with paper or plastic material or so. |
| 10 | **5. How do you select suppliers?** |
| 11 | At the start we passed by some workshops to see which ones triggered our interest. It was important for us to meet the people working in the workshop, as we want to get to know the faces behind the productions of our future collections. After selecting suppliers we let them make a sample to see how everything goes; often they will get another chance to make another sample. If this is according satisfactory, we will continue with the cooperation. Other aspects we find important in selecting suppliers is the ease to work with them. As I work often from a distance, the possibilities to communicate with my suppliers are important when collaborating. It should also be possible to take pictures from the fabric as I experienced some suppliers being difficult about it. Furthermore we select suppliers that we believe for who we can make a difference, hence I pay attention to the personal circumstances of the supplier when selecting a new supplier. |
| 12 | **6. How are clothing items currently being produced?** |
| 13 | The local tailors work from their own workshop and have their own students. These students perform some of the work, for instance to cut some fabrics, however the person entitled to compose the final product is generally the owner. This person is qualified to all activities involved such as sewing and attaching zippers,which ensures the quality of our products. The item is will be finished in one workshop, so each item stays within the walls of one workshop during production. We do not cooperate with big factories so there are no generators or anything involved, all items are thus manually made. |
| 14 | **7. How are logistics being arranged currently?** |
| 15 | I buy generally always from the same shops, so I know my suppliers well. I cooperate with local wholesalers specialized in fabrics, these are shops in Accra the capital of Ghana. They are all close to each other, which makes it easier for us when we go there and to transport fabrics in trucs to our tailors, being located in and around the same villages. When transporting our final products I use drop-shipping a lot. This is very beneficial for particularly online shops as it eliminates the worry of logistics and inventory |
| 16 | **8. To what extent do you pay attention to environmental aspects at the moment?** |
| 17 | Well considering that we don’t cooperate with big factories there are no generators or any big machines involved, I believe this makes our production quite pure. I think it’s good to produce products in an environmental friendly way, however I would not say I am actively engaging in this method. Let’s say, if I face an issue in which a more environmental friendly alternative is presented, I would certainly consider that. |
| 18 | **9. In terms of being environmentally responsible, what do you consider as most challenging?** |
| 19 | Even though I am not actively engaging in environmental friendly practices I have looked into the alternative of eco-cotton. This seems however quite hard to get in Ghana. Another aspect that could maybe be considered as a challenge is the ease, or actually not ease, to communicate properly from such a distance. It’s going a lot better nowadays, but setting up a structure in Ghana was very hard at the beginning, which meaning I had to go there often. I suppose these many travels are being considered as environmental friendly. |
| 20 | **10. What is you opinion on eco-certification labels and can you explain why you do (not) participate in this?** |
| 21 | Certification labels are not specifically appealing to me. As an apparel brand you should see what is important to you and integrate that in your brand, as those values contribute to your identity as a brand. Certification labels are tied to so many directives and costs, that it limits a brand in integrating that personal touch, that what you stand for. Without all these directives and extra costs there is more room to incorporate that personal touch to your brand, that personal story. Each brand has its own story and balance should be found within that identity. This means that you can build your brand within the limits of your norms, values and believes meaning that you operate according what you believe that is right and responsible to do. I would not just tie myself to some kind of certification in which I have to meet to so many standards and requirements only for the sake of being certified and for that price. Now I can do anything, knowing I will 100% commit and know it is the right thing for me now within what I believe is possible and good to do. |
| 22 | **11. Are there any other environmentally initiatives you like to participate in? If so, which and why?** |
| 23 | Well as I said, eco-cotton interests me, as I would like to work with cotton as pure as possible. I have reached out to a few suppliers in Ghana, unfortunately I haven’t received any response so far. If I would be able to integrate that in my products, I would definitely go for that. |

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| 1 | **INTERVIEW B** |
| 2 | **1. Where does you brand stand for and what is your approach towards being environmental responsible?** |
| 3 | FVLX aspires to make comfortable clothes, but stylish clothes. FLVX stands for continuous change, which we are always open to. Our products are relatively simple, but we always try to find new ways to make it better, the product itself as how it is produced. It is however not something we actively communicate, as we believe it is rather a responsibility than something to flaunt with. |
| 4 | **2. Since when has this brand been established?** |
| 5 | We established the brand beginning of 2015. |
| 6 | **3. How does a design come to existence?** |
| 7 | We first start with designing basic designs and determine with the team which ones have potential based on similar items before, we adjust the new design where needed.This won’t usually take that long as we design generally basic clothing items in the category casual. Since we have relatively basic products, we have the codes of the colors and fabrics we work often with. If we all agree on the selected designs we send an order for the samples to our supplier by e-mail. |
| 8 | **4. Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?** |
| 9 | At the beginning of we determined together that the packaging should be made of fabric, but we don’t have any specific requirements (yet) in manufacturing. We decided in advance that we all like these bags, also for it’s to re-use it with groceries or so, which is also good for our exposure haha. It is not certified, but we did ask the supplier whether there is a possibility in bamboo cotton, but this is is really for the farrr future. |
| 10 | **5. How do you select suppliers?** |
| 11 | We wanted a supplier that is very skilled in anything related to manufacturing clothes, so multi skilled. Other things we find important is good communication. In the past we had for example caps matching to t-shirts, however the same color turned out not to have exact the same color on the t-shirt as the cap. We immediately received a call about this. It turned out not to be an issue for us, but it was still very nice they took our thoughts into account and communicated this rather than continuing without our approval. We were very satisfied from the start and very happy with their way of communication. Our brand signifies change we are always open for better ways of production, so for us it’s important to know their long-term orientation to so that we get a better understanding of their core values. |
| 12 | **6. How are clothing items currently being produced?** |
| 13 | Basically our supplier arranges everything to manufacture our order as they also have the fabrics in-house. Our supplier is a relatively small factory working with very modern equipment and an experienced team. Even though it is a factory, no big machines are involved in the production. After deliberating the designs with our team, we discuss the possibilities with the factory and confirm this by e-mail. Sometimes we pass by to discuss this, but often also by phone. So now and then a sample is required, for instance when selecting a new color. In that case we discuss the appointment by phone as well to come see the samples when it is finished. We also come check when new collections are finished and give then green light to ship or not. As I said before, we make casual clothes, so our designs are not that complex. If something ‘‘unusual’’ happens, we always pass by. |
| 14 | **7. How are logistics being arranged currently?** |
| 15 | We are lucky with the expertise of our supplier. Our supplier not only arranges the manufacturing part, but also a part of our logistics for Indonesia and Australia as they have another office there. A drop shipping company, also suggested by them executes the shipping part to the USA. |
| 16 | **8. To what extent do you pay attention to environmental aspects at the moment?** |
| 17 | Our supplier is very concerned about environmental aspects and has clear goals on for instance water reductions and the use of electricity. All this came to light when we discussed the future orientations of the supplier. We know they live it up, because we witnessed this with our own eyes during our cooperation. Solar panels have for instance been placed recently at the factory. |
| 18 | **9. In terms of being environmentally responsible, what do you consider as most challenging?** |
| 19 | Well we are so lucky with our supplier that is multi-skilled and so experienced. This means it is easier for us to exchange our thoughts on using other fabrics and actually having the option to select this for our new collection while not having to deliver this ourselves, since the factory owns many types of fabrics. I don’t think we have specific challenges to produce environmental friendly, as the options are quite available here in Asia. I think the main obstacle for us now would just be the financial resources to work with materials more environmental friendly. Another thing we should maybe pay attention to is gaining more insight on how our products are being shipped. |
| 20 | **10. What is you opinion on eco-certification labels and can you explain why you do (not) participate in this?** |
| 21 | An apparel brand stands what it stands for. This means that it has their own ideas contributing to creating their identity. We actively engage with ‘‘responsible decisions’’, however we do not set any requirements in terms of having to certified according this and that. FVLX stands for change and we are always open for improvement and innovation and according our values we will always strive to do better for humans and for the environment, which we believe is our responsibility rather than the rules of certification. We do recommend to network and to know what is going on so that you can also discuss these ideas and maybe future possibilities with your supplier. |
| 22 | **11. Are there any other environmentally initiatives you like to participate in? If so, which and why?** |
| 23 | On the long run we would like work with bamboo cotton for our core products as the packaging. As I said, I think we are quite lucky having such a multi-skilled and experienced supplier. In fact, our supplier makes it possible for us to execute the ideas we have as a brand and their environmental friendly vision and equipment makes it for us possible to actually make the collection. Even though our financial resources don’t always allow us to go for ‘’the best options’’, I believe their vision and way of working is quite an added value as we can also lean from them to improve our brand on the long run. |

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| 1 | **INTERVIEW C** |
| 2 | **1. Where does you brand stand for and what is your approach towards being environmental responsible?** |
| 3 | We are a brand that creates fashionable items, but wearable for the active ones. We have been inspired by brands in the area of sports and outerwear, the comfort of wearing our clothes is thus very important. We applied this to our brand, while not leaving out the details to be able to wear it with style. We believe it’s not only important to look good, but also to feel good. About being environmental responsible, we are quite environmental responsible I believe. Throughout the journey we consider our impact as much as possible. I feel blessed growing up in Switzerland, a place where nature is wonderful. I really appreciate this and would not like this, and other stunning scenes in the world, to disappear. |
| 4 | **2. Since when has this brand been established?** |
| 5 | In November we’ll be two years open. |
| 6 | **3. How does a design come to existence?** |
| 7 | I have had experience in a designer’s team for quite some years. Not all experiences were in the apparel industry, but still has been very valuable for how to create my designs for my own brand now. I basically now design everything myself and let my team take a look to those and discuss the possibilities. This is almost the opposite of my past experiences as back then I was the one who created the designs within a team, which did not satisfy me anymore, clarifying why I started for myself. So after my team has taken a look at my designs, they present me the design in the different alternatives, think of material and details. As we care about our impact we decide what comfortable material is suitable for that item and has little impact. |
| 8 | **4. Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?** |
| 9 | For packaging I chose to have paperbags over plastic bags for the environment indeed. We also have boxes for wrapping, as these are ‘’also’’ made of paper the material is more consistent in the brand and thus matches more the overall picture. I must say didn’t take any particular approach for designing or manufacturing these. |
| 10 | **5. How do you select suppliers?** |
| 11 | I think I am lucky to have so much experience in this industry, because it helps me quite well with finding my suppliers. We are established in Switzerland, but many of our suppliers are located in Germany. This is also very convenient in terms of language. Even though it’s not exactly the same, it’s still easier for me than communicating in English. Another factor I appreciate with my current suppliers is the short distance; it is luckily not too far to travel in case required. I think this already helps a lot for the environment. When I select my suppliers I also pay attention to their values towards people and nature. Some have certifications, some not, but I like to see their progress along the journey, which we actually both have to make. |
| 12 | **6. How are clothing items currently being produced?** |
| 13 | Our manufacturers are located in Germany where my business partner is located as well. After discussing and agreeing upon the designs, she passes by the manufacturer with the sample I designed here myself. These manufacturers are relatively big and quite multi-skilled so they have the fabrics in stock. Then a team reproduces my sample with manually operating sewing machines. They do have big machines for mass production, but since my designs are produced in low numbers and involve quite some details it’s done by manual operating machines. This is also financially possible for us as we make maximum 2 collections per year. Details are important in our designs, so samples are very important to know what comes out when manufacturing a batch. When these are produced I usually come by as well to see the final result. From there we order an X amount of the design for the stores that have shown interest. |
| 14 | **7. How are logistics being arranged currently?** |
| 15 | We only sell in shops at the moment, so our logistics is arranged with the shops selling our clothes, which is delivered by trucks. Every 2 weeks these shops give us an update of their stock, and based on that we can see when about we can expect an order. As I said earlier, it’s surely an advantage that we don’t have to travel that far making it a lot easier to be there when necessary, both at the shops as our suppliers. |
| 16 | **8. To what extent do you pay attention to environmental aspects at the moment?** |
| 17 | The impact to the environment is very important for us. We already consider this when selecting the fabrics for the designs. Also do we discuss our suppliers’ point of view on social and the environmental aspects. This can be the manufacturer, or suppliers of fabrics, but also supplier of packaging for instance. Some participate in certifications so we don’t check exactly how they execute the work. Others who don’t have certifications, we discuss their vision and how they are interested in doing better. |
| 18 | **9. In terms of being environmentally responsible, what do you consider as most challenging?** |
| 19 | Most challenging is checking on how our suppliers meet the ideas of being environmental responsible. As stated before, checking the non-certified suppliers requires a strong relationship, and I think this distance makes it a lot easier to have face-to-face communication and check on certain things. I must say that I wouldn’t know how to do this wit a low environmental impact if located further. |
| 20 | **10. What is you opinion on eco-certification labels and can you explain why you do (not) participate in this?** |
| 21 | I think they are good as long as they support for that what you stand for. There are many of them these days, and I must say I don’t know specifically each certification where my suppliers are participating in. Although I think I should know.. Having said this, I think in a way it works also as a claim for the outside world, whereas that does not even necessarily state its value. I might know better my suppliers who don’t have a certification.. After this interview I should surely make time free soon to dig into the meaning of those haha. |
| 22 | **11. Are there any other environmentally initiatives you like to participate in? If so, which and why?** |
| 23 | Actually currently I’m discussing this possibility to work with angora wool. It is a very soft and luxurious looking material that is very easy to work with in different clothing items. Moreover, it’s a good material to keep you warm, which suits especially to the type of clothes that we design, outerwear. This organization work farmers who treat the rabbits well, of which angora wool derives from. I have been informed generally how it works, though I will have to schedule another meeting to set things clear and discuss what the exact steps and costs would be. Also will this material have to be delivered to our manufacturers, but if possible, I would be very happy to participate in this initiative. |

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| 1 | **INTERVIEW D** |
| 2 | **1. Where does you brand stand for and what is your approach towards being environmental responsible?** |
| 3 | Our brand is inspired by modern architecture and the urban life created for men who’d like to look fashionable and feel comfortable without all the fuss of little details. This is translated in our collections by applying clean, minimalistic designs resulting in street wear, but high-end. In terms of being environmental responsible, I’d say we consider those aspects, but aren’t paying attention to it in a particular way. |
| 4 | **2. Since when has this brand been established?** |
| 5 | We’re open since July last year. |
| 6 | **3. How does a design come to existence?** |
| 7 | Currently we have only 1 type of t-shirt in three plain colors, so our designs aren’t really complicated. Also we don’t think it will get a lot more complicated as our customers buy for this simple, but sophisticated look. The minimalistic designs are exactly what our brand stands for. So basically we discuss together the material, shape and it’s comfort together and we agree upon the final design. Finally, when agreed we’ll send the order to our supplier on their portal. We haven’t made any new designs lately, but if samples are needed we’ll do this by e-mail instead of the portal. The first times we were there when the samples were manufactures, we were immediately satisfied with the samples, so we ordered directly the full batch. |
| 8 | **4. Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?** |
| 9 | When starting the brand we discussed our ideas on how packaging had to look like, so we designed only on this look. We chose for plastic bags as the design we made looked more sophisticated on plastic than other materials. We don’t take any specific requirements in that. |
| 10 | **5. How do you select suppliers?** |
| 11 | Well our suppliers are located in Portugal as we found good suppliers there providing high-quality material for our t-shirts. Such a location, within the borders of Europe, makes everything a lot more manageable. It carries a bit higher cost per t-shirt, but since we produce these basics in quite high quantities we can compromise there in costs. Another benefit is that we can easily come there to check whether everything works out fine. |
| 12 | **6. How are clothing items currently being produced?** |
| 13 | The manufacturer is specialized in casual wear, so fabrics are also in-house. They have big machines for production and also take care of the finishing obviously. Basically they take care of everything. Except for attaching price tags let’s say, it’s a ready-to-be sold product. |
| 14 | **7. How are logistics being arranged currently?** |
| 15 | From Portugal to our retailers here in Holland is arranged by trucks. When stock runs lower than a certain amount they contact us so that we can deliver them more t-shirts and/or make new orders. Shipping from our online shop to our customers is arranged through postal services. |
| 16 | **8. To what extent do you pay attention to environmental aspects at the moment?** |
| 17 | Before starting to work with this supplier we have asked their vision and possibilities, just in case if we decide to work with a different material for instance. The supplier offers also organic material, which may be interesting for the future. |
| 18 | **9. In terms of being environmentally responsible, what do you consider as most challenging?** |
| 19 | Well I think for us, this would probably mean compromising on our quality. Our t-shirts are made of 100% cotton and are then carbon finished to give the fabric a soft luxurious feeling. This carbon finish means that the material would be put in a certain chemical to give that extra touch to the material used for that t-shirt. But as I said before, of course we think environment is important, but we don’t do anything in particular to make the environment better let’s say. |
| 20 | **10. What is you opinion on eco-certification labels and can you explain why you do (not) participate in this?** |
| 21 | It’s good that it exists for the ones interested, though for us it doesn’t bring any particular value. Besides all the criteria linked to such certification, it does also rise up the costs. |
| 22 | **11. Are there any other environmentally initiatives you like to participate in? If so, which and why?** |
| 23 | Maybe if there would be an alternative for giving the t-shirts that same velvet feeling as our current t-shirts by a less environmental damaging way, that could be interesting for us. On the long run we will also take a look on working with other materials, which could be organic cotton, ìf it turns out into that same product of the same quality. Though we know it carries some extra costs, which makes it certainly not profitable for now. |

|  |  |
| --- | --- |
| 1 | **INTERVIEW E** |
| 2 | **1. Where does you brand stand for and what is your approach towards being environmental responsible?** |
| 3 | Our brand stands for casual urban that can be worn by all ages and genders, as our designs are unisex. Comfortable and caring about ethics are important aspects for us. Although not everything is manufactured domestically, we try to keep our activities as local as possible. I think with that being said we can be considered quite environmental responsible. |
| 4 | **2. Since when has this brand been established?** |
| 5 | The brand has been established since October 2013. |
| 6 | **3. How does a design come to existence?** |
| 7 | Together we discuss what new items we would like to have and discuss these ideas together. When agreed upon, we give these criteria to our design team, consisting of four people. They come up with ideas and possible designs. After that we discuss these possibilities with the design team. This means the advantages and disadvantages of the product itself and how this could affect sales. This is quite important to us as our designs are unisex. For example, we compare the new designs to similar designs manufactured before. Furthermore we discuss how sales ran back then with that particular item. After having put all the pros and cons a final design is made, that will be discussed in a final meeting. Generally an order for the samples follows after that meeting. |
| 8 | **4. Is the process of designing packaging included, and do you have any specific requirements for that to manufacture responsibly?** |
| 9 | Well, packaging was determined before we started the brand. We chose for paper bags because it is indeed better for the environment and fits the image of who we are as a brand, but it is not certified or produced in a special way or so. |
| 10 | **5. How do you select suppliers?** |
| 11 | We’d like to know the vision of our suppliers.so that they are aligned with our ideas, which includes considering the environment. Obviously of many we know already their visions, since else they wouldn’t have offered organic and fair-trade fabrics. Because we strive to keep our activities as local as possible, we obviously attach great value to the location of our suppliers. |
| 12 | **6. How are clothing items currently being produced?** |
| 13 | We work with 1 supplier in two different locations. This is convenient as communication with one location is aligned with the other location as well, we only adjust the numbers if necessary. We ship fabrics that our manufacturers don’t have in-house from Asia to Australia by a partner of us located there. When the fabrics are delivered at our manufacturers they give us a sign and tell us when they start manufacturing, the samples and/or the full batch. Look books are available on our website and various platforms, when new collections are available we contact retailers that already have experience with us as a brand. Based on that we’ll send the ones who are interested a sample. After that we order full batches. |
| 14 | **7. How are logistics being arranged currently?** |
| 15 | Fabrics will be shipped by boat to Australia to our two manufacturers. From there a part will be directly shipped to stores and a part will be delivered to us, to hold some items as well for our online shop. We have arrangements with postal service to deliver our items. |
| 16 | **8. To what extent do you pay attention to environmental aspects at the moment?** |
| 17 | As said before, we’d like to keep our activities as local as possible. I think this helps us to reduce our environmental footprint. Also do we work with two manufacturers in different areas of Australia so that some miles can be cut in travelling distance, and probably results in lower carbon emissions. |
| 18 | **9. In terms of being environmentally responsible, what do you consider as most challenging?** |
| 19 | Well we’d like to keep our supply chain activities as much we can here in Australia. It helps to great extent to reduce our carbon footprint. Though I must admit, it’s not always easy to do that, as it does often not belong to the most affordable options. The price has obviously also to do with the limited possibilities here. Being a brand that is aware of the environment we certainly want to pay a bit more to preserve nature for next generations, however this can thus certainly be challenging. We do have collections from bamboo cotton, but maybe you can imagine that the mark-up here is a lot higher than if we would ship this from Asia. On the other hand, we do manufacture our clothes here in Australia. |
| 20 | **10. What is you opinion on eco-certification labels and can you explain why you do (not) participate in this?** |
| 21 | We considering fair-trade certifications, but this is is more focused on social aspects than environment. As we have adopted already some bamboo cotton we’d also like to balance it a bit. So for now it’s the certification focused on humans and who knows, maybe an eco certification is next. Though we have not particularly explored those certifications yet. |
| 22 | **11. Are there any other environmentally initiatives you like to participate in? If so, which and why?** |
| 23 | Currently there’s nothing in particular that interests us. As said, we’ll focus first now on fair-trade certification. |

**APPENDIX III: MAXQDATA coded segments**

**Brand’s overall strategy**

1.

"established since 2014"

*[INTERVIEW A; Position: 5 - 5; Author: Thesis: Interviews start-ups; 09/08/2016 20:55; Weight score: 0]*

2.

"I pay attention to the personal circumstances"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:48; Weight score: 0]*

3.

"As an apparel brand you should see what is important to you and integrate that in your brand, as those values contribute to your identity as a brand"

*[INTERVIEW A; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:29; Weight score: 0]*

4.

"beginning of 2015."

*[INTERVIEW B; Position: 5 - 5; Author: Thesis: Interviews start-ups; 09/08/2016 21:05; Weight score: 0]*

5.

"Our brand signifies change we are always open for better ways of production, so for us it’s important to know their long-term orientation to so that we get a better understanding of their core values."

*[INTERVIEW B; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:16; Weight score: 0]*

6.

"has clear goals"

*[INTERVIEW B; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 22:13; Weight score: 0]*

7.

"apparel brand stands what it stands for. This means that it has their own ideas contributing to creating their identity."

*[INTERVIEW B; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 22:01; Weight score: 0]*

8.

"we believe is our responsibility rather than the rules of certification."

*[INTERVIEW B; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 22:01; Weight score: 0]*

9.

"November we’ll be two years open."

*[INTERVIEW C; Position: 5 - 5; Author: Thesis: Interviews start-ups; 09/08/2016 20:51; Weight score: 0]*

10.

"back then I was the one who created the designs within a team, which did not satisfy me anymore, clarifying why I started for myself."

*[INTERVIEW C; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:10; Weight score: 0]*

11.

"As we care about our impact we decide what comfortable material is suitable for that item and has little impact."

*[INTERVIEW C; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:09; Weight score: 0]*

12.

"lso have boxes for wrapping, as these are ‘’also’’ made of paper the material is more consistent in the brand and thus matches more the overall picture"

*[INTERVIEW C; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:35; Weight score: 0]*

13.

"pay attention to their values towards people and nature"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:19; Weight score: 0]*

14.

"we discuss their vision and how they are interested in doing better"

*[INTERVIEW C; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:36; Weight score: 0]*

15.

"good as long as they support for that what you stand for"

*[INTERVIEW C; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:38; Weight score: 0]*

16.

"very soft and luxurious looking material"

*[INTERVIEW C; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 22:14; Weight score: 0]*

17.

"looked more sophisticated on plastic than other materials."

*[INTERVIEW D; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:45; Weight score: 0]*

18.

"established since October 2013."

*[INTERVIEW E; Position: 5 - 5; Author: Thesis: Interviews start-ups; 09/08/2016 20:51; Weight score: 0]*

19.

"fits the image of who we are as a brand"

*[INTERVIEW E; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:38; Weight score: 0]*

20.

"We’d like to know the vision of our suppliers.so that they are aligned with our ideas,"

*[INTERVIEW E; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:21; Weight score: 0]*

21.

"keep our activities as local as possible"

*[INTERVIEW E; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 22:10; Weight score: 0]*

22.

"As we have adopted already some bamboo cotton we’d also like to balance it a bit"

*[INTERVIEW E; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:46; Weight score: 0]*

23.

"maybe an eco certification"

*[INTERVIEW E; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:45; Weight score: 0]*

**Supply chain activities**

1.

"My team here in the Netherlands makes designs of various clothing items and I determine which designs I like enough to produce"

*[INTERVIEW A; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 20:56; Weight score: 0]*

2.

"Important for the design is not only selecting fabrics I like, but also I believe my customers would like"

*[INTERVIEW A; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:09; Weight score: 0]*

3.

"At the start we passed by some workshops to see which ones triggered our interest"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:12; Weight score: 0]*

4.

"After selecting suppliers we let them make a sample to see how everything goes;"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:13; Weight score: 0]*

5.

"important in selecting suppliers is the ease to work with them"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:13; Weight score: 0]*

6.

"the possibilities to communicate with my suppliers are important when collaborating."

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:13; Weight score: 0]*

7.

"These students perform some of the work, for instance to cut some fabrics, however the person entitled to compose the final product is generally the owner. This person is qualified to all activities involved such as sewing and attaching zippers,which ensures the quality of our products. The item is will be finished in one workshop, so each item stays within the walls of one workshop during production"

*[INTERVIEW A; Position: 13 - 13; Author: Thesis: Interviews start-ups; 09/08/2016 22:21; Weight score: 0]*

8.

"They are all close to each other, which makes it easier for us when we go there and to transport fabrics in trucs to our tailors, being located in and around the same villages."

*[INTERVIEW A; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:22; Weight score: 0]*

9.

"I use drop-shipping a lot"

*[INTERVIEW A; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:23; Weight score: 0]*

10.

"We first start with designing basic designs and determine with the team which ones have potential based on similar items before, we adjust the new design where needed"

*[INTERVIEW B; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:05; Weight score: 0]*

11.

"supplier that is very skilled in anything related to manufacturing clothes, so multi skilled"

*[INTERVIEW B; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:15; Weight score: 0]*

12.

"we find important is good communication"

*[INTERVIEW B; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:15; Weight score: 0]*

13.

"Basically our supplier arranges everything to manufacture our order as they also have the fabrics in-house"

*[INTERVIEW B; Position: 13 - 13; Author: Thesis: Interviews start-ups; 09/08/2016 22:23; Weight score: 0]*

14.

"We are lucky with the expertise of our supplier. Our supplier not only arranges the manufacturing part, but also a part of our logistics"

*[INTERVIEW B; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:23; Weight score: 0]*

15.

"drop shipping company,"

*[INTERVIEW B; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:23; Weight score: 0]*

16.

"experience in a designer’s team for quite some years"

*[INTERVIEW C; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:06; Weight score: 0]*

17.

"I basically now design everything myself and let my team take a look to those and discuss the possibilities"

*[INTERVIEW C; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:06; Weight score: 0]*

18.

"so much experience in this industry, because it helps me quite well with finding my suppliers"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:17; Weight score: 0]*

19.

"select my suppliers I also pay attention to their values towards people and nature"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:19; Weight score: 0]*

20.

"hey have the fabrics in stock. Then a team reproduces my sample with manually operating sewing machines. They do have big machines for mass production, but since my designs are produced in low numbers and involve quite some details it’s done by manual operating machines."

*[INTERVIEW C; Position: 13 - 13; Author: Thesis: Interviews start-ups; 09/08/2016 22:25; Weight score: 0]*

21.

"which is delivered by trucks"

*[INTERVIEW C; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:29; Weight score: 0]*

22.

"Together we discuss what new items we would like to have and discuss these ideas together. When agreed upon, we give these criteria to our design team, consisting of four people. They come up with ideas and possible designs."

*[INTERVIEW E; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:08; Weight score: 0]*

23.

"he vision of our suppliers.so that they are aligned"

*[INTERVIEW E; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 22:20; Weight score: 0]*

24.

"Because we strive to keep our activities as local as possible, we obviously attach great value to the location of our suppliers"

*[INTERVIEW E; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:21; Weight score: 0]*

25.

"When the fabrics are delivered at our manufacturers they give us a sign and tell us when they start manufacturing, the samples and/or the full batch"

*[INTERVIEW E; Position: 13 - 13; Author: Thesis: Interviews start-ups; 09/08/2016 22:20; Weight score: 0]*

26.

"Fabrics will be shipped by boat to Australia to our two manufacturers. From there a part will be directly shipped to stores and a part will be delivered to us, to hold some items as well for our online shop"

*[INTERVIEW E; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 22:20; Weight score: 0]*

**Challenges encountered by starting brands**

1.

"I believe my customers would"

*[INTERVIEW A; Position: 7 - 7; Author: Thesis: Interviews start-ups; 09/08/2016 21:47; Weight score: 0]*

2.

"possibilities to communicate"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:13; Weight score: 0]*

3.

"should also be possible to take pictures from the fabric as I experienced some suppliers being difficult"

*[INTERVIEW A; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:14; Weight score: 0]*

4.

"being located in and around the same villages."

*[INTERVIEW A; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 21:48; Weight score: 0]*

5.

"eliminates the worry of logistics and inventory"

*[INTERVIEW A; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 21:48; Weight score: 0]*

6.

"actually not-ease, to communicate properly from such a distance"

*[INTERVIEW A; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:27; Weight score: 0]*

7.

"setting up a structure in Ghana was very hard at the beginning, which meaning I had to go there often"

*[INTERVIEW A; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/10/2016 20:18; Weight score: 0]*

8.

"Certification labels are tied to so many directives and costs, that it limits a brand in integrating that personal touch, that what you stand for"

*[INTERVIEW A; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:49; Weight score: 0]*

9.

"all these directives and extra costs"

*[INTERVIEW A; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:49; Weight score: 0]*

10.

"some kind of certification in which I have to meet to so many standards and requirements"

*[INTERVIEW A; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:50; Weight score: 0]*

11.

"haven’t received any response so far"

*[INTERVIEW A; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:50; Weight score: 0]*

12.

"means it is easier for us to exchange our thoughts on using other fabrics and actually having the option to select this for our new collection while not having to deliver this ourselves,"

*[INTERVIEW B; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 22:00; Weight score: 0]*

13.

"main obstacle for us now would just be the financial resources to work with materials more environmental friendly"

*[INTERVIEW B; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:31; Weight score: 0]*

14.

"rules of certification."

*[INTERVIEW B; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 22:17; Weight score: 0]*

15.

"Even though our financial resources don’t always allow us to go for ‘’the best options’’"

*[INTERVIEW B; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:33; Weight score: 0]*

16.

"lucky to have so much experience in this industry, because it helps me quite well with finding my suppliers"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 22:02; Weight score: 0]*

17.

"Even though it’s not exactly the same, it’s still easier for me than communicating in English"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:17; Weight score: 0]*

18.

"financially possible"

*[INTERVIEW C; Position: 13 - 13; Author: Thesis: Interviews start-ups; 09/08/2016 22:26; Weight score: 0]*

19.

"surely an advantage that we don’t have to travel that far making it a lot easier to be there when necessary"

*[INTERVIEW C; Position: 15 - 15; Author: Thesis: Interviews start-ups; 09/08/2016 21:35; Weight score: 0]*

20.

"so we don’t check exactly how they execute the work"

*[INTERVIEW C; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:36; Weight score: 0]*

21.

"checking on how our suppliers meet the ideas of being environmental responsible."

*[INTERVIEW C; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:36; Weight score: 0]*

22.

"requires a strong relationship"

*[INTERVIEW C; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:37; Weight score: 0]*

23.

"I wouldn’t know how to do this wit a low environmental impact if located further"

*[INTERVIEW C; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:37; Weight score: 0]*

24.

"There are many of them these days, and I must say I don’t know specifically each certification"

*[INTERVIEW C; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 22:03; Weight score: 0]*

25.

"I think in a way it works also as a claim for the outside world, whereas that does not even necessarily state its value"

*[INTERVIEW C; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:38; Weight score: 0]*

26.

"chedule another meeting to set things clear and discuss what the exact steps and costs would be"

*[INTERVIEW C; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 22:04; Weight score: 0]*

27.

"Try to keep our activities"

*[INTERVIEW E; Position: 3 - 3; Author: Thesis: Interviews start-ups; 09/08/2016 22:06; Weight score: 0]*

28.

"since else they wouldn’t have offered organic and fair-trade fabrics"

*[INTERVIEW E; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:23; Weight score: 0]*

29.

"it does often not belong to the most affordable options"

*[INTERVIEW E; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:44; Weight score: 0]*

30.

"limited possibilities here"

*[INTERVIEW E; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:44; Weight score: 0]*

31.

"we’ll focus first now"

*[INTERVIEW E; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:46; Weight score: 0]*

**Vision towards environment**

1.

"In terms of sustainability, we focus generally on social aspects, however if a situation occurs that I can make an environmental conscious decision I will do this."

*[INTERVIEW A; Position: 3 - 3; Author: Thesis: Interviews start-ups; 09/08/2016 20:55; Weight score: 0]*

2.

"I don’t have any specific requirements for that"

*[INTERVIEW A; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:58; Weight score: 0]*

3.

"there are no generators or any big machines involved, I believe this makes our production quite pure"

*[INTERVIEW A; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:25; Weight score: 0]*

4.

"good to produce products in an environmental friendly way, however I would not say I am actively engaging in this method"

*[INTERVIEW A; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:25; Weight score: 0]*

5.

"if I face an issue in which a more environmental friendly alternative is presented, I would certainly consider"

*[INTERVIEW A; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:25; Weight score: 0]*

6.

"looked into the alternative of eco-cotton"

*[INTERVIEW A; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:26; Weight score: 0]*

7.

"setting up a structure in Ghana was very hard at the beginnin"

*[INTERVIEW A; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:27; Weight score: 0]*

8.

"I suppose these many travels are being considered as environmental friendly"

*[INTERVIEW A; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/10/2016 20:18; Weight score: 0]*

9.

"Well as I said, eco-cotton interests me, as I would like to work with cotton as pure as possible"

*[INTERVIEW A; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:29; Weight score: 0]*

10.

"have reached out to a few suppliers in Ghana, unfortunately I haven’t received any response so far."

*[INTERVIEW A; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/10/2016 20:19; Weight score: 0]*

11.

"If I would be able"

*[INTERVIEW A; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:29; Weight score: 0]*

12.

"Our products are relatively simple, but we always try to find new ways to make it better, the product itself as how it is produced. It is however not something we actively communicate, as we believe it is rather a responsibility than something to flaunt with."

*[INTERVIEW B; Position: 3 - 3; Author: Thesis: Interviews start-ups; 09/08/2016 21:05; Weight score: 0]*

13.

"we all like these bags, also for it’s to re-use it with groceries or so"

*[INTERVIEW B; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:53; Weight score: 0]*

14.

"we did ask the supplier whether there is a possibility in bamboo cotton, but this is is really for the farrr future"

*[INTERVIEW B; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:51; Weight score: 0]*

15.

"All this came to light when we discussed the future orientations of the supplier"

*[INTERVIEW B; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:31; Weight score: 0]*

16.

"We know they live it up, because we witnessed this with our own eyes during our cooperation"

*[INTERVIEW B; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:30; Weight score: 0]*

17.

"Another thing we should maybe pay attention to is gaining more insight on how our products are being shipped"

*[INTERVIEW B; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:32; Weight score: 0]*

18.

"long run we would like work with bamboo cotton for our core products as the packaging."

*[INTERVIEW B; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:33; Weight score: 0]*

19.

"About being environmental responsible, we are quite environmental responsible I believe. Throughout the journey we consider our impact as much as possible."

*[INTERVIEW C; Position: 3 - 3; Author: Thesis: Interviews start-ups; 09/08/2016 20:49; Weight score: 0]*

20.

"hose to have paperbags over plastic bags for the environment indeed"

*[INTERVIEW C; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:35; Weight score: 0]*

21.

"appreciate with my current suppliers is the short distance; it is luckily not too far to travel in case required. I think this already helps a lot for the environment"

*[INTERVIEW C; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:18; Weight score: 0]*

22.

"already consider this when selecting the fabrics for the designs"

*[INTERVIEW C; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:35; Weight score: 0]*

23.

"After this interview I should surely make time free soon to dig into the meaning of those haha."

*[INTERVIEW C; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 21:39; Weight score: 0]*

24.

"I’m discussing this possibility to work with angora wool"

*[INTERVIEW C; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:39; Weight score: 0]*

25.

"if possible, I would be very happy to participate in this initiative"

*[INTERVIEW C; Position: 23 - 23; Author: Thesis: Interviews start-ups; 09/08/2016 21:39; Weight score: 0]*

26.

"we discussed our ideas on how packaging had to look like, so we designed only on this look"

*[INTERVIEW D; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:44; Weight score: 0]*

27.

"chose for plastic bags"

*[INTERVIEW D; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:45; Weight score: 0]*

28.

"Although not everything is manufactured domestically, we try to keep our activities as local as possible. I think with that being said we can be considered quite environmental responsible"

*[INTERVIEW E; Position: 3 - 3; Author: Thesis: Interviews start-ups; 09/08/2016 20:49; Weight score: 0]*

29.

"because it is indeed better for the environment and fits the image of who we are as a brand, but it is not certified or produced in a special way or so"

*[INTERVIEW E; Position: 9 - 9; Author: Thesis: Interviews start-ups; 09/10/2016 19:30; Weight score: 0]*

30.

"the vision of our suppliers.so that they are aligned with our ideas, which includes considering the environment"

*[INTERVIEW E; Position: 11 - 11; Author: Thesis: Interviews start-ups; 09/08/2016 21:21; Weight score: 0]*

31.

"we’d like to"

*[INTERVIEW E; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:43; Weight score: 0]*

32.

"I think this helps"

*[INTERVIEW E; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:43; Weight score: 0]*

33.

"probably results in"

*[INTERVIEW E; Position: 17 - 17; Author: Thesis: Interviews start-ups; 09/08/2016 21:43; Weight score: 0]*

34.

"we do have collections from bamboo"

*[INTERVIEW E; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:45; Weight score: 0]*

35.

"we do manufacture our clothes here in Australia"

*[INTERVIEW E; Position: 19 - 19; Author: Thesis: Interviews start-ups; 09/08/2016 21:44; Weight score: 0]*

36.

"have not particularly explored those certifications yet."

*[INTERVIEW E; Position: 21 - 21; Author: Thesis: Interviews start-ups; 09/08/2016 22:18; Weight score: 0]*

**APPENDIX IV: Coding chart**

|  |  |  |  |
| --- | --- | --- | --- |
| Brand’s overall strategy  1,2 | Supply chain activities 3,4,5,6,7 | Challenges by starting brands 8,9,10,11 | Vision towards environment |
| (1A) Our concept initially started with the thought of creating more employment in Ghana | (3A) My team here in the Netherlands makes designs of various clothing items and I determine which designs I like enough to produce | (3A) I believe my customers would like | (1A) we focus generally on social aspects. However, if a situation occurs that I can make an environmental conscious decision I will do this. |
| (1B) Our products are relatively simple, but we always try to find new ways to make it better, the product itself as how it is produced. | (3A) Important for the design is not only selecting fabrics I like, but also I believe my customers would like | (5A) As I work often from a distance, the possibilities to communicate | (1B) always try to find new ways to make it better, the product itself as how it is produced. It is however not something we actively communicate, as we believe it is rather a responsibility than something to flaunt with |
| (1C) We applied this to our brand, while not leaving out the details to be able to wear it with style. We believe it’s not only important to look good, but also to feel good | (3B) We first start with designing basic designs and determine with the team which ones have potential based on similar items before, we adjust the new design where needed | (5A) should also be possible to take pictures from the fabric as I experienced some suppliers being difficult | (1C) we are quite environmental responsible I believe. Throughout the journey we consider our impact as much as possible. |
| (1D) This is translated in our collections by applying clean, minimalistic designs resulting in street wear, but high-end | (3C) experience in a designer’s team for quite some years | (5C) lucky to have so much experience in this industry, because it helps me quite well with finding my suppliers | (1D) being environmental responsible; I’d say we consider those aspects, but aren’t paying attention to it in a particular way |
| (1E) Our brand stands for casual urban that can be worn by all ages and genders, as our designs are unisex. Comfortable and caring about ethics are important aspects for us | (3D) So basically we discuss together the material, shape and it’s comfort together and we agree upon the final design. Finally, when agreed we’ll send the order to our supplier on their portal. | (5C) Even though it’s not exactly the same, it’s still easier for me than communicating in English | (1E) Although not everything is manufactured domestically, we try to keep our activities as local as possible. I think with that being said we can be considered quite environmental responsible |
| (2A) established since 2014 | (3E) Together we discuss what new items we would like to have and discuss these ideas together. When agreed upon, we give these criteria to our design team, consisting of four people. They come up with ideas and possible designs | (5D) Such a location, within the borders of Europe, makes everything a lot more manageable | (4A) Hmm well the design of our packaging was determined before we launched officially, but I don’t have any specific requirements for that |
| (2B) beginning of 2015 |  | (5D) carries a bit higher cost per t-shirt, but since we produce these basics in quite high quantities we can compromise there in costs | (4B) At the beginning of we determined together that the packaging should be made of fabric, but we don’t have any specific requirements (yet) in manufacturing.  (4B) we all like these bags, also for it’s to re-use it with groceries or so |
| (2C) November we’ll be two years open | (5A) At the start we passed by some workshops to see which ones triggered our interest | (5E) we try to keep our activities as local as possible | (4B) we did ask the supplier whether there is a possibility in bamboo cotton, but this is is really for the *farrr* future |
| (2D) open since July last year | (5A) After selecting suppliers we let them make a sample to see how everything goes | (5E) since else they wouldn’t have offered organic and fair-trade fabrics | (4C) chose to have paper bags over plastic bags for the environment indeed  (4C) didn’t take any particular approach for designing or manufacturing these |
| (2E) established since October 2013 | (5A) important in selecting suppliers is the ease to work with them | (6C) financially possible | (4D) when starting the brand we discussed our ideas on how packaging had to look like, so we designed only on this look |
| (3C) back then I was the one who created the designs within a team, which did not satisfy me anymore, clarifying why I started for myself. | (5A) the possibilities to communicate with my suppliers are important when collaborating | (7A) being located in and around the same villages | (4D) chose for plastic bags |
| (3C) As we care about our impact we decide what comfortable material is suitable for that item and has little impact. | (5B) wanted a supplier that is very skilled in anything related to manufacturing clothes, so multi skilled | (7A) I use drop-shipping a lot. This is very beneficial for particularly online shops as it eliminates the worry of logistics and inventory | (4E) Well, packaging was determined before we started the brand.  (4E) because it is indeed better for the environment and fits the image of who we are as a brand, but it is not certified or produced in a special way or so |
| (3D) Also we don’t think it will get a lot more complicated as our customers buy for this simple, but sophisticated look. The minimalistic designs are exactly what our brand stands for | (5B) we find important is good communication | (7C) surely an advantage that we don’t have to travel that far making it a lot easier to be there when necessary | (5C) appreciate with my current suppliers is the short distance; it is luckily not too far to travel in case required. I think this already helps a lot for the environment |
| (4C) also have boxes for wrapping, as these are ‘’also’’ made of paper the material is more consistent in the brand and thus matches more the overall picture | (5B) We were very satisfied from the start and very happy with their way of communication | (8C) so we don’t check exactly how they execute the work | (5E) vision of our suppliers.so that they are aligned with our ideas, which includes considering the environment. |
| (4D) looked more sophisticated on plastic than other materials | (5C) so much experience in this industry, because it helps me quite well with finding my suppliers | (9A) actually not- ease, to communicate properly from such a distance | (8A) no generators or any big machines involved, I believe this makes our production quite pure |
| (4E) fits the image of who we are as a brand | (5C) select my suppliers I also pay attention to their values towards people and nature | (9A) setting up a structure in Ghana was very hard at the beginning, which meaning I had to go there often | (8A) if I face an issue in which a more environmental friendly alternative is presented, I would certainly consider that |
| (5A) I pay attention to the personal circumstances | (5D) Another benefit is that we can easily come there to check whether everything works out fine | (9B) means it is easier for us to exchange our thoughts on using other fabrics and actually having the option to select this for our new collection while not having to deliver this ourselves | (8B) Our supplier is very concerned about environmental aspects and has clear goals on for instance water reductions and the use of electricity. All this came to light when we discussed the future orientations of the supplier |
| (5B) Our brand signifies change we are always open for better ways of production, so for us it’s important to know their long-term orientation to so that we get a better understanding of their core values | (5E) like to know the vision of our suppliers | (9B) main obstacle for us now would just be the financial resources to work with materials more environmental friendly | (8B) We know they live it up, because we witnessed this with our own eyes during our cooperation |
| (5C) pay attention to their values towards people and nature | (5E) Because we strive to keep our activities as local as possible, we obviously attach great value to the location of our suppliers | (9C) Most challenging is checking on how our suppliers meet the ideas of being environmental responsible | (8C) already consider this when selecting the fabrics for the designs |
| (5E) We’d like to know the vision of our suppliers.so that they are aligned with our ideas | (6A) The item will be finished in one workshop, so each item stays within the walls of one workshop during production | (9C) requires a strong relationship | (8D) we have asked their vision and possibilities, just in case |
| (8B) has clear goals | (6B) Basically our supplier arranges everything to manufacture our order as they also have the fabrics in-house | (9C) I wouldn’t know how to do this wit a low environmental impact if located further | (8E) we’d like to keep our activities as local as possible. |
| (8C) we discuss their vision and how they are interested in doing better | (6C) so they have the fabrics in stock. Then a team reproduces my sample with manually operating sewing machines | (9D) Well I think for us, this would probably mean compromising on our quality | (8E) I think this helps us to reduce our environmental footprint |
| (8E) keep our activities as local as possible | (6D) The manufacturer is specialized in casual wear, so fabrics are also in-house | (9E) it does often not belong to the most affordable options | (8E) probably results in lower carbon emissions. |
| (9D) carbon finished to give the fabric a soft luxurious feeling. This carbon finish means that the material would be put in a certain chemical to give that extra touch to the material used for that t-shirt | (6E) When the fabrics are delivered at our manufacturers they give us a sign and tell us when they start manufacturing, the samples and/or the full batch | (9E) limited possibilities here | (9A) looked into the alternative of eco-cotton |
| (10A) Certification labels are not specifically appealing to me. As an apparel brand you should see what is important to you and integrate that in your brand, as those values contribute to your identity as a brand | (7A) They are all close to each other, which makes it easier for us when we go there and to transport fabrics in trucks to our tailors, being located in and around the same villages | (10A) Certification labels are tied to so many directives and costs, that it limits a brand in integrating that personal touch, that what you stand for | (9A) I suppose these many travels are being considered as environmental friendly |
| (10B) apparel brand stands what it stands for. This means that it has their own ideas contributing to creating their identity | (7A) I use drop-shipping a lot" | (10A) all these directives and extra costs | (9B) Another thing we should maybe pay attention to is gaining more insight on how our products are being shipped |
| (10B) we believe is our responsibility rather than the rules of certification. | (7B) We are lucky with the expertise of our supplier. Our supplier not only arranges the manufacturing part, but also a part of our logistics | (10A) would not just tie myself to some kind of certification in which I have to meet to so many standards and requirements | (9D) environment is important, but we don’t do anything in particular to make the environment better let’s say |
| (10C) good as long as they support for that what you stand for | (7B) drop shipping company | (10B) rules of certification | (9E) As we have adopted already some bamboo cotton we’d also like to balance it a bit. |
| (10E) As we have adopted already some bamboo cotton we’d also like to balance it a bit | (7C) which is delivered by trucks | (10C) There are many of them these days, and I must say I don’t know specifically each certification | (9E) we do manufacture our clothes here in Australia |
| (10E) maybe an eco certification | (7D) From Portugal to our retailers here in Holland is arranged by trucks | (10C) I think in a way it works also as a claim for the outside world, whereas that does not even necessarily state its value | (10D) It’s good that it exists for the ones interested, though for us it doesn’t bring any particular value. |
| (11C) very soft and luxurious looking material | (7E) Fabrics will be shipped by boat to Australia to our two manufacturers. From there a part will be directly shipped to stores and a part will be delivered to us, to hold some items as well for our online shop | (10E) it does also rise up the costs | (10C) After this interview I should surely make time free soon to dig into the meaning of those haha |
|  |  | (11) I haven’t received any response so far unfortunately | (10E) have not particularly explored those certifications yet. |
|  |  | (11) Even though our financial resources don’t always allow us to go for ‘’the best options | (11A) Well as I said, eco-cotton interests me, as I would like to work with cotton as pure as possible |
|  |  | (11) have to schedule another meeting to set things clear and discuss what the exact steps and costs would be | (11A) have reached out to a few suppliers in Ghana, unfortunately I haven’t received any response so far. |
|  |  | (11) if there would be an alternative | (11B) long run we would like work with bamboo cotton for our core products as the packaging. |
|  |  | (11) we know it carries some extra costs, which makes it certainly not profitable for now | (11C) I’m discussing this possibility to work with angora wool |
|  |  | (11) we’ll focus first now on fair-trade certification | (11C) if possible, I would be very happy to participate in this initiative |
|  |  |  | (11D) Maybe if there would be an alternative for giving the t-shirts that same velvet feeling as our current t-shirts by a less environmental damaging way, that could be interesting for us. |

**APPENDIX V: Interviews experts**

**INTERVIEW CHARLIE & MARY, CONCEPT STORE CONSCIOUS FASHION**

1. **Where does your brand stand for?**

Well, Charlie & Mary is a concept store and not a brand on itself. Charlie & Mary stands for True Fashion. This means fashion with a story behind the item and the creative part in the design process, respecting craftsmanship, innovative ways of production, so it is really about the story.

1. **How is this reflected in business operations?**

This is basically reflected in everything. We consider who has made it, the material used, so the entire production process. There are many brands emphasizing on what material and who has made the product and we attach value to both of these aspects.

1. **What do you consider when selecting a collection/brand to adopt in your store?**

That varies. We know all the brands, and also personally; we know the designers who are behind it. Obviously these brands came into existence from the desire of wanting to make change. Together we have a bigger goal, which is changing the apparel industry. In bigger brands you automatically end up with certification labels, as it is hard to have an insight on everything happening throughout the supply chain. So on one hand we look at certification labels, on the other hand we attach great importance to the personal story, the thoughts behind it, the motivation of the owners themselves. We always look at both aspects, environmental conditions as social aspects.

1. **A brand actively engages with responsible decision. However, what would be a no-go factor for you to decide not to do business with the concerning company?**

Well we are quite close with the brands so we know how they work. An example of a brand we used to have in this store is Toms. The concept is good that they do business in such a way that they would like to contribute something to a better world. However, this is not good enough for us if it involves products not being manufactured in a responsible way. There is a difference whether companies or brands are able to state ‘‘this is where we stand, we strive to work to that point and we are this transparent about it’’ and brands that not seem to have a clue, as they are not able to clarify this to us. Given that, there are thus also a number of brands that are not transparent at all, or do not really know. There are always reasons why certain things are not possible because a brand is still in a certain stage for example. So if then we discuss this and the brand is able to define their direction, clarify what aspects have not been addressed yet and stating what and they lack to address the concerning issues it is already a different story. We are then able to pass this on and tell this story to our customer. Based on this our customer can decide whether they would like to pursue their decision on acquiring the item or not. There are however also times that a brand says ‘’this is our part what we do, and the other aspects are to us not/less important’’, and based on this Charlie & Mary makes decisions.

1. **To come back to your collaboration with Toms in the past, how did that go to determine that it would not be adopted again?**  
   We asked them many questions, but we do not get the answers or a complete answer. Also if a brand does not provide a perspective of a change, which happened in the case of Toms. That is a moment we decide not to continue with it for now. Obviously this is not a permanent decision, as it does not exclude the will to improve in the future. In addition, there is a growing number of true-fashion alternatives for consumers, so we do want something in our stores that adds something to the diversity of the collections we offer in this store. It thus depends on the will to change, transparency and what the value added to the selected collections of our store.
2. **Assuming that all brands and products here are engaged with consciously taken decisions, what are the characteristics of your top selling items/brands? What do they have in common?**

Well they are very concerned about sustainability factors and integrate this in their production methods. Also are they actively seeking innovative ways of production, improved production processes and in their fabrics.

1. **Any tips & tricks for starting apparel brands to build their business as responsible as possible?**

I do not have a specific advice as this depends really on what you want as a brand. You need to find and follow your own path as an apparel brand. Each apparel brand has its own identity so you cannot do all the same. I think being transparent is an important aspect and also do not make random concessions. This means do not settle for the easiest way, find out how you can do better as a brand.

1. **Are there any specific recommendations in terms of existing initiatives would contribute to build a responsible apparel business? (Think of: specific guidelines/benchmarks/external experts as XX)**

Despite that I do not have any specific recommendations, a brand does obviously not need to fully reinvent methods. There are organizations or initiatives you can engage with, also does it help to participate in network meetings as Story Earth. As a small-scaled brand Fair Wear Foundation could be a valuable as they have a Young Designer Program. Also does our website provides also extensive information about fabrics. Furthermore there are many events on sustainability, in general but also specifically on the apparel industry. Examples of such events are World Fair Trade and Fashion Revolution Day.

**INTERVIEW CAROLINA DOURO, ADVISOR IN CSR FOR START-UPS**

1. **As a SME, I want to make environmental conscious decisions in the supply chain, but..**

At a low cost:

This is great, because exactly as a SME in the apparel industry ..I don’t know.

Deliver high quality products:

This is great, because exactly as a SME in the apparel industry it would benefit in terms of launching relatively less collections per year, which contributes to sustainable use of resources.

Be able to deliver my products fast:

This is great, because exactly as a SME in the apparel industry it would be better to have your suppliers near you, so that pollution is caused by transportation.

Able to respond fast to unexpected situations:

This is great, because exactly as a SME in the apparel industry.. hard to say.

At a low cost:

This could be difficult, because take into account that sustainable methods refer often to long-term investments. If your prices are a bit higher due to the circumstances, it may take a bit longer to sell it, it make thus take bit longer before you see your profitability as a business.

Deliver high quality products:

This could be difficult, because take into account that clothes with specific purposes are not always available in ecological options.

Be able to deliver my products fast:

This could be difficult, because this depends besides the response time of your suppliers combined with the distance for your products to be travelled. Fast and green don’t always go hand in hand.

Able to respond fast to unexpected situations:

This could be difficult, because take into account that fast transportation may not be environmentally sound. I don’t have good answer for this I’m afraid.

1. **What are the key characteristics of successful environmental conscious brands? How is this reflected in the supply chain?**

Environmental conscious brands consider their alternatives rather than just settle for it. It may not always be possible to take the best alternative, however it should be considered at least. They often also make ‘’less collections’’ per year than the low-priced competitors on the market. Apparel brands that are engaged with acting responsibly, make no more than 4 collections per year, which implies each season a collection.

1. **The sourcing strategy and determining the location of facilities seem to be challenging aspects for starting apparel brands.**

**In the context of making environmentally sound decisions what are the opportunities and challenges of..**

Domestic sourcing/ sourcing overseas?

Travelling more means more carbon emissions, so look for opportunities that can reduce this to a minimum extent.

Sourcing in-house/ outsourcing?

Checking new suppliers on how they meet the expectations of being environmentally sounds can be challenging, it can take a bit to get to know them.

Single supplier/ multiple suppliers?

- Perform multiple checks at several suppliers, if you do this yourself and have to travel far for it.

- If you need more suppliers, there are different alternatives allowing you to choose ‘‘the best one’’ in different specializations.

1. **Are there specific strategies on these aspects (sourcing strategy and determining location) that address in particular environmental aspects? Can you explain (briefly) how it works?**Regarding the sourcing strategy, you can try to minimize the number of suppliers you have, source directly as possible so without unnecessary agents, which makes your supply chain shorter. It reduces the extra miles in transportation, thus less pollution, and provides insight on local business practices.

In determining location it is important to consider your market. It makes also a difference whether you deliver in a certain area of globally. So again, you can select facilities strategically according the geographic benefits, benefitting the reduction of pollution caused by transportation. For instance, if you are located in Europe, and your customers are only in Scandinavia it might make not so much difference to source in within the region than going overseas where other expenses have to be accumulated and complicates being easily present on location, allowing you also keep an eye and discuss certain aspects face to face. This can also be compensated on where you sell your products, as prices can be adjusted to the concerning market. You just have to find the right balance for your company.

1. **As an expert, do you recommend a specific order in executing activities? (eg. selected materials first, before design/planning)**

You could select your materials in advance to be sure that the pieces to be fabricated meet your requirements, however for an apparel company I would not recommend that specifically. An apparel brand sells initially for the appearance of their clothes, as clothes also serve as a part of someone’s identity. It is great if people are fully engaged with the story of your brand, however it is eventually bought for the item itself.

1. **To what aspects should start-ups particularly attention to in the stage of..**

Design/planning:

Consider the purpose of your product. A raincoat has different criteria than a t-shirt. Make your design and consider materials possible and see it serves your purpose. Basic designs are longer wearable due to their timeless character, than items with specific characteristics of modern trends. It does not need to be 100% green, but at least consider materials that can be recycled.

Selecting suppliers:

When selecting suppliers it is important to get to know them on a more personal level, as you are quite dependent on it. This can especially be difficult when being often on a distance, their flexibility determines to a great extent the lead times. It does not make sense to pass on an adjustment through e-mail if the supplier does not use e-mail on a frequent basis. It is furthermore important to see with you own eyes how the supplier works within their company, and ask them where their products come from. It allows you to see whether business activities are aligned with you values and expectations and whether you are open for that partnership.   
Manufacturing:

As mentioned previously, make sure you know how your supplier gets to work. Not only is this important for you to know the story, but also does this allow you to see how transparent they are and whether you can maybe mean anything to them. A supplier may not be at the stage where you wish them to be, but they might work towards something that you can make happen together. A company might for example have plans to work with recycled rainwater, but has currently not the resources to acquire the equipment yet. It could be that cooperation could help them in any way to achieve that goal.

1. **Another issue for start-ups seems to be in logistics, transportation in particular. Related to this, what aspects should be considered in order to make (more) environmental conscious decisions?**

Make sure the infrastructure of communications is well established; it saves time and effort, as it makes you not having to make those extra miles. It also helps to have a partner nearby your suppliers, which gives you more flexibility as a small business. Furthermore you can choose strategically in terms of geographically selecting your suppliers.

**In the trend of nowadays, what do you believe to be opportunities for start-ups/SMEs to become more environmental responsible?**The supply chain consists of a flow of multiple units, which is the flow of data, money and the products themselves. All these aspects can somehow be linked to environmental aspects, even though indirectly. Be creative and see how you can integrate these into environmental sound decisions. There are for example banks that engage with sustainability projects such as Bendigo bank in Australia, but there are also IT companies who support environmental sound practices like Fujitsu.

1. **What are key factors to be considered when designing an environmentally responsible supply chain?**

So as I said before, avoiding making the extra miles helps, so in that respect choose your facilities wisely. You can do this by choose geographically wise for your market, but also have a good partner there or cooperate with your ‘’competitors’’ in your area to arrange transportation altogether than all separately. Also consider the use of natural fibers and recycled materials of your products and the packaging. Communicate with your suppliers, so that you know how they work. Together you can also discuss opportunities and work towards common goal as for instance to reduce waste and minimize pollution.

1. **Any tips & tricks for starting apparel brands to build their business as responsible as possible, in particular environmental aspects? If so, which existing initiatives would contribute to this? (Think of: specific guidelines/benchmarks/external experts as XX)**

I could say that there are particular initiatives apparel brands should engage with, however a company should be financially healthy in the first place before spend their limited resources to certification labels and other programs like Bluesign. It is important to be keep on exploring sustainable methods to produce environmentally sound by for example attending events about for example sustainability and responsible fashion, be aware of your decisions and do not just settle for the easy-way.

**APPENDIX VI: Considerations in logistics related to environment**

**DISCUSSED WITH FLEUR MEERMAN, CSR EXPERT IN THE APPAREL INDUSTRY**

|  |  |  |
| --- | --- | --- |
| **+++ COST ---** | | |
| **Domestic** | Lowers transportation costs | Higher manufacturing costs |
| **Overseas** | Ability to select low-wage countries to conduct activities in | Increase of cost due to transportation and a partner overseas to control quality |
| **In-house** | - | May turn out relatively expensive as it requires skilled labor force, material and equipment |
| **Outsourcing** | Could reduce cost over time, also due to the room to negotiate | Decreases your input |
| **Single** | Procuring in bigger quantities, allows the company to reduce costs | Does not allow company to select the best in terms of cost |
| **Multiple** | Provides room to negotiate in terms of prices | Prices should be established per supplier |

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| --- | --- | --- |
| **+++ FLEXIBILITY ---** | | |
| **Domestic** | Fewer limitations in terms of time differences and intercultural communication | Less willingness to cooperate in last-minute adjustments prevails when operating in a culture knowing high level of punctuality |
| **Overseas** | In case of operating in a global market you are more flexible as facilities are distributed according geographically convenience | Cultural issues and time difference may complicate interaction, also does it require an optimal flow of information  (for instance allowing you to take pictures) |
| **In-house** | The focal company is able to respond and adapt immediately, also are they are aware of their own limitations | Limited by its own limitations |
| **Outsourcing** | As another party participates, it provides room to negotiate | Requires optimal flow of communication |
| **Single** | - | One error can impact all material supplied by that supplier, which may also include manufactured products |
| **Multiple** | Distribution of possibilities, provides room to negotiate | Good flow of communication with all suppliers involved, particularly if suppliers depend on each other |

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| --- | --- | --- |
| **+++ QUALITY---** | | |
| **Domestic** | Easier to perform quality control | May impose limitations in available alternatives, suggesting limited range of quality offered |
| **Overseas** | Offers opportunity to select countries specialized in certain fields | Difficult to control quality yourself |
| **In-house** | As operations take place in the company itself, it is easy to perform quality checks | Requires regular training and upgraded material and equipment |
| **Outsourcing** | There is room to select a (highly) specialized company | Quality check has to be performed separately |
| **Single** | Quality control is required at only one supplier | Does not allow company to select the best in terms of quality |
| **Multiple** | Ability to compare quality | Each supplier requires a separate quality control check |

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| --- | --- | --- |
| **+++ TIME ---** | | |
| **Domestic** | Reduces lead time | - |
| **Overseas** | In case of operating in a global market, it reduces time as facilities as facilities can be selected according geographically convenience | Increases lead time |
| **In-house** | Interaction may be faster, reducing response time and thus lead times | - |
| **Outsourcing** |  | Dependent of the outsourcing company/companies |
| **Single** | Not dependent on multiple suppliers, eliminating adjustments required of several suppliers | Does not allow company to select the best in terms of time |
| **Multiple** | Several suppliers provides room to negotiate | If suppliers depend on each other, adaptation is required to organize time as efficient as possible |

**APPENDIX VII: Sustainable procurement (Green Logistics)**

**Green Logistics**

Sustainable procurement

The theory of Gunjal et al. (2015) also describes sustainable procurement as ‘‘green procurement’’. Green procurement implies the consideration of causing a minimum environmental impact during the purchase of products and selection services throughout the supply chain, so that the environmental consequences can be reduced to a minimum through the different stages of a product lifecycle (International Institute for Sustainable Development, 2013). According Gunjal et al. (2015) green procurement can reduce the cost up to 12% by involving organization, people, process and technology when organizing operations and logistics efficiently, the level of supply and the use of energy. The theory states that green procurement derives from the notion that benefits can be derived from the economical, environmental and societal dimensions and should be considered as an instrument allowing a business to deliver value, elicits better economics, enhances brand image while affecting the environment positively. The researchers note the importance of various common factors in the practice of green procurement.

**APPENDIX VIII: 3. Usage staging, element of Reflect**

**(Hasmik’s model)**

**Hasmik’s model**

*3. Usage staging*

Usage staging takes place in a setting that is similar to real time scenarios and helps a brand insight on customer’s habits related to the products of a brand. This helps a brand to identify struggles of customers, but also making customers aware of how better decisions can be made.  
In this stage practices at home are being simulated and observed, allowing a brand to find approaches that can help improve their services as for instance how to make customers feel as comfortable as home when trying a clothing item, which can then ben applied at fitting rooms. Another habit that can be studied is how customers deal with maintenance practices, such as what temperature clothing items are being washed. Studying these habits in simulated real times scenarios contributes to follow a consumer’s line of thought, which is valuable in educating the customers to make decisions that are more efficient for them selves and for the environment. The latter seems to be an important aspect to explore as 70% of environmental pollution appears to be caused by consumers’ habits during maintenance of garment.

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1. MODINT is a Dutch trade association of apparel manufacturers, importers, agents, wholesalers, fashion accessories and textiles (MODINT, 2016). [↑](#footnote-ref-1)
2. Lean Six Sigma is a managerial approach that combines [Six Sigma](http://www.investopedia.com/terms/s/six-sigma.asp) methods and tools and the lean manufacturing/lean enterprise philosophy, striving to eliminate waste of physical resources, time, effort and talent, while assuring quality in production and organizational processes (Investopedia, n.d.). [↑](#footnote-ref-2)
3. [Delivery](http://www.businessdictionary.com/definition/delivery.html) of [merchandise](http://www.businessdictionary.com/definition/merchandise.html) from a [manufacturer](http://www.businessdictionary.com/definition/manufacturer.html) or [original](http://www.businessdictionary.com/definition/original.html) [supplier](http://www.businessdictionary.com/definition/supplier.html) direct to a [buyer](http://www.businessdictionary.com/definition/buyer.html), without passing through the [warehouse](http://www.businessdictionary.com/definition/warehouse.html) of a [distributor](http://www.businessdictionary.com/definition/distributor.html) or retailer (who generated and processed the [sale](http://www.businessdictionary.com/definition/sale.html)). It is the most [common](http://www.businessdictionary.com/definition/common.html) [form](http://www.businessdictionary.com/definition/form.html) of fulfilling [orders](http://www.businessdictionary.com/definition/order.html) taken by most [network marketing](http://www.businessdictionary.com/definition/network-marketing.html) firms and [internet-based](http://www.businessdictionary.com/definition/internet-based.html) [retailers](http://www.businessdictionary.com/definition/retailer.html) (Business dictionary, n.d.). [↑](#footnote-ref-3)