“It’s not easy being green”

Why does a variety of eco-labels in the fashion industry exist and what are their relative strengths and weaknesses?

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ABSTRACT & KEYWORDS

Over the last decade or so, the fashion industry has experienced a rise of voluntary certification schemes that has resulted in over a hundred different eco-labels related to the textile and apparel sector. They address a range of different social and environmental criteria, as well as different product groups and life cycle phases. The existing literature on the economics of certification and eco-labelling in the fashion industry suggest that eco-labels that are able to oversee a rather large part of the fashion supply chain – by broadening the scope of their certification activities – are able to increase transparency, traceability and reliability and thus perform better than eco-labels who act out a relatively narrow scope of activities. However, a typology of eco-labels in the fashion industry based on the scope of their globalized activities has yet to be established. Such a typology allows for a comparison of the relative strengths and weaknesses of the eco-labels and enables the distinction of top performers. Therefore, this qualitative study further looks into why a variety of eco-labels in the fashion industry exist and what their relative strengths and weaknesses are. In order to do so, a content analysis was carried out for 24 eco-labels and their websites in order to establish a typology within the variety of eco-labels as well as a content analysis of 40 critical news articles and blog posts that enabled a comparative analysis of their relative strengths and weaknesses. Measuring the ratio between the number SDGs and the amount of production phases an eco-label is concerned with, resulted in a typology of eco-labels based on the scope of their activities. The typology was followed by a comparison of the relative strengths and weaknesses between the types of eco-labels, derived from the analysis of critical news articles and blog posts. The following groups were established: *Group I)* This group was characterized by its relatively narrow scope of activities, as they are mainly concerned with animal products. This group is heavily critiqued for the inconsideration of animal welfare in their production processes; *Group II)* This group is mainly focused on only a small fraction of the supply chain, often in the beginning stages.

This group is heavily accused of greenwashing, due to their extremely low standards which allow for ‘label-shopping’; Group III) This group is active across a rather large part of the supply chain. These eco-labels have established a worthy reputation over the years, causing them to face new challenges such as trademark violation; Group IV) This group of eco-label performs a relatively broad scope of activities and includes some governmental labels. All accusations towards this group related to financial issues.

Keywords: eco-labels, fashion industry, certification, greenwashing

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1. INTRODUCTION

On 24 April 2013 an eight-story garment factory called the 'Rana Plaza' collapsed due to a structural failure. This collapse caused a total number of 1,134 deaths and approximately 2,500 injured workers. This event is considered the deadliest structural failure accident in modern human history and most definitely the deadliest garment-factory disaster in history (Hoskins, 2015). Although there were early warning signs of possible structural failure and different public authorities had requested the evacuation of the building until inspection had been conducted, the manager of Rana Plaza reported that the building was safe, and workers should return to the factory. The decision made by the manager of Rana Plaza to send 3,500 workers back to the factory, was partially caused by the pressure felt from the short production deadlines to complete orders for the fast fashion industry. Various media outlets have argued that the demand for fast fashion and low-cost clothing has led to a minimal oversight of their production supply chain by brands and retailers (Manik, Greenhouse, & Yardley, 2013).

Since the Rana Plaza collapse, there has been an increasing demand from consumers for strengthening social responsibility in product supply chains. Because end consumers are the ones who spend a substantial amount of money on apparel, they actually have the power to demand more social and environmental responsibility from brands (Bahlmann, 2018). Fashion brands are consumer-facing companies and are therefore particularly vulnerable to bad publicity, as it can harm their brand permanently. Especially since the Rana Plaza accident, a widespread discussion about Corporate Social Responsibility (CSR) across the global textile and apparel supply chain has occupied the fashion industry. Most fashion companies that have chosen to take CSR to heart, are now taking part in certification schemes. Certification schemes carry out eco-labels that can improve a company's reputation and inform consumers of their social or environmental responsibility.

According to the Ecolabel Index, there are over a hundred eco-labels on the market that can be applied to the textile and apparel industry (Henniger, 2015). They address a range of different social and environmental criteria, as well as different product groups and life cycle phases. Also, the information communicated on these eco-labels heavily varies in specificity. Therefore, it is not always clear to the buyer of a final garment what the label covers, what is left out, and which label relatively has the best sustainability performance.

This makes it extremely difficult for consumers to estimate the impact that labels have along the textile product life cycle (Bahlmann, 2018).

The core problem of this certification economy is that the globalized context in which fashion production and consumption takes place enables the voluntary nature of certification schemes to continue to exist, which leads to a lack of transparency, traceability and reliability of eco-labels. Within this globalized context, there is no international regulation that oversees and delegates the fashion supply chain. Responsibility therefore lies with the certification schemes and companies themselves. In order for standards not to decline to a minimum, top performers in the industry must set the example by raising the bar and taking on a more comprehensive approach that oversees the globalized production process. The existing literature on the economics of certification and eco-labelling in the fashion industry suggest that eco-labels that are able to oversee a rather large part of the fashion supply chain – by broadening the scope of their certification activities – are able to increase transparency, traceability and reliability and thus perform better than eco-labels who act out a relatively narrow scope of activities. However, a typology of eco-labels in the fashion industry based on the scope of their globalized activities has yet to be established. Such a typology allows for a comparison of the relative strengths and weaknesses of the eco-labels and enables the distinction of top performers. Therefore, this thesis looks further into the variety of eco-labels in the fashion industry. By doing so, a comparison of relative strengths and weaknesses between the various eco-labels can be made. Consequently, this thesis aims to answer the following research question:

Why does a variety of eco-labels in the fashion industry exist and what are their relative strengths and weaknesses?

Answering this research question is of scientific importance, as it fulfills the existing literature gaps in certification theory. The typology that was established for eco-labels in the fashion industry can also be used as a guideline for other sectors that are involved with eco-labels. Besides the scientific importance of this research, this thesis is also of societal importance. The findings will contribute to a better understanding of the relative performance of the eco-labels actively certifying the current fashion industry. This understanding will help consumers make better informed decision when shopping for

sustainable fashion. Subsequently, this will contribute to improve sustainability levels in the fashion industry specifically and in the world at large.

In order to address the research question, relevant literature on the economics of certification and eco-labelling in the fashion industry in particular is introduced in the theoretical framework. Following, the methodology section of this thesis will explain why a qualitative approach was the best fit for this research. This segment will also elaborate on the content analysis that was carried out for 24 eco-labels and their websites in order to establish a typology within the variety of eco-labels as well as the content analysis of 40 critical news articles and blog posts that enabled a comparative analysis of their relative strengths and weaknesses. Next is a chapter that presents the results that have emerged from the content analysis. Finally, a conclusion and discussion are provided with final thoughts, implications and suggestions for future research.

2. THEORETICAL FRAMEWORK

In the 21st century certification has become a popular tool in environmental policy making. Certification is used to influence purchasing behavior of consumers on the one hand and through the power of the market influence reputation, branding and the environmental behavior of firms on the other hand. In order to understand the role of certification, it is important to address the context in which certification takes place. This theoretical framework will therefore explain how standards, certification and labelling function within the realm of environmental policy and discuss some key issues that have emerged from this field. Additionally, the application of the economics of certification to the fashion industry is further explored. Finally, the need for a new typology of eco-labels is motivated (Matus, 2009).

2.1 Economics of certification

To understand the theory behind standards, certification and labeling it is necessary to clearly define those terms beforehand. Especially, since these terms are often used interchangeably while they are in fact different aspects of a process and thus interdependent. Standards are specifications or criteria for the manufacture, use and attributes of a product, process or service. Certification is the process – often performed by a third party – of verifying that a product, process of service upholds a given set of standards. Labeling is a method of providing information on often unobservable attributes for a product, process or service. Now that these terms have been defined, it is important to recognize how they interact with each other in order to understand how this type of information provision performs as a policy tool (Matus, 2009).

The interaction between standards, certification and labeling is a fairly simple process, as is seen in figure 1.

Fig. 1: Simplified process diagram from problem to label, derived from: (Matus, 2009)

The entire process of standardization, certification and labeling implies a set of underlying goals, meaning standards are not set randomly. They are used to address a specific problem. When a problem is identified, a goal will be set in an attempt to solve the initial problem. In turn, the setting of a goal can influence the development of a standard. This standard can ultimately, if it is needed, be certified and even labeled. Naturally, the detailed specifics of the standard will determine the appropriate process of certification as well as the most effective method of labeling. Throughout the theory of standards, certification and labeling a distinction between the 'means' and 'end' should be clearly understood though. The goals that are established during the process should always be ends. For example, a goal could be improved working conditions. The setting of a standard or the development of an environmental policy is not an end or a goal in itself. Rather, they are the means which are the tools needed in order to reach the goals (Matus, 2009).

There are a few problems that must be addressed in regard to using standards, certification and labeling as a policy tool. Some of these problems occur within the realm of the economics of certification. In classic micro-economics, sometimes a series of assumptions are made by economists that in reality are almost always violated. This leads to market failure, meaning a decentralized competitive market does not result in the most optimal allocation of goods and services. It is therefore the task of public policy to correct these market failures. The four traditional types of market failure are: public goods, externalities, natural monopolies and information asymmetries. Most environmental problems are the result of a combination of two or more of the types of market failure. Therefore, environmental policy makers must use different approaches to effectively tackle particular environmental challenges (Weimer & Vining, 1999).

An example that illustrates how environmental policy such as certification can help address market failure in the sustainable fashion industry is in its agriculture. Agricultural production, such as the cultivation of cotton, may result in negative environmental impacts for others than the individual farmer engaging in the production. The farmer might use toxic chemicals to make the cotton grow faster, which are harmful for the health of the surrounding residents. These are negative externalities. Additionally, the consumers that buy a piece of clothing made out of the cotton produced on this farm have no way of knowing whether their piece of cotton clothing was produced using environmentally friendly

methods of agriculture or not. In this case, information asymmetry takes place. Now, if the farmer would want to invest in a more responsible form of resource, say 'green' electricity, he might have a choice of only one supplier due to its nature. Then, the farmer has to deal with a natural monopoly. Lastly, the farmer might get access to a new environmentally friendly technique provided by the government, which is a public good. A public good is nonexcludable, because there is no way to prevent other farmers from using the new method. Additionally, the public good is also nonrivalrous, meaning that when one farmer used the new method, it does not impact the availability of the good for other farmers. Public goods therefore demotivate firms (or in this case farmers) to invest in new techniques, as they are never sure whether the benefits of the new technique weigh out the costs the innovation. However, if they did invest in new innovations the ability to patent a new type of seed or use of technique might enable them to overcome the issues regarding the public good nature of the product. Also, classical government regulation can help limit emissions and deal with the externalities as well as regulate natural monopolies by providing water and electricity to reach optimal levels of input. Standardization, certification and labeling are a set of policy tools that are appropriate for dealing with information asymmetries and negative externalities (Matus, 2009).

The problem of information asymmetry is best explained in the "Market for Lemons", an article written by Akerlof in 1970. On the market for lemons there are two types of cars being sold. The first type of car is a peach, which is a good car. The other type of car is a lemon, which is a bad car. The supplier of the cars knows exactly which type of car they are selling. However, the buyer of the car has no idea what type of car they are dealing with before purchase. In his article, Akerlof (1970) argued that the equilibrium solution is a complete breakdown of the market for cars and no cars are sold. However, when more information is available to the buyers the market for cars becomes efficient and all parties are better off (Akerlof, 1970). This result is important for assessing the hidden qualities of a product. Some qualities of a product are clear before purchase and some only after purchase. The latter ones are called experience goods. However, some goods have qualities that are unobservable even after consumption, such as its environmental impact. These goods are called credence goods. Standards, certification and labeling allow customers to have more information regarding the impact of their consumption that would otherwise be unobservable to them (Matus, 2009).

When the actions of one party, that do not cost anything, negatively affect another party who has no say in the economic decisions of the other, negative externalities occur. Because the one who generated the negative externality does not bear the costs of their actions, the result is a more than socially optimal amount of produce. A classic example of such is pollution, which heavily takes place in the fashion industry. Factories release waste such as dye into a river, which harms the environment and the residents down the stream. When there is no environmental policy, releasing the waste does not cost the factories anything. However, the residents that live alongside the river that are affected directly and humankind that is affected indirectly by the extra amount of pollution in the atmosphere are the ones that pay the price. Possible solutions to this problem would be to internalize the costs of these actions by taxes and fees or to mitigate this behavior through regulations and economic incentives. Another way is to use standards, certification and labeling as a way to inform consumers about which products and processes are encountering fewer harmful externalities. When consumers are given this information, they can incorporate it into their consumption decisions (Coase, 1960).

Unlike economists, policy makers do not have a lot of time to develop new theory, Instead, they are very much problem based. Once they have identified the problem, they formulate an associated goal. In doing so, they have to decide what is the proper policy approach (or combination of approaches) to meet that goal while balancing the competing interests of different stakeholders. Standards, certification and labeling may be tools to help solve economic problems such as information asymmetry, though there are also problems that involve a different rationale. Such problems often involve technical interoperability or the need to improve certain quality standards. In that case, it is very difficult to even address using other policy methods (Matus, 2009).

2.2 The organization and typology of eco-labels

In 1987, the Organization for Economic Cooperation and Development (OECD) stated that most environmental policies on national level still very much relied upon a ‘command and control’ approach. ‘Command and control’ is an environmental policy that relies upon regulation and of which its performance is thus enforced through legislation. However, since then the number of new environmental policy instruments (NEPIs) rapidly increased. So

much even, that Jordan, Wurzel and Zito have researched this shift in environmental management in 2003 and once more in 2013 (Jordan, Wurzel, & Zito, 2003).

The relevance of their research lies in the long-term significance of the – back then – growing popularity of NEPIs. It was unclear whether these new policy instruments were actually novel ways of policymaking at the time. Therefore, the matter was in need of detailed and empirical comparative and historical investigation. Moreover, it was also argued that previous studies that had tried to investigate the broader patterns of use for the different subtypes of NEPIs mostly brought together an inconsistent mix of instruments and sectors. The research by Jordan et al. (2003) as well as more recent attempts have tried to declutter and organize the different types of environmental policy instruments in quite a broad sense. Though, the application of this theory to more specific industries or cases has yet to be explored. Therefore, this thesis used the existing literature to find similar ways of organizing environmental policy instruments within the fashion industry specifically (Jordan, Wurzel, & Zito, 2003).

In order to organize the new environmental policy instruments, it is important to recognize the context in which this new shift in environmental policy has taken place. According to Jordan et al. (2003), the selection, adoption and implementation of NEPIs is related to the function and structure of a state. Although modern states – defined by bureaucracy, legitimacy, territory and sovereignty - continue to exist, their form has shifted from 'government' into 'governance'. Before the 1990s, environmental policy was regulated by the government, meaning such activities were undertaken by state bodies. These state bodies mostly operated at a national level with the focus on maintaining public order and facilitating collective action. However, after the 1990s new styles of governing emerged due to the development in New Public Management (NPM) in the 1980s. NPM is an effort to make the public sector more businesslike, in which the boundaries between the public and private sectors as well as the national and international levels have blurred (Hood, 1991). As a result, states shared their steering capacity with others generating public-private partnerships and forms of 'ecological self-organization'. This development paved the way for NEPIs to be increasingly deployed (Stoker, 1998); (Taubner, Farmer, & Murphy, 1994).

So, what exactly are new environmental policy instruments? In general, policy instruments are tools that governments can use to implement their policy objectives. These objectives can be differentiated based on the level of constrain. Namely (1) regulation –

which is highly choice constraining; (2) economic instruments – moderately choice constraining and (3) information – which facilitates and informs free choice (Bemelmans-Videc, Rist, & Vedung, 1998). Based on this categorization, Jordan et al. (2003) have made a distinction between four categories of NEPIs that are depicted in figure 2.

A TYPOLOGY OF NEPIs

	Regulator SPECIFIES the goal to be achieved	Regulator does NOT SPECIFY the goal to be achieved
Regulator specifies HOW goal is to be achieved	Command and control (regulation)	Technology-based regulatory standards
Regulator does NOT SPECIFY HOW goal is to be achieved	Most negotiated VAs; some MBIs; some regulation (e.g. EQOs)	Most MBIs; some VAs; informational devices

Source: Based on Russell and Powell [*1996*].

Fig. 2: A typology of NEPIs, derived from (Jordan, Wurzel, & Zito, 2003)*, based on* (Russel & Powell, 1996)

Figure 2 provides a typology of new environmental policy instruments according to how the ends and means of management are defined. In the top left-hand cell, one finds policy instruments that prescribe both the means and the ends of environmental policy. An example of such is the emission limit for certain industrial processes. The top right represents types of regulation that require the use of specific types of technology, for example using the Best Available Technology (BAT) principle. In the bottom left cell, most types of Voluntary Agreements (VAs) are located. Voluntary agreements are often negotiated agreements between the public and private sector. Besides regulations that specify environmental quality objectives (EQO), this cells also holds some Market-Based Instruments (MBIs). However, most MBIs can be found in the bottom right cell. MBIs use economic variables such as price to provide incentives for polluters to reduce or eliminate negative environmental externalities. Along with MBIs this cell also contains informational devices, such as eco-labels. The focus on this cell is especially important for this thesis, as it provides a better understanding of where eco-labels are placed in the general spectrum of environmental policy devices (Jordan, Wurzel, & Zito, 2003).

In comparison to regulation, eco-labels are not as intrusive as a policy instrument. Eco-labels merely provide information to consumers in a standardized manner, enabling them to make informed comparisons. Even more so, the most renowned and supported eco-labels may influence producers in a similar way. Especially in markets were green consumerism is cool, as producers who apply for an eco-label avoid possible competitive disadvantage (Jordan, Wurzel, & Zito, 2003).

According to Horne (2009) the recognition of the need to act on climate change in the mid 2000s has generated a renewed interest in eco-labels as a way to stimulate more sustainable lifestyles. This poses the question whether eco-labelling is actually an effective strategy to do so. Therefore, Horne (2009) has further classified and categorized eco-labels based on two initial points of differentiation: (1) Is the label mandatory or voluntary? And (2) is the certification (granting of the right to use the label) carried out independently? Mandatory eco-labels are generally enforced by legislation and are often used for issues regarding water or energy consuming practices. For voluntary labelling, the International Standards Organization (ISO) has created three categories that can be seen in Figure 3.

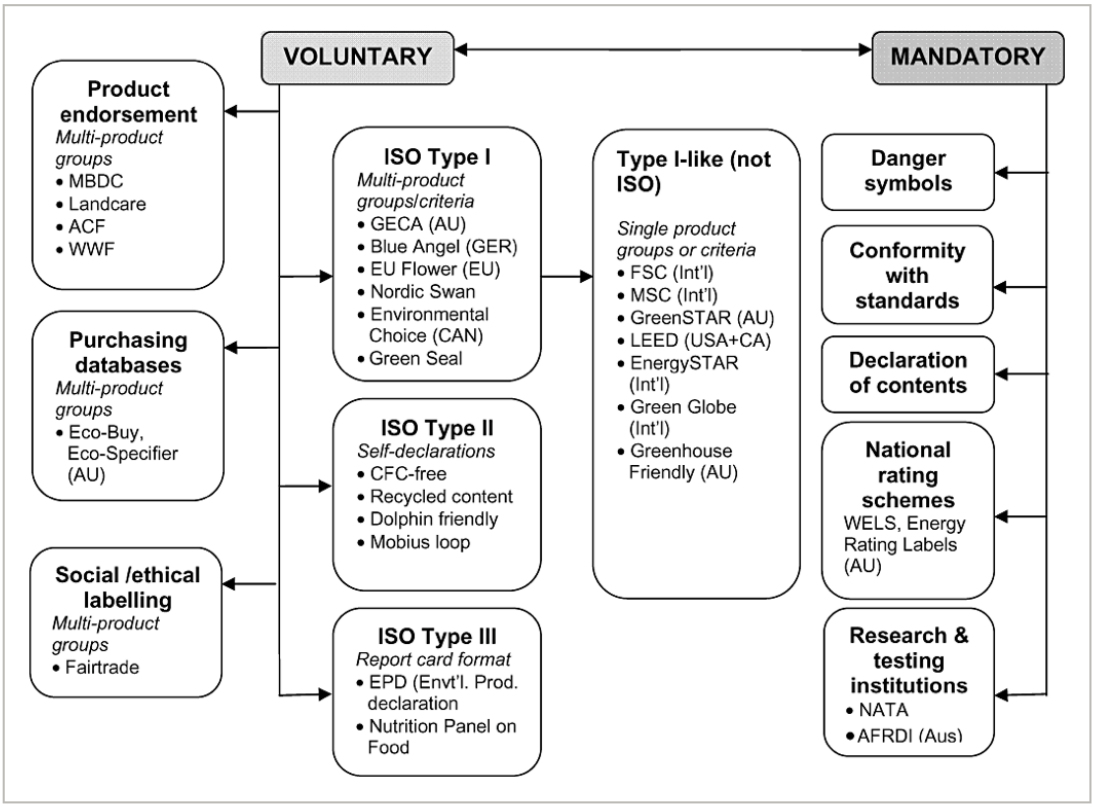


Fig. 3: Classification of product environmental labels by type, derived from (Horne, 2009)

Type I labels are the basic eco-labels. These labels are third-party certified and provide consumers with a logo that is associated with certified products. These are the type of labels that are assessed later in this thesis. Type II labels are self-declared label schemes by manufacturers, importers, distributors or retailers. The claims on these labels are often vague and not always true. The H&M 'High Quality' and 'Conscious' labels are examples of such. Type III label schemes provide quantitative life cycle environmental data in a relatively extensive report format. Beyond the classification of ISO, there are also labels that are much like Type I label schemes, which do not label a variety of products categories. Rather, they focus on a single product category (ISO, 2019).

Based on figures 2 and 3, it has already become clear that eco-labels in specified industries – such as the fashion industry – are not regulated as an environmental policy instrument in terms of *how* and *if* a sustainability goals should be achieved, as it is merely an information device. Moreover, eco-labels in specified industries are thus voluntary and often attributed by third-party independent certifiers. Based on this classification of eco-labels, an assessment in eco-labels was reported by Horne (2009) and was used to measure to what extent the eco-labels have contributed to product sustainability and sustainable consumption practices. Although the results that were generated from this assessment might not be relevant for this thesis, this approach has functioned as an inspiration for the research methodology to answer the research question of this thesis.

2.3 Current state of eco-labelling in the Fashion Industry

Globally, the fashion industry is representing an important part of the employment sector with more than 40 million workers employed in the Asia-Pacific region alone. Besides a significant social responsibility, the fashion industry also carries great responsibility for its environmental impact. Problems such as high water and pesticide use in cotton cultivation as well as long working hours and low pay are only the tip of the iceberg when it comes to sustainability issues in the fashion industry. In order to reduce the negative social and environmental impacts along the fashion supply chain, the fashion industry has turned to eco-labels. According to the Ecolabel Index, there are over a hundred eco-labels on the market that can be applied to the textile and apparel industry - or the fashion industry (Henniger, 2015). They address a range of different social and environmental criteria, as well

as different product groups and life cycle phases. Also, the information communicated on these eco-labels heavily varies in specificity. Therefore, it is not always clear to the buyer of a final garment what the label covers, what is left out, and which label relatively has the best sustainability performance. This makes it extremely difficult for consumers to estimate the impact that labels have along the textile product life cycle (Bahlmann, 2018).

Very often, textile and apparel companies have their own supplier code of conduct. However, a brand usually represents only a small portion of the total production volume of a supplier; brands therefore do not always have the power to effectively make suppliers stick to their codes of conducts. Such programs and investigations of social and environmental conditions vary extensively between companies and is thus a complex process, which makes its accuracy and success questionable as well. Eco-labels are an extensive effort to streamline the auditing processes within the fashion industry through certification. Although eco-labels in the fashion industry help to decrease the auditing time and efforts of individual brands and retailers, the level of complexity remains due to the fashion industry's multifaceted global supply chain (Bahlmann, 2018).

A representation of the typical fashion supply chain is shown in figure 4. This depiction was established by Fair Fashion Productions (FFP), a subsidiary of Ningbo Top Netherlands bv. which is a manufacturer of mens-, womens- and childrenswear. FFP focuses on the development and production of sustainable collections for their customers (FFP, 2020). Although their fashion supply chain is already quite broad, it misses an important first step: the design stage. In this stage a lot of decisions are made about the composition of final garment, which can also be certified and labelled.

Figure 4: Fashion Supply Chain according to Fair Fashion Productions (FFP, 2020)

The fashion industry faces several environmental, economic and social challenges along the supply chain. For example, during the raw material extraction, high water usage and the use of insecticides and pesticides are heavily polluting the environment. During manufacturing processes water, chemicals and energy are needed to spin fibers and produce fabrics, which might end up contaminating freshwater resources. Global distribution can lead to high emissions and in the retail phase energy use can be high depending on in-store conditions. Even the use phase of a final garment can have a considerable impact on the environment in terms of water and energy use dependent on how often the item is washed and tumble-dried (Bahlmann, 2018).

Throughout the fashion supply chain, the textile and apparel industries are also faced with many economic and social issues. Most brands and retailers have outsourced the costs intensive parts of production processes to lower-cost countries in Eastern Europe, Asia and Africa. The working conditions in these countries often entail excessive working time and low wages and are not always healthy and safe. Furthermore, countries such as India have a high rate of gender inequality, which is reflected in literacy rates, education and workplace presence. These social conditions are able to exist due to the lack of transparency in the fashion supply chain. Eco-labels in the fashion industry aim to increase transparency by tackling a wide variety of such issues, as well as covering economic and environmental aspects. Most eco-labels work towards the United Nation's Sustainable Development Goals (SDGs) as a guideline to do so. The SDGs or Global Goals are a collection of 17 intertwined goals that are supposed to be "a blueprint to achieve a better and more sustainable future for all." The 17 SDGs were developed in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030, as they are part of the UN Resolution named the "2030 Agenda" (United Nations, 2020).

The complex product life cycle of a fashion garment and the many environmental issues that go along with its supply chain have led to a significant proliferation of eco-labels in the fashion industry. Since the 1980's, new types of eco-labels have emerged in the fashion industry besides the ISO type-I label and organic certification. According to the United Nations Forum of Sustainability Standards the variety in eco-labels that currently exists within the fashion industry can be differentiated by the characteristics of the standards. The characteristics of the standards are best described by (the scope of) their

activities, which are the following: 1) focus on a single aspect or multiple aspects of sustainability; 2) focus on the management within one sector or cover multiple sectors; 3) focus on a single phase of a product's life cycle or cover the full supply chain impacts of a product; 4) specify performance thresholds for particular characteristics or focus on gradual improvement over time; and 5) be associated with public claims or labels, or may be intended only to meet the internal sustainability objectives of a company or organization (Bahlmann, 2018).

These characteristics allow for a broad distinction of different kinds of eco-labels. For example, the focus on management within a sector or across sectors defines the industry specificity of an eco-label. For example, eco-labels Global Organic Textile Standard (GOTS) and the Fair Wear Foundation can only be found on products in the textile and apparel industry and are therefore industry specific. However, the Fairtrade label can also be found in the food industry and thus focusses on multiple sectors. The industry specificity of an eco-label has quite an impact on its reputation. Although the use of an eco-label may be beneficial in terms of a wide recognition, it can at the same time lead to confusion and distrust amongst consumers. Another characteristic of eco-labels can be based on the public or private nature of the organization behind the label. For instance, eco-labels like the EU eco-label and the Nordic Swan are proof of the certification of standards set by governmental organizations and are thus governmental labels. The counterpart of this kind of eco-labels are the ones that represent standards set by non-governmental organizations (NGO's) (Henniger, 2015).

Nowadays, over a hundred eco-labels certify the fashion industry. They all focus on different aspects of sustainability, different phases of a product's lifecycle or even different sectors. Naturally, overlap of certification activities occur between different kinds of eco-labels due to the scope of their activities. A typology based on the scope of activities of eco-labels within the fashion industry has yet to be established in the field of certification within the fashion industry and has remained a literature gap so far.

2.4 The problem: the voluntary nature of certification schemes within a globalized context

In 2018 The Changing Markets Foundation published a report called "The False Promise of Certification". The purpose of the report was to research industry-specific issues

related to environmental impacts of certification schemes and voluntary initiatives in fisheries, palm oil and textile sectors. Their analysis has shown a variety of sustainability initiatives and certification schemes in the fashion industry, although none of them are able to ensure transparency, traceability and reliability throughout all phases of the fashion supply chain. That is namely, because many companies in the fashion industry have not yet taken their individual responsibility as they argue for an industry-based approach. They find that brands alone cannot provide systematic solutions and should rather help to pay for them on an industry level (Hable, 2017). However, this approach would easily allow for 'free riding'; meaning brands and companies become part of these initiatives and schemes without actively contributing. They are able to do so because of the lack of transparency in the sector, which has seemed to be optional so far.

For instance, brands and retailers often refer to the Higg Index as their guideline for improving their environmental performance of their supply chain in their marketing and communications. The Higg Index is a tool that was developed by the Sustainable Apparel Coalition (SAC). The Index provides fashion companies to accurately measure and score a company's or even a product's sustainability performance. The Higg Index is thus a tool and not even a sustainability certification scheme. Nevertheless, it is impossible to actually measure how being part of the SAC and having access to the Higg Index has improved the sustainable performance of the brands individually. Being a member of the SAC does not obligate the brands to use the Higg Index. Even more so, if brands choose to use the Higg Index, it is also not mandatory for them to report on their performance. Sharing the results is only possible with fellow SAC members, consumers do not have access to this information (Sustainable Apparel Coalition, 2020).

In a similar fashion – pun intended - The Better Cotton Initiative (BCI) also tries to increase their member base without enabling consumers to tell whether the brands and retailers that carry the BCI label are improving their environmental performance. Farmers that want to receive a license to grow 'Better Cotton' must conform to a set of minimum requirements, which the BCI regularly checks upon. Besides the minimum requirements, farmers are only just encouraged to improve their activities. BCI cotton is therefore only 'better' if non-certified farmers do not meet any laws and regulations at all. As a result, BCI cotton does not commit to organic cotton nor does it set minimum prices for cotton farmers. This low bar also leads to 'label shopping' by companies looking for the easiest label to

achieve, causing the market share of organic cotton to be overtaken by BCI's weaker standard. After BCI's massive expansion between 2011 and 2015 the production of organic and non-genetically modified cotton has even declined. At the time of writing, the BCI had 1,992 members, including H&M and Adidas (Better Cotton Initiative, 2020).

These cases illustrate how the voluntary nature of certification schemes counteract the implementation of higher standards that cover the entire supply chain, which has led to a major paradox: a certain need to make certification schemes more inclusive, rather than selective, is now holding back the greater ambition. When a standard is based on the consensus among a wide range of industry players instead of the bar set by its top performers, there is too much risk that all parties will want to keep the bar as low as possible, so everyone passes the test. So far, this behavior has resulted in a delay – or even reverse – of progress as well as the preservation of irresponsible and unsustainable production methods. Looking at certification schemes from this perspective, eco-labels have now become an end in itself, rather than being the means to reach the goals of greater environmental sustainability (Changing Markets Foundation, 2018).

Currently, there are no international regulations that cover the global textile supply chain and most voluntary schemes are weak and lack transparency. According to the report by the Changing Markets Foundation "a significant overhaul of the system is needed" (p. 83) in which governments take the lead. Additionally, they claim that "transparency is the cornerstone of responsible business" (p.83) and companies should therefore become more transparent about their supply chains. Due to the limited scope of this thesis, it would be very difficult – if not impossible – to measure the level of transparency of the companies and is therefore not further considered in the analysis. (Changing Markets Foundation, 2018).

However, the more general problem with certification lies within the context in which eco-labels emerge nowadays. Not only the growing demand for commodities, also the shortcomings of national and international regulation in regard to sustainability shape the certification landscape. Most importantly, the framework of globalized production and consumption in which the complex fashion supply chain operates provides companies in the fashion industry with an excuse for their lack of transparency. Ironically, certification exists to address this exact problem – partially. Most certification schemes only certify a small portion of the overall production process. For example, the BCI only certifies the beginning stages of cotton production, which only provides the consumer with so much information of

their finished garment. In other words, certification schemes often address merely one aspect of the problem, which does not make ends meet. Schemes should therefore become more comprehensive and aim to cover the whole live cycle of a product (Changing Markets Foundation, 2018).

In conclusion, the core problem of this certification economy is that the globalized context in which fashion production and consumption takes place enables the voluntary nature of certification schemes to continue to exist, which leads to a lack of transparency, traceability and reliability. Within this globalized context, there is no international regulation that oversees and delegates the fashion supply chain. Responsibility therefore lies with the certification schemes and companies themselves. In order for standards not to decline even further, top performers in the industry must set the bar higher by taking on a more comprehensive approach that oversees the globalized production process. This problem once again validates the need for a typology in eco-labels based on the scope of their globalized activities. Therefore, this thesis looks further into the variety the most frequently used eco-labels in the Netherlands. By doing so, a comparison of relative strengths and weaknesses between variety of eco-labels can be made.

3. METHODOLOGY

3.1 Research Design

The literature gap derived from the theoretical framework of this thesis has left something yet to be desired; a further explanation as to why a variety in eco-labels exist as well as a comparison of the relative strengths and weaknesses between these labels. By doing so, this thesis will give an answer to the research question: **"Why does a variety in eco-labels in the fashion industry exist and what are their relative strengths and weaknesses?"**

This research question will be answered by means of a content analysis of the eco-labels and their websites in addition to a content analysis of critical news articles and blog posts. This thesis will therefore take on a qualitative approach, focusing on retaining meaning when interpreting data. No hypotheses were tested, although expectations have been satisfied; the problem statement of the theoretical framework seems to suggest that eco-labels that are able to oversee a rather large part of the fashion supply chain – by broadening the scope of their certification activities – are able to increase transparency, traceability and reliability and thus perform better than eco-labels who act out a relatively narrow scope of activities. In order to manage this expectation, the comparison of the relative strengths and weaknesses of the eco-labels was especially relevant (Changing Markets Foundation, 2018).

3.2 Research Method

As was shortly mentioned before, this thesis takes on a qualitative approach. Qualitative research typically involves collecting and analyzing non-numerical data to gather in-depth understanding of a problem and thereby generate new ideas for future research. Its approach is characterized by its flexibility and focus on interpreting meaning when collecting data. The approach chosen for this research is grounded theory, meaning the researcher has collected data on the research topic in order to develop new theory inductively. As the research question of this thesis suggests, this research seeks to understand why a variety of eco-labels in the fashion industry exists as well as how they compare in terms of relative strengths and weaknesses. The goal of conducting this research is to eventually produce new

theory that will add to existing literature on the general performance of eco-labels in the fashion industry, explaining the qualitative nature of this thesis (Bhandari, 2020).

For this thesis, the qualitative approach involved a secondary research method. This usually entails that existing data in the form of texts, images or audio etc. is collected for analysis. The research question of this thesis can be separated into two questions: 1) Why does a variety of eco-label in the fashion industry exist? And 2) What are their relative strengths and weaknesses? The research of this thesis therefore consists of two parts that were subject to qualitative content analysis. This method is mostly used to describe and categorize commonly used words, phrases and ideas in qualitative data. The first part of the research is based on content analysis from the Keurmerkenwijzer website and the websites of the eco-labels themselves. The goal of this analysis was to find out in which phases of the supply chain the eco-labels are active and towards which sustainable development goals they are working. For some eco-labels, this information was stated quite literal on their website, making the identification of this information relatively easy. However, some eco-labels are more descriptive of their activities and were thus in need of a more interpretive approach. The second part of this research is based on the analysis of critical news articles, providing the researcher with relatively objective and thus reliable information of the eco-labels. Would the researcher have chosen interviews with eco-label employees or setting out surveys amongst eco-label employees, their answers on the strength and weaknesses of their employer would have been biased. Nonetheless, it would have been quite difficult to reach out to participants, due to the Covid-19 pandemic (Bhandari, 2020).

Overall, the secondary research method seemed most fitting for answering the research question of this thesis. Its method is appealing in terms of its unobtrusiveness, transparency & replicability and its high flexibility; Data can be analyzed without the direct involvement of participants, which prevents the presence of the researcher from influencing the results. When the analysis follows a clear and systematic procedure, it can easily be replicated by other researchers, resulting in a higher reliability of the results. And finally, the analysis can be conducted at any time and place at a low cost, making this method rather flexible. However, this method also comes with its limitations in terms of reductivity, subjectiveness and time insensitivity; repeatedly focusing on certain words and phrases can be overly reductive, especially in terms of disregarding context, nuance and ambiguous meanings. Also, the interpretation of content analysis always involves some level of

subjectivity, which in turn affects the reliability of the research. And finally, coding a large number of websites and articles is very time consuming (Bryman, 2016).

3.3 Sample and procedure

It has become clear that this thesis is a conducted research on eco-labels in the fashion industry. However, with over a hundred different eco-labels applied to this industry, the entire 'population' is too large for the scope of this research. Instead, this research focused on a sample; a selection of the entire supply of eco-labels. The sampling procedure of this thesis took place according to non-probability sampling, which involves a non-random selection based on convenience. Convenience sampling allows the researcher to easily access the sample group. Therefore, it is also a sufficient way to gather initial data. Although this procedure is convenient, the sample is often not representative for the entire population and the results are thus not generalizable (McCombes, 2019).

The convenient sample that was essentially selected for this research is the list of eco-labels specifically applied to the textile and apparel industry provided by the Keurmerkenwijzer. Keurmerkenwijzer is a website managed by Mileu Centraal. This foundation was founded in 1998 by the Dutch government, which is still responsible for about two-thirds of their income. The foundation has an independent board as well as a scientific advisory board (Milieu Centraal, 2020). The Keurmerkenwijzer website has registered a total of 250 eco-labels across sectors that provide information about the environmental measures, animal welfare and the social conditions of the people involved in the production of a final product. Based on the information the eco-labels state on their website, Mileu Centraal carries out assessments on how strict the standards are. Additionally, they take into account how certification and monitoring is arranged and whether there is a sanction policy. However, Mileu Centraal does not check if standards are being met. Nor do they conduct further research into the impact of eco-labels on sustainability (Mileu Centraal, 2020).

The selection of eco-labels is thus carefully selected by a Dutch governmental organization and proves that these logos legitimately occur on textile products and garments in the Netherlands. The fact that Mileu Centraal does not further investigate whether the standards are being met or what the environmental impact of the eco-labels is, means this

list cannot influence the results of this thesis beforehand. The full list of 24 eco-labels and their logo provided by the Keurmerkenwijzer can be found in Appendix 1. The only eco-label that was excluded for this particular research was the HEMA Better Life label, because this is an umbrella-logo. This label represents multiple standard within one eco-label and is therefore not useful for this research.

3.4 Operationalization

The research question of this thesis is made up out of two questions that were both analyzed separately. The first part of the question is: "Why does a variety of eco-labels in the fashion industry exist?" The problem statement derived from previous studies on eco-labels in the fashion industry suggests that certification schemes – being the eco-labels – should take a more comprehensive approach that oversees the globalized supply chain. If they do, eco-labels will be able to set higher standards. As a result, they can actually improve the overall sustainability performance of the fashion industry (Changing Markets Foundation, 2018). Therefore, this thesis has looked at 24 different eco-labels and how they vary in terms of comprehensiveness in their approach. The latter was expressed in the scope of their activities. The scope of the activities was measured in two different variables: 1) the number of Sustainable Development Goals and 2) the amount of production phases in the fashion supply chain. As the theoretical framework of this thesis explains, an eco-label sets a standard or is used as a tool of environmental policy and is not an end or a goal in itself. Rather, they are the means in order to reach the goals (Matus, 2009). Most eco-labels work towards the United Nation's Sustainable Development Goals (SDGs), which has therefore become one of the variables. An overview of all 17 SDGs and a short explanation as to what they entail can be found in Appendix 2. The second variable that measures the scope of the activities of eco-labels is the number of production phases of the fashion supply chain they are active in. For this part of the research, the production phases of the fashion supply chain had to be established. The fashion supply chain that was eventually established for this thesis was inspired by the supply chain provided by Fair Fashion Productions (figure 4). As was mentioned before in the theoretical section, it missed an important first step: the design stage. In this stage a lot of decisions are made about the composition of final garment, which can also be labelled. Furthermore, some steps in the supply chain depicted in figure 4 have

been combined, because the eco-labels do not distinguish these steps either. The final fashion supply chain used as a guideline to measure the scope of supply chain activities can be found in appendix 3.

The scope of the activities was measured in two tables (figures 5 and 6 in the 'results' section of this thesis) and then summarized and depicted in a scatterplot (figure 7 in the 'results' section). This scatterplot depicts the ratio between the number of SDGs an eco-label endorses and the amount of production phases the eco-label is active in. This overview allowed for a categorization of the eco-labels based on the overall scope of their activities. This enabled the researcher to establish a new typology in the variety of eco-labels in the fashion industry.

The second part of the research aims to answer the question: "What are the relative strengths and weaknesses of the eco-labels?" In order to answer this question, critical news articles and blog post written by fashion industry professionals were analyzed, coded, categorized and finally discussed according to the typology of eco-labels established earlier. The units of analysis in this search for articles were the 24 eco-labels and the type of sustainable activity they focus on. Based on the second part of the research question of this thesis, the articles were categorized based on criticism of an eco-label and their activities. To get more detailed data, the articles have also been coded for other categories, such as the type of sustainable practices, the supply chain management and the overall perception of the eco-labels presented in these types of media.

The news articles were found through the Google Search for news articles and blog posts, using the name of the eco-label or their type of sustainable activity in addition to the word 'criticism' as a search term. The news articles and blog posts that were selected were written in Dutch or English, due to the language barrier of the researcher. The publication date of all articles had to be from 2015 and newer, as these articles discuss the most recent friction in the industry. There are a few exemptions from the last rule, as the researcher felt these articles were still relevant. This search resulted in retrieving 40 news articles and blog posts, which is the sufficient amount for a content analysis based on the scope of this thesis. A bibliography of the 40 new articles and blog posts that were analyzed can be found in Appendix 4.

3.5 Data Analysis

The data analysis of the qualitative content also consisted of two separate parts. For the first part, the websites of eco-labels and the description of the eco-labels on the Keurmerkenwijzer website were analyzed in order to find out two pieces of information: 1) which SDGs the eco-labels endorse and 2) in which phases of the fashion supply chain the eco-labels certify. This analysis did not require a set of coding rules, as most websites very clearly stated this information on their websites. However, in some cases the website did not explicitly state this information, which required a more interpretive approach from the researcher. In those cases, the descriptions of the sustainable goals and the production activities were described, interpreted and finally converted into useful information for the measurements of the first part of the research. This analysis is discussed in section 4.1 of the 'results' section.

For the second part, critical news articles and blog posts were analyzed in order to find the relative strengths and weaknesses of the eco-labels. This analysis required a stricter strategy. First of all, the researcher set out some rules for the coding procedure. When coding an article, it must first be established to which type of group the criticism belongs to and to which type of eco-label or sustainable practice in particular. After these categories had been established, the more conceptual categories were defined through a coding procedure. During the coding procedure, the researcher carefully read through each text and recorded all relevant pieces of information by means of assigning appropriate codes. This allowed the researcher to finally group these codes based on what they have in common, allowing for categorization. These are the categories discussed in part 4.3 of the 'results' section. The coding procedure took place digitally, by means of Microsoft Word. The data analysis and coding scheme for the second part of this research can be found in Appendix 5. Finally, from the results a conclusion can be drawn in response to the research question of this thesis (Luo, 2020).

4. RESULTS

4.1 A variety in eco-labels

Prior to the primary data collection of this research, it is important to understand the current variety of eco-labels in the fashion industry. Hence, the first part of the research question: *Why does a variety in eco-labels exist?* An investigation of the labels and their websites has led to a detailed analysis that forms the basis of the findings in this section of the results. The 24 eco-labels, listed by Keurmerkenwijzer (Mileu Centraal, 2020), were examined in terms of the number of SDGs they endorse as well as the amount of phases in the fashion supply chain they are involved with. The categories displayed on the top of figure 5 are the 17 SDGs developed by the United Nations and have previously been discussed in the theoretical and methodological section of this thesis. The categories displayed on the top of figure 6 are the 10 phases of the fashion supply chain, that have also been previously established in the methodology section of this thesis. What remains is an analysis of the individual eco-labels and the scope of their environmental activities expressed in the number of SDG's they endorse and the amount of production phases in which they do so. The analysis of eco-labels is grouped according to the kinds of eco-labels that were discussed earlier in the theoretical section: Industry specific labels, governmental labels and non-governmental labels (Henniger, 2015).

4.1.1 Industry specific labels

Cotton and raw materials

There are a lot of eco-labels that are specifically focused on cotton, of which some are analyzed for this thesis. Currently, the biggest cotton eco-label is the Better Cotton Initiative (BCI). BCI sets requirements for more environmentally friendly production and decent work. They make a distinction between small farmers and medium & large plantations. BCI does not prescribe specific methods or technologies. However, they allow farmers and plantations to choose which way of sustainable cultivation suits them best. The focus is on continuous improvement. An important difference with organic cotton is that BCI allows the use of genetically modified seeds (GMO) and pesticides. Though the BCI has been accused of doing more harm than good, the BCI website explains how the label tries to work

towards SDGs 1, 2, 3, 4, 5, 6, 8, 12, 13 and 15 all while only being active in phase 2 of the supply chain (Better Cotton Initiative, 2020).

Another cotton based and thus industry specific eco-label is Cotton Made in Africa (CmiA). The CmiA eco-label can be found on garments made out of cotton from Sub-Saharan countries and is only concerned with the harvest of the raw material, especially aiming at the social conditions of small farmers. Like the Better Cotton Initiative, the Cotton made in Africa label is only active in production phase 2 (Mileu Centraal, 2020). On their website the label is very clear about the SDGs they address, those being 1, 2, 3, 4, 5, 6, 8, 12, 13, 15 and 17 (Cotton made in Africa, 2020).

Besides raw materials extracted from agriculture, the fashion industry also deals with animal products, such as wool. The Woolmark simply states that a product is made from wool and does not set any environmental or animal welfare requirements. Quality criteria do apply for fiber strength, 'pilling' and shrinkage properties of the wool. This way, the label guarantees the longevity of the product. There are two derivative labels for products that consist partly of wool: Woolmark Blend (at least half wool) and Wool Blend (between 30 and 50 percent wool). The labels only tell the consumer something about the design of the product and ensure consumption quality and is thus only active in phase 1 and 9 of the supply chain. On their website the label does not specifically name the SDGs, although their environmental mission is made up out of regenerative agriculture (SDG 9), ocean health (SDG 14) and animal health (SDG 15) (Woolmark, 2020).

Textile and garment production

During the production stage of textiles and garments, eco-labels seem more concerned with social conditions than in any other phases of the fashion supply chain. One of those eco-labels is the Fair Wear Foundation, a not-for-profit organization that works together with clothing brands and other partners to improve working conditions for the people who work in clothing factories (phases 3-5). Fair Wear Foundation requires its members - European clothing brands - to take significant steps each year towards better working conditions. The basis of the cooperation between Fair Wear and its brands is the Fair Wear code of conduct. This code is based on eight internationally recognized labor standards, such as paying a minimum wage and safe working conditions, which must be

introduced gradually. On their website the Fair Wear Foundation explain how their standard has already helped to endorse 6 (1, 2, 3, 4, 5 and 8) of the SDGs (Fair Wear, 2020).

Besides the well-being of the employees working in the fashion industry, some eco-labels also care about the physical well-being of consumers. The OEKO-TEX labels are labels that are often seen on textile products of Zeeman and HEMA, although it is quite unknown amongst consumers what it actually stands for. This thesis includes two OEKO-TEX labels in the analysis. OEKO-TEX Standard 100 is a health standard for textiles. Because the end product must contain limited residues of harmful product, OEKO-TEX imposes indirect requirements on the use of environmentally harmful substances, such as heavy metals, harmful dyes and pesticides. Products with the Made in Green quality mark meet the requirements of the OEKO-TEX Standard 100 quality mark. Although all OEKO-TEX certified products impose fair working conditions for its workers (SDG 10 and 5), the Made in Green label also helps manufacturers implement and improve environmentally friendly production. By implementing their activities in production phases 2, 4, 5 and 9 they also contribute to responsible consumption and production (SDG 12) (TexIntel, 2020).

Another quite established eco-label social well-being as well as environmental health is BlueSign. The Swiss eco-label has drawn up sustainability requirements for the production phase of the clothing (fabric manufacture and sewing workshops; phases 4 and 5) and for the end product (for residues of heavy metals, harmful dyes and chemicals; phase 9). There are no requirements for the production or cultivation of the clothing fibers themselves. Bluesign's requirements focus on the efficient use of raw materials, consumer safety, emissions to water and air and safe and healthy working conditions. In a report on their website, they also state that they strive towards the SDGs 3, 12 and 15 (BlueSign, 2020).

The even more renown Global Organic Textile Standard (GOTS) is an international eco-label that sets requirements for the processing of the fiber into a garment, requirements for working conditions and a fair wage in the production phase, not in the agricultural phase. There are also environmental requirements for packaging and haberdashery (Mileu Centraal, 2020). Translating these activities to production phases of the supply chain, GOTS is active in phases 2-5. On their website, they released a report in which they elaborate how they ensure compliance with at least SDGs 1, 3, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16 and 17 (Global Organic Textile Standard, 2018).

The GOTS label even performs as a minimum standard for other labels, such as the German IVN eco-labels, which therefore endorse the same SDGs. The IVN Naturtextil is based on organic cultivation, long-term lifespan of products and environmentally friendly production methods, including social requirements. IVN Naturtextil is therefore active in production phases 2, 3, 4, 5 and 9. IVN Naturleder is also part of the *Internationaler Verband der Naturtextilwirtschaft*. According to IVN, this standard certifies all stages of the production chain, that is of the finished leather, thus not the finished garment (IVN, 2020). Therefore, IVN Naturleder is only active in production phases 2-5.

Textile Exchange labels

Textile Exchange is a global non-profit organization that works closely together with all sectors of the textile supply network. This organization continuously identifies and shares best practices regarding textile production and has developed several prominent industry standards in different areas of the supply chain. The first Textile Exchange standard on the list of eco-labels provided by the Keurmerkenwijzer is the Global Recycled Standard. The Global Recycled Standard indicates that one or more types of material for clothing and other products consists of at least 50% recycled material. In addition to recycling, the requirements also concern environmental criteria for the discharge of wastewater as well as the registration of water, chemicals and energy consumption. Furthermore, there are criteria for safe working conditions and education for employees. These criteria refer to the production of the recycled material and thus takes place in phases 1, 3 and 4 (Textile Exchange, 2020). Besides the Global Recycle Standard the Textile Exchange wields two other labels regarding recycling practices; The Recycled Claim Standards check the presence and the amount of recycled material in the end product. With the Recycled Claim Standard 100 you have the guarantee that at least 95% of the product consists of recycled material. With the RCS blended variant, this percentage is between 5 - 95%. Both standards are therefore only concerned with the final design and are thus covered by phase 1 (Textile Exchange, 2020). Additionally, the Textile Exchange also offers the industry two labels regarding organic textile production. The first one is the Organic Blended Content Standard. The Organic Blended Content Standard is a label for textiles that consist of at least 5% organic fibers. This can be cotton, hemp, linen, wool or other natural fibers. The percentage is stated in the label. The Organic 100 Content Standard states that the textile consists entirely of

organic material. For both labels, there are no environmental requirements for processing the fiber into clothing, and no requirements for working conditions. Therefore, they are only active in production phase 2 (Textile Exchange, 2020). The Textile Exchange claims that these 5 labels all together endorse 7 important SDGs: 1, 2, 3, 4, 6, 8 and 12 (Textile Exchange, 2020). The Textile Exchange carries out one more label that is mentioned on the Keurmerkenwijzer list, namely the Responsible Down Standard. This standard also has its own website and seems to serve other goals. Responsible Down Standard is a label for down feathers that indicates that the down comes from waterfowl that has been treated in a more animal-friendly way than conventional waterfowl. 100% of the down in a garment or bedding is RDS certified. The Responsible Down Standard is thus only concerned with the raw material, being production phase 2. The certification activities only contribute to SDG 12 and 15 (Responsible Down, 2020).

4.1.2 Governmental labels

The European Ecolabel is the European Union's environmental label for non-food products and services. The European Ecolabel sets both environmental and social requirements for the production of clothing fibers, the processing into fabrics and the sewing of the garments in the sewing workshops. The European Ecolabel also demands a high-quality end product in which wear from washing and drying must be kept to a minimum. So the European Ecolabel is not only active in the beginning stages of the fashion supply chain (3-5), it is also concerned with the consumption stage (9) (Mileu Centraal, 2020). Amongst the labels discussed for this thesis is another governmental eco-label, the Nordic Swan eco-label. This label is aimed at (mostly leather) products from the Nordic countries. The requirements for leather relate to residues of chemicals in the product itself and in the wastewater. There are also requirements for energy and water consumption, as well as social requirements for the workers (Mileu Centraal, 2020). These activities all take place in production phases 2-5. The European Ecolabel and the Nordic Swan eco-label both believe their environmental practices contribute to SDG 12. Besides this specific goal, the European Ecolabel claims to also support SDGs 3, 6, 7, 8, 9, 13, 14, 15 and 17. The Nordic Swan eco-label also adds SDG 11 to that list (Ecolabelling Denmark, 2020). The last governmental eco-label discussed in this thesis is the Blue Angel or Blaue Engel label,

established by the German Federal Government. Blue Angel is a German eco-label for products that are more environmentally friendly than other products with the same user purposes. It often appears on shoes. There are requirements for the leather used as well as for other materials used in shoes, such as rubber and cotton. There are environmental requirements aimed at minimizing the use of chemicals, water use, wastewater quality and packaging. The end products are tested for maximum limit values for harmful substances. The eco-label refers to international ILO standards with regard to social requirements. The environmental activities of the Blue Angel label take place in production phases 2-5 and are thereby endorsing SDGs 3, 6, 8, 12 and 15 (Mileu Centraal, 2020).

4.1.3 Non-governmental labels

Fairtrade labels

Fairtrade was originally established by the Dutch foundation of Max Havelaar in 1988. In the 1990s, Fairtrade has become the header for various international initiatives, primarily focusing on food and farming. On their website, the overall organization claims to indirectly endorse all 17 SDGs although they prioritize goals 1, 2, 5, 8, 12, 13, 16 and 17 (Fairtrade, 2020). Therefore, the Fairtrade Textile Production Standard, Fairtrade Cotton label and the Fairtrade Certified Sewing label are endorsing these SDGs as well. The Fairtrade Textile Production Standard ensures the social conditions of employees in the textile industry from the processing of the harvest (so not the cultivation itself) until the stores and is therefore active in production phases 3-7. Fairtrade Cotton certification solely focuses on sustainable – both environmentally and socially friendly – cotton farming and is therefore only active in production phase 2. The Fair Trade Certified Sewing label indicates that the clothing is produced in sewing workshops where the employees work under better working conditions. The certification does not impose requirements on the cultivation or production of clothing fibers and in therefore only active in production phases 4 and 5 (Mileu Centraal, 2020).

Agriculture labels

The remaining eco-labels are non-governmental labels that are concerned with agriculture across various sectors. The first eco-label on the Keurmerkenwijzer list is Biokreis,

a German eco-label. According to de Keurmerkenwijzer, the label sets the same requirements for the processing of leather skins as IVN Naturleder. According to IVN, their standard certifies all stages of the production chain, that is of the finished leather, thus not the finished garment (IVN, 2020). Therefore, both Biokreis and IVN Naturleder are active in production phases 2-5. Furthermore, the environmental activities that Biokreis performs are chrome-free tanning based on plant-based substances, limited water use and wastewater purification and they set requirements for working conditions. Because Biokreis does not provide a clear overview of the SDGs they endorse, their environmental activities have been interpreted as SDGs 1, 6, 8. 12, 13 and 14.

The last eco-label pursues a relative high number of SDGs (1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 15 and 17 = 12 in total) and is called Fair for Life. Fair for Life is a quality standard for fair trade that also has environmental criteria. The quality standard relates to the entire textile chain: from cultivation of the (natural) fibers, their processing, the sewing workshops to the stores and is therefore active in phases 2-7 (Fair for Life, 2019).

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
	Sustainable Development Goals	No Poverty	Zero Hunger	Good Health and Well Being	Quality Education	Gender Equality	Clean Water & Sanitation	Affordable & Clean Energy	Decent Work & Economic Growth	Industry, Innovation & Infrastructure	Reduced Inequalities	Sustainable Communities	Responsible Cons. & Prod.	Climate Action	Water Life	Land Life	Peace, Justice & Institutions	Partnerships for the goals	**Total**
1	Biokreis	x					x		x				x	x		x			**6**
2	Fairtrade Textile Production Standard	x	x			x			x				x	x			x	x	**8**
3	Cotton Made in Africa	x	x	x	x	x	x		x				x	x		x		x	**11**
4	EU eco-label			x			x	x	x	x			x	x	x	x		x	**10**
5	Fairtrade Cotton	x	x			x			x				x	x			x	x	**8**
6	Global Recycle Standard	x	x	x	x	x	x		x				x						**7**
7	Naturtextil	x		x	x	x	x	x		x	x		x	x	x	x	x	x	**14**
8	Fair for Life	x	x	x	x	x			x		x	x	x	x		x		x	**12**
09	GOTS	x		x	x	x	x	x		x	x		x	x	x	x	x	x	**14**
10	Better Cotton Initiative	x	x	x	x	x	x		x				x	x	x				**10**
11	Organic 100 Content Standard	x	x	x	x		x		x				x						**7**
12	RCS100	x	x	x	x		x		x				x						**7**
13	FairWear Foundation	x	x	x	x	x			x										**6**
14	Woolmark									x					x	x			**3**
15	IVN Naturleder	x		x	x	x	x	x		x	x		x	x	x	x	x	x	**14**
16	OEKO-TEX Made in Green			x									x	x					**3**
17	Blauer Engel			x			x		x				x			x			**5**
18	Nordic Ecolabel			x			x	x	x	x		x	x	x	x	x		x	**11**
19	Responsible Down												x			x			**2**
20	Fairtrade Certified Sewing	x	x			x			x				x	x			x	x	**8**
21	Organic Blended Content Standard	x	x	x	x		x		x				x						**7**
22	RCS blended	x	x	x	x		x		x				x						**7**
23	BlueSign			x									x			x			**3**
24	OEKO-TEX Standard 100			x									x	x					**3**

Fig. 5: Summary of findings (Sustainable Development Goals)

	Production Phases of the Fashion Supply Chain	Design Stage	Raw Material Extraction (Farming)	Textile Production (Spinning, Weaving, Knitting)	Textile Processing (Bleaching, Dying, Printing)	Apparel Making (Cut, Make, Trim)	Packaging	Distribution	Retailing	Consumption	Disposal (Recycling)	**Total**
1	Biokreis		x	x	x	x						**4**
2	Fairtrade Textile Production Standard			x	x	x	x	x				**5**
3	Cotton Made in Africa		x									**1**
4	EU eco-label			x	x	x				x		**4**
5	Fairtrade Cotton		x									**1**
6	Global Recycle Standard	x		x	x							**3**
7	Naturtextil		x	x	x	x				x		**5**
8	Fair for Life		x	x	x	x	x	x				**6**
9	GOTS		x	x	x	x						**4**
10	Better Cotton Initiative		x									**1**
11	Organic 100 Content Standard		x									**1**
12	RCS100	x										**1**
13	FairWear Foundation			x	x	x						**3**
14	Woolmark	x								x		**2**
15	IVN Naturleder		x	x	x	x						**4**
16	OEKO-TEX Made in Green		x		x	x				x		**4**
17	Blauer Engel		x	x	x	x	x					**5**
18	Nordic Ecolabel		x	x	x	x						**4**
19	Responsible Down		x									**1**
20	Fairtrade Certified Sewing				x	x						**2**
21	Organic Blended Content Standard		x									**1**
22	RCS blended	x										**1**
23	BlueSign				x	x				x		**3**
24	OEKO-TEX Standard 100		x		x	x				x		**4**

Figure 6: Summary of findings (Supply Chain Production Phases)

4.2 A typology in Ecolabels

As mentioned, the top of figure 5 provides an overview of the 17 SDGs developed by the United Nations in 2015 that serve as goals for the eco-labels. Overall, each eco-label covers a minimum of two and a maximum of 14 SDGs. SDG 12 'sustainable consumption & production' is most often endorsed by the eco-labels, which can be explained with the fact that most eco-labels are the means to reach the goal of sustainable consumption & production in general. More concerning is the number of eco-labels that work towards reduced inequalities (SDG 10), sustainable communities (SDG 11) and also water life (SDG 14), which is relatively low. Considering the Rhana Plaza disaster which inspired many eco-labels to also adopt social standards such as minimum pay, it seems this was just a short-term solution – or a self-righteous marketing trick - for a long-term problem. Permanent social securities such as reduced inequality and developing sustainable communities is not yet a goal of the fashion industry. Additionally, the fashion industry is one of the biggest polluters especially in terms of water pollution. However, SDG 14 (water life) is no priority yet. This shows that eco-labels are still keeping their standards low, ignoring the level set by top performers who do prioritize these goals.

The top of figure 6 provides an overview of the 10 production phases of the fashion supply chain in which the eco-labels can be active. Each eco-label covers a minimum of one and a maximum of six production phases. Noticeably, all labels are active in at least one of the five beginning stages of the supply chain, in which textile and garment production takes place. The early production phases of the fashion supply chain often take place in developing countries in South-East Asia and even Africa, because production is cheaper. Logically, when production is scattered all over the world, it is harder for brands to keep track of the sustainable (environmental, social and economic) activities. Since eco-labels are a tool to increase this transparency, it is quite understandable that they are mostly active in these beginning stages of the supply chain. However, 22 out of 24 ecolabels claim to work towards SDG 12 sustainable consumption & production, although very few eco-labels are actively tracking the consumption side of things. Some labels only guarantee high performance of a garment during consumption, though none of the labels are concerned with its disposal which is a big cause for pollution.

So far, it has become clear that neither of the SDGs is covered by all labels, nor is there one label that covers all SDGs. This also goes for the fashion supply chain, in which neither of the production phases are covered by all eco-labels, nor does one eco-label cover all production phases. This is best explained by not only the variety in eco-labels, also the variety in their activities as well as the various production phases in which they perform their activities. Figure 7 provides an overview of the ecolabels in a scatter plot, enabling us to easily observe the scope of their activities. The scope of the activities is based on the ratio between the number of SDGs an ecolabel endorses and the amount of production phases of the fashion supply chain in which they do so. Based on this overview, a typology of the variety of ecolabels can be made.

4.2.1 GROUP I: Low in FSC, low in SDGs

This first group is situated in the bottom left corner of figure 7. These labels are active in only a few production phases of the fashion supply chain and are working towards a relative low number of SDGs. The scope of their overall activities is thus quite low. The eco-labels that are furthest into this corner are the Woolmark and Responsible Down Standard. Both of these standards are concerned with products derived from animals and their activities are therefore quite specific. This also explains the narrow scope of their activities. Furthermore, all the Textile Exchange ecolabels can be found in this area. The Textile Exchange gives out multiple labels that individually operate in only one phase of the supply chain. Therefore, the overall scope of activities of the Textile Exchange labels also seems to remain relatively narrow. Were they to perform as one ecolabel, they would increase their overview of the supply chain.

4.2.2 GROUP II: Low in FSC, high in SDGs

This second group is located in the bottom right corner of figure 7. These labels are characterized by the fact that, in this case, they are all active in only one production phase of the fashion supply chain. However, within this stage they are quite ambitious, meaning they try to endorse a relatively high number of SDGs. Incidentally, this groups contains of eco-labels that are all centered around cotton production. Those are Fairtrade Cotton, The Better Cotton Initiative and Cotton made in Africa. These labels have in common that they

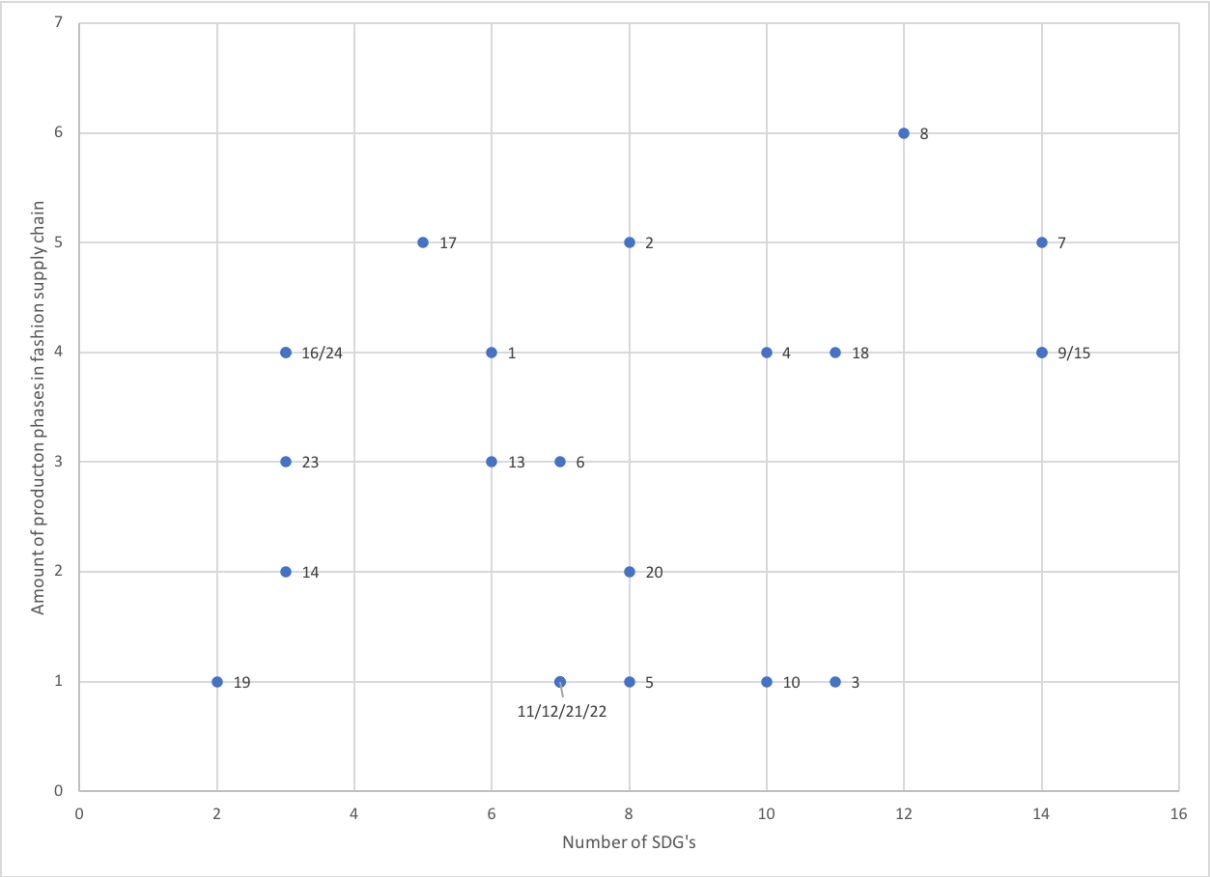
are all active in the farming stage of cotton. Within this this farming stage, they try to touch upon different issues such as better working conditions for farmers, preserving the local environment as well as concerns about the quality of the cotton itself. This explains the relative high amount of SDGs for this group.

4.2.3 GROUP III: High in FSC, low in SDGs

The third group is in the top left corner of figure 6. The ecolabels situated in this corner oversee a relative high amount of production phases of the supply chain, although they are only concerned about a relatively low number of SDGs. In this group are the Fairtrade Textile Production Standard, the Blue Angel (Blaue Engel) and the OEKO-TEX labels. These labels have in common that they have been around for quite some time and have built a name and reputation for themselves. Rather established organizations often have a clear goal and mission, which might explain the low number of SDGs. However, they do work on these goals throughout multiple supply chain phases.

4.2.4 GROUP IV: High in FSC, high in SDGs

The fourth and final group is positioned in the top right corner of figure 6. These labels perform a relative broad scope of activities, as they are active in a high amount of production phases through which they aim to reach a high number of SDGs. Besides the established GOTS and IVN ecolabels, this groups also houses two governmental labels. Much like the third group, these labels are already quite established and therefore better understand the importance of transparency throughout the entire supply chain. When it comes to governmental ecolabels though, they also have a responsibility to higher authorities (such as the EU and the United Nations) to endorse as many of the SDGs as they can and therefore broaden their goals.



1	Biokreis	9	Global Organic Textile Standard	17	Blauer Engel
2	Fairtrade Textile Production Standard	10	Better Cotton Initiative	18	Nordic Swan
3	Cotton made in Africa	11	Organic 100 Content Standard	19	Responsible Down Standard
4	EU Ecolabel	12	RCS 100	20	Fairtrade Certified Sewing
5	Fairtrade Cotton	13	Fai Wear Foundation	21	Organic Blended Content Standard
6	Global Recycle Standard	14	Woolmark	22	RCS Blended
7	Naturtextil	15	IVN Naturleder	23	BlueSign
8	Fair for Life	16	OEKO-TEX Made in Green	24	OEKO-TEX Standard 100

Figure 7: Overview of eco-labels based on a production phase / SDG ratio

4.3 Relative strengths and weaknesses

Understanding the variety in ecolabels brings this thesis to the second part of the research question: *What are their relative strengths and weaknesses?* In order to answer this question, 40 news articles and blog posts were analyzed and coded. These articles expressed their critique on the eco-labels and their activities. The typology has made it possible to categorize these critiques and consequently carry out a comparative analysis of the relative strengths and weaknesses of the eco-labels.

4.3.1 GROUP I: Animal Welfare

Previously we have established that the first group of the typology is mainly characterized by its narrow scope of activities, both in terms of SDGs and production phases. Also, this group contains some labels that involve materials derived from animals, such as the Woolmark and the Responsible Down Standard. Consequently, all news articles and blog posts that express their criticism towards these labels are concerned about the welfare of the animals involved in the extraction of their coat, whether those are down feathers or wool. The act of retrieving down feathers from geese or even the process of recycling down might be done with sustainability ambitions in mind, however the geese still suffer in the process as labels do not forbid debeaking or wing clipping (Toliver, 2020). In a similar way, the use of wool in clothing production might be a sustainable choice because of its qualities: it is biodegradable by nature, breathable, insulating, water and dirt-repellent, fire-resistant, elastic, ventilating, UV-resistant and moisture-regulating. However, in order for sheep to produce as much wool as they can, they become subject to 'mulesing', which is a very painful and thus harmful process for sheep (van Veen, 2020). A news article published by the Dutch newspaper 'Trouw' clearly stated the problem with these eco-labels and the Responsible Down Standard in particular (van Wechem, 2017):

"Pim Martens, professor of sustainable development (with emphasis on human-animal relations) at Maastricht University, thinks that animal-friendly down does not exist. "On the one hand, being more careful with animal welfare through 'labeling' is always a

good thing, on the other hand it seems to legitimize the breeding, slaughter and picking of animals for a product."

Although the logo of eco-labels is applied to the final garment, it clearly does not mean that all phases of production have been carefully certified. This way, labeling indeed becomes a legitimization for animal abuse or other harmful parallel production activities. Animal rights activists have been protesting to expose these problems. In doing so, they try to convince brands and retailers to stop using these production methods and to urge consumers to stop buying these 'certified' products (Toliver, 2020). In turn, they try to minimize negative externalities by emphasizing the animal abuse and reduce information asymmetry by offering consumers the bigger picture than what is stated on the label. Ultimately, the responsibility lies with brands and retailers, because they opt for a standard that does not look at the entire supply chain of the final garment. The reason that they have not yet done so is clearly because the costs of improving their production methods will not weigh out the benefits, while the animals involved still pay the price with their welfare. This problem clearly depicts the need to improve certain quality standards when the already existing eco-labels do not suffice economic problems such as information asymmetry and negative externalities (Matus, 2009).

According to the Changing Markets foundation most of the current certification schemes are weak due to their lack of transparency, although this is a key aspect for responsible business. Transparency will enable consumers to make more informed decisions when shopping for sustainable fashion products. Naturally, consumers of 'green' fashion will opt for the most sustainable option. This should motivate brands and retailers to keep improving their sustainability standards. In order for this utopian scenario to become reality, the Changing Markets Foundation argues that a significant overhaul of the system is needed in which companies become more transparent about their supply chains (Changing Markets Foundation, 2018). A number of articles expressed their concern with the issue of transparency. Reina Ovinge, owner of the Knitwear Stable, suggests a solution in an interview with 'de Volkskrant' (van Veen, 2020):

"The fact remains that wool production is largely an untransparent, remote bio-industry and that it can be much more animal-friendly by producing locally and on a small

scale." […]" Buying wool, she says, is like eating meat: it should be done with moderation. Wool has to become a luxury product again."

So far, the globalized framework in which the complex fashion supply chain takes place has enabled eco-labels and the brands they certify with an excuse for their lack of transparency. Local production allows for national policy making that is able to oversee the local production processes and is a chance to increase transparency. However, local production is a more costly process, because local farmers keep fewer animals and demand better working conditions and higher pay. These costs will inevitably be reflected in the price of a final garment (Changing Markets Foundation, 2018). As a result, these products become luxury products. However, due to high quality of the materials, these products should be able to last a lifetime. Not only does this benefit the consumers, it will also benefit animals (van Veen, 2020).

4.3.2 GROUP II: Greenwashing

The second group of eco-labels is active in only a small amount or even one phase of the fashion supply chain. However, within this phase they try to endorse a relatively large number of SDGs. The labels in this group are quite well-known and are used frequently amongst big fashion brands. Additionally, the eco-labels in this group are all involved in the often-controversial cotton production. These factors have led to an enormous amount of criticism and thus was the scope of news articles and blog posts the biggest for this group.

The accusations of greenwashing are most common for this group. However, not in the way of legitimizing harmful practices by means of unsustainable parallel production. Rather, the eco-labels are accused of greenwashing due to the extremely low standards they manage. In the literature was already discussed how The Better Cotton Initiative (BCI) tries to increase their member base without enabling consumers to tell whether the brands and retailers that carry the BCI label are improving their environmental performance. Farmers that want to receive a license to grow 'Better Cotton' must conform to a set of minimum requirements, which the BCI regularly checks upon. Besides the minimum requirements, farmers are only just encouraged to improve their activities. BCI cotton is therefore only 'better' if non-certified farmers do not meet any laws and regulations at all. As a result, BCI

cotton does not commit to organic cotton nor does it set minimum prices for cotton farmers (Better Cotton Initiative, 2020). Yvon Chouinard, boss of Patagonia, criticizes the approach of eco-labels like the BCI in an interview with ISPO (ISPO, 2017):

"As soon as companies exceed a certain size, they often get the profit first syndrome. I know so many companies that have claimed, 'We are making our business green.' Actually, it is almost always greenwashing. They pick the low-hanging fruits and do whatever makes them the most profit, for example recycling cardboard boxes. However, if they have to make a decision that is the correct one and costs them profit, then they will shy away from that."

The low standards of the eco-labels in group II have caused a profit-oriented interaction between the brands who use the easiest achievable eco-labels as a marketing tool to increase their competitive advantages and , in turn, the eco-labels are able to increase their member base and also increase their market share.

Although this group of labels seems to be more profit oriented, rather than sustainably oriented, they are characterized by the large number of SDGs they claim to support. Besides verifying the quality of the farmed cotton, they also claim to be concerned about the social and economic well-being of the farmers. However, from the articles it becomes clear that the low standard is carried on throughout all the sustainability goals. Not only have the low standards caused the market share of organic cotton to be overtaken by the BCI's lower standard and has the production of non-genetically modified cotton declined (Changing Markets Foundation, 2018), most recent news articles have also criticized the role of these eco-labels in regard to the social and economic positions of employees. Currently, the worldwide cotton production faces two major crises: 1) the Covid-19 pandemic, causing brands and retailers to cancel orders worth millions of dollars, leaving manufacturers economically in the dark (Binns, 2020) and 2) the Uighur concentration camps located in Xinjiang, China, where the Uighur community and other minority groups are being press-ganged into working in the region's cotton fields (Balch, 2020). Major fashion brands associated with the cotton eco-labels have been accused of being involved in these events (Vandoorne, 2020). Three news articles criticize the certification activities of eco-labels and the BCI in particular, as they claim to set standards for employees of cotton production which can apparently be exceeded in unusual times. An additional number of three articles

criticize the lack of protection that African cotton farmers receive in general, which should be looked after by the Cotton made in Africa eco-label.

In their defense, the BCI responded to the criticism in two articles saying that withdrawing their activities from problematic cotton farms would “cause more harm than good” as farmers are dependent on cotton production. Indeed, certification schemes are able to protect farmers from losing their minimum pay by keeping an eye out. However, certification schemes also need farmers to continue production in order to serve the brands and retailers who pay fees to use eco-labels. Therefore, when certification schemes claim that withdrawing their activities would “do more harm than good”, it does not only apply to the farmers. Certification schemes that allow brands to carry out their eco-label without the standards being met benefits them too. Nevertheless, in March of this year the BCI label decided to suspend its certification activities in the critical regions after they came to the conclusion that credible assurance of labor practices was not possible (Balch, 2020).

Additionally, the articles and existing literature has shown so far that the low standard of eco-labels have led to ‘label-shopping’ by companies who look for the easiest label to achieve – in other words: the low-hanging fruits. Multiple articles exemplify how label-shopping results in greenwashing and negatively affect the market for sustainable consumption, including a blog post from Sprout (Sprout, 2020):

“In addition to the fact that greenwashing can discourage consumers who want to shop sustainably, it can lead to distortions of competition, according to ACM. Companies that actually invest in the sustainability benefits for their products or services are disadvantaged.”

The examined news articles and blog posts have once again illustrated the paradox that exists within the certification landscape; certification schemes take on an industry approach in which they want to be inclusive rather than being selective, preventing the implementation of higher standards that oversee the fashion supply chain and actually generates transparency. The eco-labels in this category have become an end in itself, rather than being the means to reach the goals of greater environmental and social sustainability (Changing Markets Foundation, 2018).

Sarah Vandoorne, writer for ‘One World’ (fashion blog) and Christoph Schmidt, journalist for ‘Trouw’(news paper) agree that consumers must also be more critical about

eco-labels in order to raise the standards. In 'Trouw' Janet Mensink, international program coordinator for sustainable clothing from Solidaridad explains in what ways consumers can be critical (Schmidt, 2012):

"The solution: When it comes to textile products, we have to get rid of the eco-label thinking' that is still dominant for food products, says Mensink. "Clothing cannot be summarized in an eco-label. Water and energy consumption are so diverse that it depends on too many things. The current textile labels do not impose any requirements on energy and water at all. The eco-label thinking is changing. Customers will approach companies directly more often with questions about fair trade and sustainability. They are also active on social media when something is wrong. An eco-label is often a simple checklist, yes or no. In some countries you can even buy such a stamp. There is a chance that the topic of sustainability will disappear from the agenda once there is such a stamp. It then loses urgency."

In summary, the eco-labels situated in group two are heavily accused of greenwashing, because of their extremely low standards. This leads to label-shopping amongst brands who aim for the low-hanging fruits; the easiest label to achieve. Consumers will think they are buying sustainably and will thus make a consumption choice based on this eco-label. The eco-labels therefore negatively influence the market for sustainable goods and practices as they hold a competitive advantage over non-labeled products, including products that might be more sustainable. The articles suggest that the consumers must therefore be more critical of eco-labels and directly confront the organizations. Social media can be a way to do so.

4.3.3 GROUP III: Reputation

The eco-labels that make up the third group oversee a relatively large amount of production phases of the supply chain, although they are only concerned about a relatively low number of SDGs. In this group are the Fairtrade Textile Production Standard, the Blue Angel (Blaue Engel) and the OEKO-TEX labels. These labels have in common that they have been around for quite some time and have built a name and reputation for themselves.

It is exactly this reputation that caused these eco-labels to be perceived as relatively reliable. George Arnett praises Fairtrade for their reputation on Vogue Business (Arnett, 2019):

"Building a reliable reputation, then, is difficult but crucial if the label is to carry any weight. The Fairtrade Foundation, founded 27 years ago, is one of the successful examples. Built from the principle that workers deserve to earn a fair wage for the goods they produce, the Fairtrade Foundation is most closely associated with the food industry, but it does offer certification to textiles companies. The gold sourced by Kering, for example, is recognized as Fairtrade."

Throughout the analysis, little to no criticism could be detected towards these labels. Not only the Fairtrade Textile Production Standard, also the Blue Angel label and the OEKO-TEX eco-labels were mostly praised for their good reputation. For instance, the Blue Angel is often mentioned and used as a reference standard for various product groups (ISDD, 2018). Especially in Germany, where the Blue Angel (Blaue Engel) was established, its reputation speaks volumes. So much even, that products from exporters who have earned this eco-label are favored, motivating producers to work harder (Lal, 2013). Lately, the OEKO-TEX labels have also proved to live up to their standards as they are being praised for making every effort to continue with certification and avoid supply chain interruptions during the COVID-19 pandemic. It is clear that their reputation has provided the eco-labels with the ability to choose sustainability matters over profit.

Contrary to the labels that have been discussed earlier, these eco-labels have had quite some time to build their reputation. This also means that they have had the opportunity to make mistakes and learn from them, constantly allowing them to improve their standard and building their reputation. Caspar van Vark portrays this process in 'The Guardian' (van Vark, 2016):

"About 20 years ago, third-party certification of cocoa was a step forward for an industry that had previously not been able to trace its beans much further back than the export dockyard. Today, the industry is more aware that certification alone isn't addressing

problems of low productivity, poor infrastructure and child labour, which continue to destabilize the supply chain."

Although these eco-labels have built a good name for themselves, it does not mean they do not face challenges. Even more so, it might be their honestly achieved reputation that causes trademark violation of their logos. Two news articles have recently reported on different brands of facemasks either displaying different logos from certification schemes on their websites well as falsifying the OEKO-TEX eco-label applied to the masks. OEKO-TEX has therefore had to take legal action against the infringement of their trademarks as they highly value the correct communication of their labels toward their customers. From those news articles it becomes clear that, even logos that have acquired a reputation are inevitably subject to greenwashing practices and accusations. An article published in the Sunday Post mentioned this as well (Swindon, 2020):

"Jay Kerr of campaign group No Sweat accused Promotional Warehouse of "corporate greenwashing" for using the logos of ethical trade associations on its website without permission. "There needs to be more transparency in the garment industry as to the conditions that face masks and clothes are made. Without it, consumers cannot have confidence that their money isn't going to support sweatshop conditions or even forced labour," he said."

The positively established reputation of eco-labels in group III is perceived as reliable amongst consumer, which is sometimes taken advantage of by companies who violate the use of their logo. One the one hand, trademark violation causes a negative connotation with the certification scheme as it relates to greenwashing. On the other hand, it is also an opportunity for certification schemes to prove whether they practice their values, like OKEO-TEX did. In the end, the eco-labels that are subject to trademark violation are always the one paying the price with their time and financial resources to set the record straight.

Once again, it comes down to the lack of transparency in the fashion industry. The eco-labels in the third group all have in common that they are active in a relatively broad scope of supply chain phases. The theory of this thesis aroused the expectation that eco-labels who have a broader overview of the fashion supply chain by certifying multiple

production phases, would be able to reduce transparency and thus have an overall better performance. The eco-labels in this group have actually been able to constantly higher their standards, improve their certification activities and build a reputation. According to the lack of criticism compared to other – and newer – eco-labels, these labels have proven to achieve a better performance. However, these labels face a new challenge: trademark violation. In order to fight these challenges, more transparency throughout the entire fashion industry is needed.

4.3.4 GROUP IV: Financial issues

The fourth and final group behaves a lot like group 3. As was mentioned in section 4.2 of the results, these labels perform a relative broad scope of activities. Besides the established GOTS and IVN ecolabels, this groups also characterized by two governmental labels. Similar to the third group of eco-labels, the examined news stories and blog posts expressed little to no criticism towards the GOTS and IVN eco-labels. Most of the articles that mentioned GOTS only praised their sustainability performance, both in terms of environmental and social activities. In some cases, the GOTS label was even valued higher than other fashion eco-labels and was thus highly recommended to choose when consumers are 'shopping' for eco-labels.

Much like the third group, these labels are already quite established and therefore better understand the importance of transparency throughout the entire supply chain. When it comes to governmental eco-labels though, they also have a responsibility to higher authorities (such as the EU and the United Nations) to endorse as many of the SDGs as they can and therefore broaden their goals. Additionally, governmental labels are established by government organization who are funded by the general public through tax for example. Therefore, they also carry a great responsibility towards the population they serve.

However, in the articles related to this group one subject of criticism reoccurred multiple times and had not been discussed for any of the other eco-label groups: money! Especially the governmental labels have been accused of being quite expensive to acquire:

"The label is not free for companies, which is perhaps why it is not very popular. In addition to the application fee of between 200 and 2,000 euros, companies also pay an

annual contribution that is calculated on the basis of the sales figures in the EU of the product with the eco-label " (Schildermans, 2019)

Especially for small brands and retailers, it can be relatively expensive to apply for certification when the fee they have to pay is too high. This way, the governmental eco-labels become selective. However, for all the wrong reasons. A governmental label should be a top performer and set the industry example, considering the responsibility they carry. If those labels become too exclusive due to their high certification fees, brands and retailer will again fall for lower standards that are easier accessible. This brings us to the next issue in regard to finances. Another article, written by Christine Ro for the BBC explains why other eco-labels – referring to GOTS – have not been able to increase their standards (Ro, 2020):

"Although these programmes aren't perfect – many suffer from a lack of funding and the complex supply chains for cotton can make it hard to account where it all comes from"

From the analysis of the news stories and blog posts, it seems as if on the one hand the governmental labels carry out a very decent standard, that oversees the supply chain and is concerned with a broad range of sustainability practices. However, in order to receive certification, a high fee must be paid by brands and retailers. On the other hand, there are eco-labels such as GOTS that want to carry out a higher standard, though they cannot due to the lack of financial resources they receive.

This perspective does offer a dissent towards the existing literature, that claims certification is inclusive because standards are intentionally kept low. However, some eco-label – like GOTS – might want to improve the industry standard but lack the financial resources. The lack of international policy regulations contributes to this problem (Changing Markets Foundation, 2018). Therefore, the governmental label should utilize their position as top performer by either making their certification accessible for more labels and stimulate a higher certification standard or invest the money they receive in eco-labels that need to rise their standards (Changing Markets Foundation, 2018).

5. CONCLUSION

The textile sector has experienced a rise of voluntary schemes and eco-labels over the past decade, with now over a hundred different eco-labels related to textile and garment industry listed in the Ecolabel index. The sourcing of raw materials and the manufacturing and processing of textiles largely takes place in countries with very low wages and weak environmental regulations. Up to this day, these conditions have led to problems in regard to environmental pollution as well as to the exploitation of workers. Even the existence of an enormous variety of eco-labels have not been able to offer a waterproof solution. From the overview of existing literature, the core problem of the certification economy pointed towards the globalized context in which fashion production and consumption takes place enables the voluntary nature of certification schemes to continue to exist, which leads to a lack of transparency, traceability and reliability. In an attempt to tackle this problem, this thesis aimed to answer the research question: **Why does a variety of eco-label in the fashion industry exist and what are their relative strengths and weaknesses?**

This thesis has shown why a variety of eco-labels exist, by distinguishing them based on the scope of their activities. Namely, the different eco-labels use certification as a means towards achieving different sustainability goals (SDGs), which could be environmentally, socially or even economically related (Matus, 2009). Different eco-labels work towards different SDGs, although some eco-labels may overlap. Also, the certification activities of the various eco-labels take place in different production phases of the fashion supply chain. Measuring the ratio between the number SDGs and the amount of production phases an eco-label is concerned with, resulted in a typology of eco-labels based on the scope of their activities. The typology was followed by a comparison of the relative strengths and weaknesses between the types of eco-labels, derived from the analysis of critical news articles and blog posts. The following groups were established:

Group I: This group of eco-labels is characterized by its narrow scope of activities, both in terms of SDGs and production phases. The eco-labels in this group are mainly involved with the certification of materials derived from animals. Although the use of these materials is often considered to be a relatively sustainable material because of its quality features, the welfare of the animals involved is often taken for granted. Therefore, the label

indirectly becomes a legitimization for harmful parallel production. Transparency is needed clarify what other activities take place throughout the entire supply chain these eco-labels are involved in. A way to increase transparency of the supply chain could be the local production, which allows for stricter monitoring of **animal welfare**.

Group II: This group of eco-labels is very much focused on only a small fraction of the supply chain in which they try to accomplish a lot of goals. The eco-labels in this group are mostly focused on the production of cotton and its environmental impacts as well as the working conditions of the farmers. This group is heavily accused of **greenwashing** due to their extremely low standards. These low standards have resulted in a distortion of the market of sustainable goods. Consumers must therefore be more critical of eco-labels and directly confront the organizations. Social media can be a way to do so.

Group III: This group of eco-labels is characterized by its relatively broad involvement throughout the fashion supply chain, in which they endorse a very clear goal. The eco-labels in this group have been around for a while and have been able to constantly improve their standards and build a **reputation**. Due to their position, they face new challenges: trademark violation, meaning brand and retailers use the logos of these eco-labels, without actually being certified. This phenomenon once again shows the importance of transparency.

Group IV: This group of labels is characterized by its broad scope of activities, both in terms of SDGs and production phases. The eco-labels in this group very much act like group 3 eco-labels and also involve governmental eco-labels. Although there have been little to no accusations of greenwashing for this group, they are criticized for their certification activities in terms of **money issues**; on the one hand the governmental labels carry out a very decent standard. However, in order to receive certification, a high fee must be paid by brands and retailers. On the other hand, there are eco-labels such as GOTS that want to carry out a higher standard, though they cannot due to the lack of financial resources they receive. Because of the lack of international regulation, the governmental eco-labels should take responsibility for their role as top performers in the industry.

This research has developed a typology of eco-labels based on the scope of their activities and has carried out a comparison of their relative strengths and weaknesses. The results contribute to the already existing literature on the performance of eco-labels in the fashion industry. The typology of eco-labels and their relative characteristics help to understand which eco-labels are the top performers of the fashion industry and what

challenges they face. Furthermore, the research has also shown which eco-labels receive a lot of backlash and suggest options for improvement. In conclusion, this thesis has contributed to the theory reporting on the overall performance of eco-labels in the fashion industry and thereby contribute to the sustainable developments of the world in general.

Although this study has provided new theory, there are some limitations to this research. The results of this thesis are not generalizable for all eco-labels in the global fashion industry. First of all, the convenience sampling procedure has provided a list of eco-labels that occur on garments in the Netherlands. For other countries, the sample of eco-labels might look different. Secondly, the news articles and blog posts that were analyzed for the second part of the research were limited to the Dutch and English language, both languages of the western world. The criticism expressed in the articles therefore entail western values and is thus not relatable for other cultures.

However, the limitations of the research are also opportunities for future research, in which the research method of this thesis could be repeated in other parts of the world with a distinct culture. Besides the fashion industry, there are more industries that work with eco-labels, such as the food industry and forestry. This also provides opportunities to repeat this research in other industries.

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APPENDICES

Appendix 1 – List of eco-labels and their logos

Logo	Eco-label
	Biokreis
	Fairtrade Textile Production Standard
	Cotton made in Africa
	EU Ecolabel
	Fairtrade Cotton

	Global Recycled Standard
	Naturtextil IVN Zertifiziert Best
	Fair for Life
	Global Organic Textile Standard (GOTS)
	Better Cotton Initiative
	Organic 100 Content Stanard

	Recycled Claim Standard (RCS 100)
	Fair Wear Foundation
	Woolmark
	IVN Naturleder
	OEKO-TEX Made in Green
	The Blue Angel (Blaue Engel)

	Nordic Swan Ecolabel
	Responsible Down Standard
	Fairtrade Certified Sewing
	Organic Blended Content Standard
	Recycled Claim Standard (RCS Blended)
	BlueSign

	OEKO-TEX Standard 100

Appendix 2 – Overview of the Sustainable Development Goals

SDG 1 No poverty: End poverty in all its forms everywhere

SDG 2 Zero hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

SDG 3 Good health and well-being: Ensure healthy lives and promote well-being for all at all ages

SDG 4 Quality education: Ensure inclusive and equitable quality educations and promote lifelong learning opportunities for all

SDG 5 Gender equality: Achieve gender equality and empower all women and girls

SDG 6 Clean water and sanitation: Ensure availability and sustainable water management of water and sanitation for all

SDG 7 Affordable and clean energy: Ensure access to affordable, reliable, sustainable and modern energy for all

SDG 8 Decent work and economic health: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

SDG 9 Industry, Innovation and infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

SDG 10 Reduces inequalities: Reduce inequality within and amongst countries

SDG 11 Sustainable cities and communities: Make cities and human settlements inclusive, safe, resilient and sustainable

SDG 12 Responsible consumption and production: Ensure sustainable consumption and production patterns

SDG 13 Climate action: take urgent action to combat climate change and its impacts

SDG 14 Life below water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

SDG 15 Life on land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

SDG 16 Peace, justice and strong institutions: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build affective, accountable and inclusive institutions at all levels.

SDG 17 Partnerships for the goals: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Appendix 3 – Production phases of the fashion supply chain

1. Design stage
2. Farming: raw material extraction
3. Textile production: spinning, weaving, knitting
4. Textile processing: bleaching, dying, printing
5. Apparel making cutting, making, trimming
6. Packaging
7. Distribution
8. Retailing
9. Consumption
10. Disposal: recycling

Appendix 4 – Bibliography of news articles and blog posts

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Appendix 5 – Coding procedure and coding scheme

Blog Article: "Peta Will Protest the Toronto Film Fest Until Canada Goose is Dropped" (Toliver, 2020)

Units of Analysis	Group	Criticism	Code
Responsible Down Standard	1	"Canada Goose is a 2020 TIFF sponsor and is presenting awards with its name stamped on them. As a marketing ploy, the company sometimes gives away fur-trimmed or down-filled jackets to film crews and cast members when they're shooting in cold climates."	Marketing Advertisement Cultural Industry
Responsible Down Standard	1	"Canada Goose says that it relies on a third-party Responsible Down Standard, but there's absolutely no such thing as "responsible" down. These standards actually allow injured birds to suffer in pain for days before they're required to be put out of their misery."	Third-party certification Animal abuse Broad terminology
Responsible Down Standard	1	"Down suppliers who knowingly violate the standard—by slaughtering birds while they're conscious or mutilating them via painful procedures such as debeaking or wing-clipping—can still label the down as "responsible," as long as they stop doing it within 30 days of being caught in the act."	Violation of standards Animal organization

News Article: "Wat slaapt duurzamer? Een dekbed met gerecycled dons of met gerecyclede petflessen?" (van Wechem, 2020)

Units of Analysis	Group	Criticism	Code
Responsible Down Standard Recycled Down	1	"Yemeko's dekbedden van gerecycled dons zijn even duur als andere donzen dekbedden. Gerecycled dons komt uit Nederland, en is gecertificeerd met de Responsible Down Standard, of uit Duitsland, waar het komt van biologisch gehouden ganzen en het Downspass-keurmerk heeft. Onbruikbare veertjes en pluisjes worden verwerkt tot verenmeel, een organische meststof. De tijk, het omhulsel van het dekbed, krijgt een	Price Local/regional supplier Parallel production

		nieuw leven als poetslap of isolatiemateriaal."	
Recycled Down	1	"Dons heeft een veel lagere milieu-impact dan pet of polyester, zegt Van den Dool." […] "Experts kunnen Yumeko's claim niet zonder meer bevestigen. Ze zijn het erover eens dat hergebruikte pet minder energie kost dan nieuwe pet. Van dons hebben ze die gegevens niet, wat een eerlijke vergelijking lastig maakt."	Self-claims
Recycled Down	1	"Maarten Bakker, onderzoeker resources en recycling aan de TU Delft, wijst erop dat de hoeveelheid gerecycled materiaal in een product vaak niet duidelijk is. "Bij plastic recycling wordt nieuw materiaal toegevoegd om de kwaliteit te verbeteren. Hoeveel, dat is het geheim van de smid. Gerecycled plastic is doorgaans goedkoper, tenzij de vraag zo stijgt dat het even duur wordt als vers plastic. Het zou producenten sieren als ze een streefwaarde of zelfs een minimumpercentage gerecycled materiaal kunnen opgeven voor hun product." […] "Een dekbed van gerecycled pet hoeft dus niet volledig van gerecycled materiaal te zijn."	Lack of transparency No clear standard Broad terminology
Recycled Down	1	"Erwin Vermeulen van actiegroep Animal Rights, sluit zich daarbij aan, al vindt hij het redden van dons van de afvalberg door recycling niet verkeerd. "Het is wel belangrijk dat producten met gerecycled dons niet vermengd raken met vers dons. Bovendien bestaat het gevaar dat het materiaal zo acceptabel wordt gemaakt voor het publiek."	Animal organizations Legitimation for unsustainable practices

News Article: "Zorgeloos slapen onder een 'diervriendelijk' donzen dekbed" (van Wechem, 2017)

Units of Analysis	**Group**	**Criticism**	**Code**

Responsible Down Standard	1	“Het RDS-keurmerk voor diervriendelijk dons dat Yumeko voert, is in 2014 mede-opgericht door outdoormerk The North Face. Inmiddels is het hard op weg de standaard in de donsindustrie te worden. Stephan Zeijlemaker van Yumeko werd door dierenorganisatie Four Paws (in Nederland actief als Vier Voeters) benaderd om mee te doen. Zeijlemaker schakelde zijn leverancier Ducky Dons in, die dons van boerderijen in de buurt van Ermelo verwerkt. Ducky Dons werd zo de eerste – en bij Zeijlemakers weten de enige – levenancier van RDS-dons in Nederland.”	Broad terminology Standard in process Animal Organization Local suppliers
Responsible Down Standard	1	“Maar het RDS-keurmerk is misschien niet het strengste keurmerk voor dons, signaleerde de Britse krant The Guardian in 2014. Dat zou de de Global Traceable Down Standard (GTDS) zijn, opgericht door outdoormerk Patagonia.”	Competition Label Shopping
Responsible Down Standard	1	“Dat omvat ook de boerderijen waar de ganzen worden geboren en de eerste vier jaar van hun leven slijten. De kans op levend plukken is in die periode het grootst. Bij RDS is de optie om het beginpunt in de keten mee te nemen in het certificeringsproces vrijwillig. Ducky Dons en Yumeko hebben dat wel gedaan.”	Voluntary Supply Chain Animal abuse
Responsible Down Standard	1	“Een ander verschilpunt is dat de deelnemende partijen bij GTDS geen dieren of vlees mogen verwerken van bedrijven die nog wel aan levende pluk of dwangvoeding doen. Deze zogenaamde parallelle productie van gecertificeerd en niet-gecertificeerd dons is bij RDS alleen verboden voor boerderijen, niet voor slachterijen en tussenleveranciers.”	Parallel production Supply Chain
Responsible Down Standard	1	“Franziska Hettmannsperger van Four Paws denkt dat gecertificeerd en niet-gecertificeerd dons onder RDS onmogelijk gemengd kunnen raken,	Strict administration Competitive advantages

		omdat deelnemende partijen hun papierwinkel heel goed op orde moeten hebben. Ook heeft RDS eisen voor dierenwelzijn die GDTS niet heeft, zoals een verbod op het trimmen van snavels en het houden van dieren in kooien. RDS omvat bovendien eendendons, terwijl GTDS voornamelijk om ganzendons gaat."	
Responsible Down Standard	1	"Dat gaat de Partij voor de Dieren niet ver genoeg. Zij wil een Europees importverbod voor dons dat afkomstig is van levend geplukte dieren en verplichte etikettering, waaruit blijkt waar dons vandaan komt en onder welke omstandigheden het is geproduceerd. Want hoewel het argument voor dons is dat het een bijproduct is van de vleesindustrie, vindt de PvdD dat de slacht en het plukken voor dons tot dezelfde keten behoren waarin sprake is van dierenleed."	International regulation Mandatory certification Parallel production Animal abuse
Responsible Down Standard	1	"Pim Martens, hoogleraar duurzame ontwikkeling (met nadruk op mens-dier relaties) aan de Universiteit Maastricht, denkt dat diervriendelijk dons niet bestaat. "Aan de ene kant is zorgvuldiger omgaan met dierenwelzijn door 'etikettering' altijd een goede zaak, aan de andere kant lijkt het een legitimatie van het fokken, slachten en plukken van dieren voor een product."	Broad terminology Legitimation for unsustainable practices

News Article: "Beddenfabrikant Auping te rooskleurig over 'diervriendelijk' dons" (Algemeen Dagblad, 2018)

Units of Analysis	**Group**	**Criticism**	**Code**
Responsible Down Standard	1	"Animal Rights had in december vorig jaar over de kwestie een klacht ingediend. Auping houdt zich aan de criteria voor het keurmerk Responsible Down Standard (RDS). Maar Animal Rights zegt dat de lat erg laag ligt. Zo zouden eenden gefokt worden op snelle groei en gewicht, wat zou leiden tot ernstige gezondheidsproblemen."	Animal abuse Low standard

Responsible Down Standard	1	“Volgens de Reclame Code Commissie heeft Auping ten onrechte gesteld met het keurmerk bij te dragen aan het welzijn van eenden en ganzen. Dat Auping het keurmerk hanteert, rechtvaardigt volgens de commissie niet de claim van Auping dat eenden 'gezond leven, geen pijn lijden en geen angst of stress ervaren'.”	Legitimation for unsustainable practices Animal abuse

News Article: “Auping geschrokken van beelden eendenmishandeling, Hanos geeft geen commentaar” (Veltmaat, 2018)

Units of Analysis	**Group**	**Criticism**	**Code**
Responsible Down Standard	1	“Een woordvoerder van het bedrijf laat weten: ,,We hebben de beelden gisteren bekeken en zijn er enorm van geschrokken. We vinden dierenwelzijn zeer belangrijk. We hebben getracht dit te waarborgen door alleen RDS-gecertificeerd dons te gebruiken in onze producten." RDS (Responsible Down Standard) is de strengst mogelijke certificering volgens de woordvoerder. Auping gebruikt Nederlands en Europees eendendons voor de fabricage van dekbedden en kussens.”	Trust in certification Local and regional suppliers
Responsible Down Standard	1	“Nu er toch sprake blijkt te zijn van dierenleed, neemt de beddenfabrikant direct actie. ,,We gaan in gesprek met de leveranciers om de productieketen tegen het licht te houden. En we spreken RDS specifiek aan op het strenger hanteren van de regels rondom het vangen en laden op eendenboerderijen in Nederland", meldt Auping.”	Animal abuse Supply Chain

News Article: “Down smackdown: The North Face v Patagonia on ethical feather standards” (Gunther, 2014)

Units of Analysis	**Group**	**Criticism**	**Code**
Responsible Down Standard Down Certification	1	“This month, The North Face announced that it would begin selling down next year that complies with its Responsible Down Standard (RDS), which it describes as “the broadest and most comprehensive approach to	Competition Label Shopping Broad approach Supply chain

		animal welfare available in the down supply chain". Patagonia says that's simply not so, and that its own Traceable Down Standard provides "the highest assurance of animal welfare in the apparel industry"."	
Responsible Down Standard Down Certification	1	"Four Paws, an independent animal-welfare group that advocates for the ethical treatment of, agrees that Patagonia's standard is superior. While The North Face standard is "a step in the right direction", Patagonia has "a lower tolerance for a set of things that we think are important for animal welfare", says Nina Jamal, an international farm animal campaigner for Four Paws, which is based in Vienna."	Third party Standard in process Competition Tolerance
Down Certification	1	"Neither Patagonia nor The North Face buy directly from farmers or slaughterhouses. But after coming under attack from Four Paws, both companies set out to try to insure that the down that finds its way into their garments and sleeping bags did not result in animal cruelty. (See this 2011 blog post for a sterling example of self-criticism and transparency from Patagonia.) They dispatched sustainability executives – Wendy Savage of Patagonia, Adam Mott of The North Face – and suppliers to farms and slaughterhouses in eastern Europe and China to untangle their supply chains, which were complex and largely opaque."	Transparency Supply chain
Down Certification	1	"Patagonia's Savage told me: "Our goal is always to influence the industry and other brands." The outdoor apparel industry uses only a fraction of the world's down, most of which goes into the bedding and home furnishings."	Setting the example Industry approach
Down Certification	1	"North Face's Adam Mott and Anne Gillespie, who is director of industry integrity for Textile Exchange, say their	Standard in process Certification paradox

		standard will be strengthened as it is revised. Rules that are too tough from the outset might be spurned by industry, particularly those in the bedding business that have yet to be targeted by activists."	Industry approach
Down Certification	1	"We certainly wanted to protect as many animals as possible, and in our view, that would be best achieved by rapid and wide-scale adoption of the standard," Gillespie said. "We don't want perfection to be the enemy of the good."	Legitimation of unsustainable practices Industry approach Certification paradox

News Article: "Het veroorzaakt dierenleed, het prikt, het is slecht voor het milieu. Kunnen we nog wel wol dragen?" (van Veen, Het veroorzaakt dierenleed, het prikt, het is slecht voor het milieu. Kunnen we nog wel wol dragen?, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Wool production	1	"Kies lyocel (van houtpulp) of gerecycled katoen, adviseerde Milieu Centraal na onderzoek in 2015. Wol is, doordat schapen methaangas uitstoten en veel land nodig hebben om te grazen, samen met zijde de slechtste keus voor het milieu."	Environmentally harmful Environmental organizations
		"Aan de andere kant van het spectrum wemelt het van de woladepten die het bejubelen, omdat wol óók biologisch afbreekbaar, ademend, isolerend, water- en vuilafstotend, brandwerend, elastisch, ventilerend, UV-werend en vochtregulerend is, en, laten we wel wezen, in een goede kwaliteit bovendien prachtig en verrukkelijk zacht en warm."	Competitive advantages
Woolmark	1	"Vooral de circa 65 miljoen merinoschapen in Australië, waar veruit het grootste deel van de wereldwolhandel vandaan komt, lopen daar kans op. De diepe plooien in hun vacht, zo gefokt omdat het veel wol oplevert, zijn een mooie plek om eitjes te leggen voor vliegen die op poep afkomen – de larven die eruit kruipen veroorzaken de dodelijke ziekte. Om die te voorkomen, wordt	Animal abuse Marketing Broad standard

		de schapenkont kaal gemaakt; littekenweefsel is geen handige plek om eitjes op te leggen. Het wreedst is dat *mulesen* vaak zonder verdoving gebeurt, stelt Peta. The Woolmark Company, het marketingapparaat van de Australische wolboeren, laat desgevraagd weten dat 85 procent van de boeren de schapen verdooft."	
Wool production	1	Grootschaligheid, legt ze uit, brengt, net als in de vleesindustrie, dierenleed met zich mee. Er wordt jaarlijks zo'n 1100 miljoen kilo wol geproduceerd en in elke schakel van de keten kan het misgaan.	Animal abuse Broadness Supply Chain
Wool production	1	"Feit blijft dat de wolproductie grotendeels een ondoorzichtige, ver weg gelegen bio-industrie is en dat het veel diervriendelijker kan door lokaal en kleinschalig te produceren."	Transparency Animal welfare Local production
Wool production Global Organic Textile Standard	1 4	'Er zijn heel wat keurmerken', zegt Ovinge. 'Best verwarrend, moet ik toegeven, omdat ze de ene keer op dier- en de andere keer op milieuvriendelijkheid slaan.' Goede indicaties zijn de Responsible Wool Standard (RWS) en het Global Organic Textile Standard (Gots)-certificaat, die garanderen *non-mulesing* en andere pijnlijke praktijken. Maar ja, vínd ze maar eens in je nieuwe jas.	Variety of eco-labels Variety of goals Guaranteed standards Hard to find
Wool Production	1	"Nogmaals: op kleinere schaal produceren lost veel op. Maar Nederlandse wol wordt helemaal niet meer afgenomen door kledingproducenten. De boeren die nog wol produceren, krijgen er geen cent voor. Sterker nog, soms moeten ze betalen om het afgevoerd te krijgen. En dan gaat het naar China, als vulmiddel voor autostoelen - doodjammer."	Local production Responsibility of Clothing producers
Wool Production	1	Wol kopen, zegt ze, is net als vlees eten: het moet met mate. 'Wol moet weer een luxeproduct worden. Als je een wollen vestje van 49 euro bij een	Environmentally harmful Luxury

		warenhuis ziet hangen, is de kans groot dat ergens in de keten iemand - dier, mens of allebei - is uitgebuit. Een verantwoord geproduceerde, zuiver wollen trui moet wel 200 euro kosten. Maar voor dat geld kun je wel een geweldig mooi, superzacht kledingstuk verwachten dat een leven lang meegaat. De levensduur van wol is zo'n 80 jaar. En daarna vergaat het op natuurlijke wijze; in de grond wordt het weer een voedingsstof.'	Responsibility of Consumers Price

News Article: "As footage emerges of sheep being violently mistreated, is there hidden cruelty behind our winter wooly?" (Champ, 2014)

Units of Analysis	**Group**	**Criticism**	**Code**
Woolmark	1	"Almost all Merino wool — from an ancient breed of hardy sheep — on the High Street comes from Australia and New Zealand, including anything labelled with the Woolmark logo, and unless a brand states its opposition to mulesing, it is likely to have been subject to the practice."	Animal abuse Broad certification
Wool production	1	"The problem, though, is that there's no way of knowing what you are buying. Your wool could be from China — where intensive farming is on the up, and which is now the second largest producer in the world — or from Australia or even Iran, the ninth largest producer."	Transparency Global supply chain
Wool production	1	'Humane, slaughter-free wool is achievable at an industrial level,' she insists. 'Not at Primark prices — there is inevitably a premium. But increasing numbers are turning their backs on fast fashion in favour of buying less and more ethically.'	Industry approach

Blog Article: "How much better is the Better Cotton Initiative?" (Pavarini, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
Better Cotton Initiative	2	"Today, nearly three quarters of the world's cotton is grown with genetically modified (GM) seeds and many of the farmers using them have	Low standards

		no alternative. If BCI were to exclude GM seeds from the Better Cotton Standard, we would be excluding millions of farmers and communities around the world from receiving valuable training, support and the opportunity to improve their sustainable agricultural practices and livelihoods. Therefore, BCI has adopted a position of being "technology neutral" with respect to GM cotton–that means we will neither encourage farmers to grow it, nor seek to restrict their access to it."	Legitimation of unsustainable practices Industry approach Inclusivity

Blog Article: "Patagonia Boss Yvon Chouinard: "In our Industry Greenwashing is Widespread" (ISPO, 2017)

Units of Analysis	**Group**	**Criticism**	**Code**
Viscose production	2	"In our industry greenwashing is widespread," says Chouinard to "Spiegel". The competition in the outdoor sector is wooing customers by using sustainable raw materials such as bamboo, but is ignoring the fact that poisonous chemical processes are needed for this: "In the production process, the bamboo pulp is transformed into a viscose. To do this you need poisonous chemicals which are not environmentally friendly at all."	Competition Environmentally harmful Greenwashing
Better Cotton Initiative	2	"The Patagonia boss mentions the "Better Cotton Initiative" as a poor example which, according to Yvon Chouinard, "has joined large companies like Nike. Perhaps they go without formaldehyde when cultivating, but at the end of the day it is industrially grown cotton. All companies want to do is not process any organic cotton." The Patagonia boss phrases it drastically: "This Better Cotton Initiative is absolute bullshit: Pure greenwashing."	Environmentally harmful Greenwashing Example for industry
Better Cotton Initiative	2	Yvon Chouinard explains it to "Spiegel" as follows: "As soon as companies exceed a certain size, they	Size of label (in membership)

		often get the profit first syndrome. I know so many companies that have claimed, 'We are making our business green.' Actually it is almost always greenwashing. They pick the low-hanging fruits and do whatever makes them the most profit, for example recycling cardboard boxes. However if they have to make a decision that is the correct one and costs them profit, then they will shy away from that."	Profit Greenwashing Certification paradox

Blog Article: "ACM pakt greenwashing aan, komt met 5 regels voor ondernemers" (Sprout, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Environmental practices in general	All (2)	"De vraag naar duurzame producten stijgt, maar consumenten vinden claims over duurzaamheid vaak onbetrouwbaar, ziet de ACM. Dat komt doordat er bedrijven zijn die de duurzaamheid van een product overdrijven, verkeerd weergeven of claims doen die niet kunnen worden bewezen, of gewoon onwaar zijn. 'Bedrijven moeten eerlijk zijn over duurzaamheid', stelt de waakhond. 'Zij mogen alleen duidelijke, waarheidsgetrouwe en relevante duurzaamheidsclaims gebruiken."	Unreliable Transparency Greenwashing
Environmental practices in general	All (2)	"Behalve dat greenwashing consumenten die duurzaam willen shoppen kan ontmoedigen, kan het volgens de ACM leiden tot concurrentievervalsing. Bedrijven die investeren in de duurzaamheidsvoordelen van hun producten of diensten worden namelijk benadeeld."	Greenwashing Certification paradox Competitive (dis)advantages

News Article: "Ban US Cotton imports from Xinjiang, say human rights campaigners" (Balch, Ban US cotton imports from Xinjiang, say human rights campaigners, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Cotton production	2	"Human rights campaigners are calling on US authorities to ban all imports of cotton from the Chinese province of Xinjiang after allegations of	Social Practices Forced Labour Minority groups Import ban

		widespread forced labour. Two identical petitions, delivered today to US Custom and Border Protection, cite "substantial evidence" that the Uighur community and other minority groups are being press-ganged into working in the region's cotton fields."	
Cotton production	2	"So many international brands rely on cotton from this region that it would be a massive problem for China were the US to enforce a ban," says Dearbhla Minogue, legal officer for the Global Legal Action Network (Glan), co-sponsor of one of the petitions."	Effect on local producers
Better Cotton Initiative	2	The Better Cotton Initiative, which runs a sustainable certification system for cotton producers, reported earlier in the year that it was concerned about reports of forced labour in China and has commissioned a third-party investigation into the claims. In a statement at the time, the cross-sector initiative said withdrawing from Xinjiang could "cause more harm than good" as a critical mass of farmers were dependent on cotton production."	Third-party Effect on local producers Own interest
Better Cotton Initiative	2	"In late March, however, the organisation suspended its certification activities in the region after concluding that "credible assurance" of labour practices was not possible. "We are in the process of evaluating our presence [and] will announce our approach in the region moving forward in a way that prioritises the safety and wellbeing of farming communities," a spokesperson for the initiative said."	Credibility Standards in process Social practices

News Article: "Deze manager maakt de Zeeman duurzamer: groen en goedkoop gaan wél samen" (van Vliet, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
OEKO-TEX	3	"De onderbroek heeft het Ökotex-keurmerk. Dat label belooft productie zonder gif en met een relatief lage milieu-impact. En dat voor 3,99 euro per twee."	Relativity Price Low standard

Better Cotton Initiative	2	Nog even over de Mady. Wat Zeeman daarover niet vertelt: er zit biologisch katoen in. Net als in alle kleding die de textielgigant aanbiedt. “We verkopen 16 miljoen kilo textiel per jaar, en van de ingekochte katoen is 24 procent biologisch van oorsprong.” Voor dit type katoen is minder water en pesticiden gebruikt. Het label ‘better cotton initiative’ waarborgt dat.	Low standard Broad terminology
Fair Wear Foundation	1/3	“De onafhankelijke Fair Wear Foundation voert vanaf dit jaar de keuringen uit. Goed toezicht is mogelijk, zegt Van Vliet, omdat driekwart van de inkoop komt van slechts vijftig grote fabrieken. Zeeman rapporteert hierover in verslagen. En in een nieuw project brengt Zeeman zelfs in kaart of de leveranciers van de textielleveranciers, verf- en chemicaliënbedrijven dus, wel netjes werken. “Al die informatie geeft ons iets in handen om met leveranciers het gesprek aan te gaan”, zegt Van Vliet.”	Third-party Supply Chain Reports Transparency

News Article: “Waarom organisch katoen niet per se beter is voor het milieu” (Postma, 2017)

Units of Analysis	**Group**	**Criticism**	**Code**
Organic Cotton Production	2	**“Organisch katoen wordt verbouwd zonder gebruik van giftige pesticide, kunstmest of genetische manipulatie. Het woord ‘organisch’ is een krachtig marketinginstrument en wordt door veel kledingbedrijven gebruikt. Terwijl de gedachte dat organische teelt altijd beter is de grootste misvatting van de kledingindustrie is.”**	Marketing Misconception
Organic Cotton Production Cotton Made in Africa Better Cotton Initiative	2	“Verkopers lopen graag te koop met keurmerken, maar voor de consument is het lastig te bepalen welk product nu precies goed dan wel minder schadelijk is voor het milieu, de telers en arbeiders. Het aantal keurmerken is vergelijkbaar geworden die van producten in de supermarkt. ‘Biologisch/organisch’, ‘Fair Trade’, ‘Cotton made in Africa’, ‘Better Cotton’,	Oversupply of labels Label Shopping Alternative consumption

Fair Trade Cotton		het is soms lastig door de bomen het bos te zien. Gelukkig valt er altijd nog een hele hoop kleding te hergebruiken, zijn jeans tegenwoordig zelfs te leasen en hebben we volgens Greenpeace al veel meer kleding dan we nodig hebben."	

Blog Article: "Waarom Jack & Jonas inzet op duurzaam katoen" (Thijssen, 2016)

Units of Analysis	**Group**	**Criticism**	**Code**
Cotton Made in Africa	2	"Bij Jack & Jones houden we van katoen, het is ons belangrijkste ruwe materiaal", zegt Dorte Rye-Olsen, sustainability manager bij Jack & Jones. "Met onze ambitieuze Cotton Strategy willen we de sociale en milieuvriendelijke condities van katoenteelt verbeteren. Ons partnerschap met CMIA ondersteunt deze doelstelling."	Social and environmental practices Interest of the brand
Cotton Made in Africa	2	"Met Jack & Jones hebben we een partner die investeert in langetermijnrelaties tussen de Oegandese katoen- en textielindustrie en de internationale consumentenmarkt", zegt Stridde. "Hiervan kunnen zowel boeren en medewerkers in de productieketen van textiel als consumenten wereldwijd profiteren."	Long-term relationships Supply chain Globalization

Blog Article: "Gebruik van duurzaam katoen door toonaangevende merken schiet tekort" (Hendriksz, 2017)

Units of Analysis	**Group**	**Criticism**	**Code**
Organic Cotton Production Cotton Made in Africa Better Cotton Initiative Fair Trade Cotton	2	"Dit jaar hebben meer bedrijven echter actie ondernomen om hun duurzame toepassing van katoen, hun traceerbaarheid en beleid te verbeteren. Uit het rapport van 2017 blijkt dat toonaangevende retailers als H&M, Marks & Spencer en C&A zich bij Ikea hebben aangesloten als voorlopers uit de industrie in de ranglijst van dit jaar, hoewel de totale opname van duurzaam katoen relatief laag blijft. De vier katoenstandaarden	Environmental practices Transparency Policy Top performers

		die in het jaarlijkse rapport aan bod komen, zijn The Better Cotton Initiative (BCI), Cotton Made in Africa, Fairtrade Cotton en Organic Cotton."	
Organic Cotton	2	"Toepassing van duurzaam katoen is onze beste kans om de gezondheid van werknemers en het milieu tegen pesticidenvervuiling te beschermen," voegt Keith Tyrell, directeur van Pesticides Action Network UK, toe. "Ondanks de algemene beleidsvordering is het teleurstellend dat geen van de ondernemingen beleid heeft aangenomen om zeer gevaarlijke pesticiden volledig te elimineren bij de teelt van het katoen dat ze gebruiken."	Policy Industry approach

Blog Article: "Adidas and H&M lead the use of sustainable cotton in fashion" (MDS, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Sustainable Cotton	2	"Adidas and H&M, leading the way in the use of sustainable cotton. Both companies are the two companies in the fashion business that have the highest weight of sustainable cotton in their collections, according to the ranking *The Sustainable Cotton Ranking 2020*."	Industry leaders Low standards
Cotton Made in Africa Better Cotton Initiative	2	"In parallel, **according to the farmers surveyed for the report, they claim that 75% of the cotton sold as standard is sustainable**. *The Sustainable Cotton Ranking 2020* points to *cotton made in Africa* and Better Cotton as the most important certifications in the sector."	Broad terminology Transparency

News Article: "Mapping a better future for Africa's farmers" (Sommerville, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
African (cotton) farming	2	"Typically, Africa's family farmers either inherited their land or bought it on a handshake. In the absence of deeds or titles, land tenure often is governed by customary rules applied by local chiefs. This can leave farmers vulnerable not only to neighbours or relatives seeking to expand their land	Social and economic circumstances Local regulation Investors Innovation

		holdings, but also to foreign investors who have turned to Africa in search of cheap farmland, often unaware that local communities are already using it. As a result, many Sub-Saharan African farmers become trapped in a cycle of poverty and conflict. Investors can't determine from whom they can obtain vacant land, neighbours can't agree on property lines, and siblings squabble over inheritances. This constant conflict and insecurity makes farmers like Jonathan Tembo reluctant to invest in their land to improve their harvests."	

Blog Article: "How the 'Success Story' of Genetically Modified Cotton in Burkina Faso Fell Apart" (Luna, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Certification African cotton production	All (2)	"Many GM crops under consideration in Africa are not the domain of a big agri-business company like Monsanto. This does not mean, however, that vested interests will not still shape how knowledge about these crops gets produced."	Perception creation Abuse of power
Certification African cotton production	All (2)	"Evaluation studies will need to be independent, transparent, rigorous, and methodologically diverse, to accurately reflect the realities of these crops. Studies must anticipate challenges and shortcomings. This is particularly true to understand whether and how genetically modified crops aid resource-poor, women, and marginalized farmers."	Evaluation Third-party Transparency Challenges Shortcomings Social practices
Certification African cotton production	All (2)	"For too long agricultural technologies like GM crops have been evaluated as if they exist in a social and political vacuum. Understanding how GM crops perform for farmers needs close attention to local-level dynamics and context. The role that power plays in that context must be a part of how we understand GM crops moving forward."	Social and political vacuum Local dynamics Context

Blog Article: “BT cotton in Africa: Role models and lessons learned” (Isaac, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
African Cotton production	2	“Africa’s cotton farmers are struggling to recoup their investments because they lack access to quality seeds that can increase yields and profits.”	Vulnerability Innovation
African Cotton production	2	“With its massive population of over 200 million people, many African countries look to Nigeria for leadership. Experts have postulated that Nigeria’s success in adopting two genetically modified (GM) crops will open up the entire African continent to accepting agricultural biotechnology.”	Market leader Example Globalization
African Cotton production	2	South Africa, Sudan and eSwatini are the only African nations, apart from Burkina Faso, to introduce GM cotton so far — a move that has increased yields and improved the lives of cotton farmers through reduced pesticide use and higher profits. Ethiopia has also approved the environmental release of Bt cotton as part of the regulatory process that leads to commercialization.	Social practices Commercialization
African Cotton production	2	The South African government has been very supportive of GM crops by putting in place the biosafety legislation needed to manage and regulate the biotech industry.	Local government support legislation

Blog Article: “Bijna alle grote modemerken zijn betrokken bij Oeigoerse dwangarbeid” (Vandoorne, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Cotton production	2	“Nieuwsagentschap Reuters nam contact op met de 38 merken. Slechts één merk (Costco) weigerde te reageren. Alle andere stelden dat zij geen afnemers zijn van fabrieken in Xinjiang, maar de meerderheid kon niet bevestigen dat in hun toeleveringsketen helemaal geen	Resistance Denial No knowledge Transparency Process

		katoen uit de regio voorkomt. Het Amerikaanse PVH, moederbedrijf van Tommy Hilfiger en Calvin Klein, kondigt aan dat het 'binnen een jaar de banden zal verbreen met fabrieken die katoen gebruiken uit Xinjian."	
Certification and labelling	All	"De coalitie raadt consumenten aan om merken te bevragen waar het katoen in hun producten vandaan komt – informatie die in tegenstelling tot de productielocatie niet standaard in labels wordt vermeld. 'Consumenten kunnen druk uitoefenen zodat merken publiekelijk toezeggen om katoen uit die landen niet langer af te nemen."	Consumers Pressure
Global Organic Textile Standard	2/4	"Kies je voor biologisch katoen, let dan op labels. Zo kan GOTS (Global Organic Textile Standard) garanderen dat de productie van bioloisch textiel op een milieuvriendelijke en sociaal verantwoorde wijze gebeurt."	Guaranteed standard Environmental and social practices
Better Cotton Initiative	2	"Better Cotton is een tussenoplossing: het is niet biologisch, het gebruik van ggo-zaden is nog steeds toegestaan, maar het water- en pesticidenverbruik ligt wel lager dan bij gewoon katoen. Duurzame mode-expert Marieke Eyskoot wijst erop dat het Better Cotton Initiative (BCI) is opgericht in samenwerking met de industrie en beduidend lagere eisen stelt dan bio. Daardoor is het voor kledingmerken laagdrempeliger om te gebruiken. Intussen in 14 procent van de wereldwijde katoenproductie al 'beter'.	Low standards Industry approach
Better Cotton Initiative	2	"Better Cotton Initiative wordt bovendien gelinkt aan de dwangarberi in de regio Xinjiang, waar het een vijfde van zijn 'betere' katoen vandaan haalde. Eerder dit jaar stelde BCI dat het geen katoen uit die regio meer zou certificeren. […] BCI wil zelf ook aanbevelingen doen en onderzoekt de zaak via een (ongenoemde) externe reviewer. Het in juli beloofde rapport heeft vertraging opgelopen door de	Bad working conditions Third-party evaluation

		coronacrisis en zal pas in oktober verschijnen.”	
Fairtrade Cotton	2	Fairtrade gecertificeerd katoen garandeert betere arbeidsomstandigheden voor de boer en legt ook enkele ecologische spelregels op. Ggo’s zijn uit den boze. Voor pesticiden bestaat een zwarte lijst, met pesticiden die boeren onder begeleiding afbouwen. Fairtrade International ondersteunt ook boeren om watervervuiling te vermijden en hun waterimpact te meten, te verlagen of zelfs to nul te herleiden (door gebruikt water te herkanaliseren). Fairtrade katoen is niet biologisch maar de twee standaarden gaan vaak samen.	Competitive advantages Not biological Environmental and social practices.

Blog Article: “How Covid Forced Fashion Seller to Re-Think Their Supply Chains” (Binns, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Cotton production	All (2)	According to the Harvard Business Review, manufacturers in dozens of industries have had to face the epidemic’s impact on their supply chains. “Unfortunately, many are facing a supply crisis that stems from weaknesses in their sourcing strategies that could have been corrected years ago,” wrote Tom Linton and Bindiya Vakil in an article outlining the need for more resilient supply chains.	Supply chain Crisis
Cotton production	All (2)	“The retail supply chain as it exists today across many verticals was built primarily for operational excellence and economic advantage, not agility,”	Supply Chain
Fairtrade Cotton	2	“The majority of consumers (65 percent) have become more concerned about sustainability and environmental issues since the COVID-19 pandemic began, according to Cotton Incorporated’s 2020 Spring U.S. Coronavirus Response Survey.” […]“So whether it’s Fairtrade cotton, recycled polys — those are the areas of biggest innovation. We also think, in terms of performance, antibacterials are an	Innovation Opportunity

		opportunity to add value into our range.”	
Cotton production	All (2)	“It is hard to recommend struggling retailers open their wallets to new solutions at a time when their sales are so negatively impacted,” RSR says. “But as counterintuitive as it may seem, those who invest in making their business run smarter in these times will stand a much better chance of not only surviving, but in making up some ground.”	Opportunity Top performer Industry example

News Article: “Schone kleren, een illusie” (Schmidt, 2012)

Units of Analysis	**Group**	**Criticism**	**Code**
Cotton production	2	"De garantie dat kleding voor 100 procent verantwoord is, is niet te geven. Daarvoor is de productieketen te complex"	Supply Chain Transparency
Better Cotton Initiative	2	Pogingen om de katoenteelt te verduurzamen zijn al een tijdje aan de gang, vooral onder de paraplu van het Better Cotton Initiative (BCI), in 2005 opgericht door partijen als Adidas, Ikea en het Wereld Natuur Fonds. Het gaat bij BCI vooral om de arbeidsomstandigheden van katoenplukkers en het beperken van de milieuschade.	Vague standards Social and environmental practices
Certification and labeling Cotton production Fairtrade	2	Maar dan zitten we nog maar aan het begin van de lange keten. Solidaridad pakt verbeteringen tegenwoordig het liefst in de hele keten aan, maar kiest binnen die strategie voor speerpunten. De afgelopen jaren ging de aandacht uit naar de textielververijen in Azië. In die fabrieken worden vaak enorme hoeveelheden water verspild, en giftig afvalwater ongezuiverd weer aan de natuur teruggegeven. Ook het energieverbruik kan zuiniger, en de arbeidsomstandigheden kunnen beter.	Supply Chain Contradiction
Cotton production	2	Ook Solidaridad onderkent dat de geboekte successen klein zijn gezien de omvang van de sector, en de vele uitdagingen in bijvoorbeeld een land als India. "We moeten nu opschalen, als	Relativity Scope of industry

		het even kan ook met de overheid", zegt Mensink. "In de volgende fase is die onontbeerlijk."	International regulation
Certification and labeling Fairtrade	2	Als het om textielproducten gaat, moeten we af van het 'keurmerk-denken' dat bij voedselproducten nog wel dominant is, vindt Mensink. "Kleding is niet te vatten in een keurmerk. Water- en energieverbruik zijn zo divers, dat is van te veel dingen afhankelijk. De huidige textielkeurmerken stellen ook helemaal geen eisen aan energie en water. Het keurmerkdenken wordt anders. Klanten zullen bedrijven vaker rechtstreeks benaderen met vragen over fairtrade en duurzaamheid. Ze roeren zich ook via de sociale media als iets niet in de haak is. Een keurmerk is ook vaak een simpel checklijstje, ja of nee. In sommige landen kun je zo'n stempeltje zelfs kopen. Bovendien is er een kans dat het onderwerp van de agenda verdwijnt als er eenmaal zo'n stempeltje is. Het verliest dan aan urgentie."	Low standard Consumers Legitimation for unsustainable practices Broad goals

Blog Article: “What the rise of ‘ecolabelling’ means for retailers” (Arnett, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
Certification and labeling	All	The definition of what constitutes “ethical” clothing manufacturing has been subjected to interpretation from many different viewpoints, obfuscating industry-wide standards. The sheer number of ethical labels circulating the industry complicates who and what to trust: the Ecolabel Index, an independent global directory of ecolabels and environmental certification schemes, counts 463 ecolabels across 25 different industry sectors.	Interpretation Industry approach
Fairtrade	3	Building a reliable reputation, then, is difficult but crucial if the label is to carry any weight. The Fairtrade	Reliability Example

		Foundation, founded 27 years ago, is one of the successful examples. Built from the principle that workers deserve to earn a fair wage for the goods they produce, the Fairtrade Foundation is most closely associated with the food industry, but it does offer certification to textiles companies. The gold sourced by Kering, for example, is recognised as Fairtrade.	Reputation
Fairtrade	3	Julia Nicoara, director of public engagement at the foundation, says that independent certification is key to ensuring consumer trust. "It's a real benefit from a consumer point of view — the credibility and authenticity you get from a business carrying that label." Nine out of 10 people in the UK surveyed by YouGov over the last year were familiar with Fairtrade, and two-thirds of those people supported it.	Consumer trust Credibility Third-party
Certification and labelling	All	Setting up a proprietary labelling process, McIntosh believes, will promote broader industry change. "We believe that spotlighting brands and products that are going above and beyond will inspire all our brand and product partners," he says.	Industry approach Example
OEKO-TEX	3	Without one set of universal standards for sustainability in fashion, concerns remain that clothing deemed ethical by one organisation will fail an assessment by another. Some Oeko-Tex standards, for instance, ensure both environmental management and protection of the workforce, but the best-known standard, the Oeko-Tex 100, primarily ensures no harmful chemicals are involved in the manufacturing of the garment.	Competition Label Shopping Environmental and social practices
Certification and labelling	All	"Government involvement could help to level the playing field, ensuring that clothing is rated fairly in comparison to others. Lovejoy says that, like the	International regulation Competition

		independent label schemes that exist already, these standards would be subject to robust debate and criticism, though "to start somewhere would be a good thing". […]Inconsistencies in ecolabelling are exacerbated by brands unwilling to disclose production practices for fear of scrutiny, even if progress is being made. A brand working to fix its supply chain may be unfairly shunned by consumers for not having fully transformed it. Retailer size and scale should also be considered. "	Supply Chain Industry Approach

News Article: "Behind the label: can we trust certification to give us fairer products?" (van Vark, 2016)

Units of Analysis	**Group**	**Criticism**	**Code**
Fairtrade	3	"Certification now plays an additional verification role alongside a whole set of other interventions. It's about shoring up the sustainability of supply chains, because companies are more aware of risks and challenges," said Barbara Crowther, director of policy and public affairs at the Fairtrade Foundation.	Supply chains Challenges
Fairtrade	3	About 20 years ago, third-party certification of cocoa was a step forward for an industry that had previously not been able to trace its beans much further back than the export dockyard. Today, the industry is more aware that certification alone isn't addressing problems of low productivity, poor infrastructure and child labour, which continue to destabilise the supply chain.	Standard in process Traceability Awareness Supply Chain
Certification and labelling	All (3)	This is one of the tensions that businesses face when it comes to certification, particularly in food and drink: consumers expect high standards and constant improvement on the ground, but supply chains are complex. Certification on its own can't perform miracles, and the shorthand of the label can't convey the	Consumers Supply Chains Means and ends

		complexity of what it does and doesn't do.	
Fairtrade	3	"Fairtrade has been working on a textile standard for the past decade and that's now coming into fruition," said Clare Lissaman, director of product and impact at Mysource. "But I think labour activists on the Clean Clothes Campaign and Labour Behind the Label will say we cannot expect consumers or indeed companies to drive this. This is where governments and workers organising and standing up for their own rights has to be the way forward. As brilliant as Fairtrade has been in galvanising a huge consumer movement, we're not going to get change in the garment industry like that."	Consumers Brands International policy/regulation

News Article: "Fair enough? The EU's guilty neglect of fair trade" (Martens & Orbie, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
Fairtrade	3	"In order to make trade really fair, more radical trade reforms will be needed. Trade rules should make it possible for national and local authorities to protect their markets against international competition. Instead of negotiating free trade agreements with a non-binding sustainability chapter, the EU could propose sustainability agreements with a non-binding trade chapter. Instead of insisting on timely payments to producers as under the Ethical Trading Practices Directive, the EU could create international arrangements for higher and stable commodity prices. Finally, the EU could impose mandatory due diligence requirements for European companies and tackle lax evasion by European multinationals in the South."	Trade National and international policy Price Mandatory

Blog Article: "Germany unveils Green Button: What you need to know about the world's first government sustainable textile label" (Fashion United, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**

Blue Angel Fairtrade OEKO-TEX Fair Wear Foundation GOTS Etc.	3 4	The Green Button is a meta label and a beacon in a sea of dozens of existing labels. Those who want it have to already have received one or more of the seven reference labels recognized by the German Federal Ministry for Economic Cooperation and Development (BMZ) and that too in such a way that all social and ecological criteria are covered. Approved seals include: Blue Angel, Fairtrade, Fair Wear Foundation, Oeko-Tex Made in Green, Blue-Sign, CradletoCradle Silver, Global Organic Textile Standard, Naturtextil IVN certified BEST. Inspection agencies for the company criteria are, for example, TÜV and Dekra (Germany's largest inspection company), whose independence the Federal German Accreditation Body wants to guarantee.	Umbrella Labels Government recognition
Blue Angel Fairtrade OEKO-TEX Fair Wear Foundation GOTS Etc.	3/4	So far, the Green Button has looked only at the processes of dyeing and bleaching as well as cutting and sewing textiles - and not at the cotton field. Spinning and weaving are also not monitored; all this is to come later. The International Association of the Natural Textile Industry warns that this and a "clever combination" of the reference labels could lead to consumers buying genetically modified fibres in the end.	Supply Chain Low standards / in process Umbrella Labels Consumers

Blog Article: "Companies increasingly relying on OEKO-TEX certificates" (Fibre 2 Fashion News Desk, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
OEKO-TEX	3	"During the single biggest challenge, we have faced in recent decades, OEKO-TEX has made every effort to continue with certification and avoid supply chain interruptions. Existing certificate renewals were temporarily processed without samples to give certificate owners three additional	Supply Chain Challenge Adaptation Compensation

		months to gather samples for testing. To provide people all over the world with mouth and nose masks that are safe from harmful substances, the OEKO-TEX Association waived the license fee for certification of masks. Between April and June 2020, more than 50 manufacturers of face masks obtained certification according to STANDARD 100 by OEKO-TEX," the organisation said.	

News Article: “We’ve never heard of them: Ethical trade organization say firm selling masks for SNP have no right to use their logo’s” (Swindon, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
OEKO-TEX	3	A subsidiary firm, Promotional Warehouse, supplies the masks and had been displaying logos from a range of organisations campaigning against slave labour on its website. But when we contacted them, all denied endorsing the company and would be investigating the firm’s use of their logo. One accused the company of a trademark violation.	Trademark violation
OEKO-TEX	3	Jay Kerr of campaign group No Sweat accused Promotional Warehouse of “corporate greenwashing” for using the logos of ethical trade associations on its website without permission. “There needs to be more transparency in the garment industry as to the conditions that face masks and clothes are made. Without it, consumers cannot have confidence that their money isn’t going to support sweatshop conditions or even forced labour,” he said.	Corporate greenwashing Transparency Consumers

News Article: Juridische stappen tegen Avrox wegens vervalst OEKO-TEX label” (Sceptr, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**

OEKO-TEX	3	Het bedrijf benadrukt *"hoge normen te hanteren"* en stipt aan *"de juiste communicatie van onze labels aan consumenten over de hele wereld zeer serieus te nemen".* Daarom kondigt het dus aan juridische stappen te ondernemen tegen elke inbreuk op hun handelsmerken. Dat ondervinden nu zowel het bedrijf AVROX, dat 15 miljoen mondmaskers leverde aan de Belgische overheid, maar ook de Belgische apothekers die de mondmaskers verdelen in opdracht van defensie.	Trademark violation Clear communication
OEKO-TEX	3	In de e-mail aan de regering uit het bedrijf zijn bezwaar over het feit dat de AVROX mondmaskers via een document 'Communitymasker M-DOX-A1' worden gepromoot met een vervalst OEKO-TEX-label. Het certificeringsnummer dat zich op het logo bevindt is in 2016 verlopen en mag volgens OEKO-TEX dan ook niet meer worden gebruikt: *"Bovendien mag het vervalste label niet op deze manier bestaan én heeft het geen betrekking op gezichtsmaskers.*" OEKO-TEX maakt tenslotte duidelijk dat de mondmaskers in kwestie zeker niet gecertificeerd zijn volgens hun normen.	Falsification

Blog Article: "Sustainable Strategic Public Procurement: Can the State Be a Role Model for Sustainable Consumption?" (ISDD, 2018)

Units of Analysis	**Group**	**Criticism**	**Code**
Environmental policy	All	But there are challenges in Germany. Despite internal goals and political will, the practical implementation of sustainable procurement is complex. In addition to the Federal Government, there are some 30,000 public procurement bodies in Germany. And public tender procedures have to fulfil ambitious accountability and transparency requirements. Incorporating sustainability aspects into complex procurement contracts is not easy.[…] And there is also a social dimension we should not	Challenges Environmental policy instruments Transparency

		underestimate: staff who are responsible for procurement need clear regulations and have to be trained to handle complex sustainable procurement processes. But furthermore, employees have to be made aware of the changes in their work routine that will follow sustainable procurement decisions.	
Blue Angel (Blaue Engel)	3	In national public procurement guidelines, the Blue Angel is mentioned as the reference standard for various product groups, such as electrical devices like printers or copy machines, paper or furniture. Its broad recognition makes it easier for procurers to include products with the Blue Angel in their processes. The Blue Angel has already entered the international stage. It cooperates with eco-labels in China and Japan. The goal is to achieve broad harmonisation of award criteria for the respective national labels and to support manufacturers in making applications. These efforts will make it easier for product manufacturers to apply for the eco-label in the respective partner country.	Example Top performer Globalization

News Article: "Eco-labels, a load of nonsense" (Lal, 2013)

Units of Analysis	**Group**	**Criticism**	**Code**
Blue Angel	3	Thus were created eco-labels such as Blue Angel (Germany, 1978) and Nordic Swan. If an exporter could earn that tag, his products would find favour in that country. In other words, those adopting green technologies would be rewarded with enhanced market access.	Enhanced market acces Competitive advantage
Blue Angels	3	But the rationale for 'voluntary' eco-labels expected of Asian exporters seems to have reached its expiry date. For, if the process of growing and dyeing cotton harms the environment,	Voluntary Consumption Label shopping

		the most eco-friendly and moral measure European consumers could adopt would be to reduce consumption — for instance, stop shopping for a new wardrobe every fashion season.	

Blog Article: “De waarde van milieu keurmerken” (Schildermans, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
EU Ecolabel	4	De EU heeft een optioneel milieukeurmerk sinds 1992, het Europees Ecolabel. Het werd intussen toegekend aan meer dan zeventigduizend producten en diensten van meer dan tweeduizend bedrijven, waarvan 83 Nederlandse en 49 Belgische (cijfers september 2018). […] De aanvraagprocedure bevat zeven stappen en het label wordt onderzocht en uiteindelijk toegekend door de bevoegde nationale dienst.	Voluntary Governmental
EU Ecolabel	4	Het label is voor bedrijven niet gratis, reden wellicht waarom het niet erg populair is. Naast een eenmalige aanvraagkost tussen 200 à 2.000 euro betalen bedrijven ook nog een jaarlijkse bijdrage die berekend wordt op basis van de verkoopcijfers in de EU van het product met de milieukeur.	Popularity Expensive

Blog Article: “M.I.H. Is Introducing Its Most Sustainable, Lowest-Impact Jeans Ever” (Farra, 2018)

Units of Analysis	**Group**	**Criticism**	**Code**
EU Ecolabel Nordic Ecolabel	4	“Today, she’s launching her most sustainable jeans yet: a capsule made in partnership with ISKO, the only denim mill in the world that’s been awarded the EU Ecolabel and Nordic Swan Ecolabel environmental certifications. The fabric they developed is a special 10-ounce, two-by-one selvedge denim made from organic cotton in a raw indigo wash, which reduces water waste. Denim is	Low standard Legitimation for unsustainable practices Innovation

		notoriously “dirty,” but that mostly comes down to water waste in the cotton industry: It can take hundreds of gallons of water to grow enough cotton for one pair of jeans, so the factories Lonsdale works with—including ISKO—use 100 percent organic cotton and have developed techniques to greatly reduce their water use.”	

Blog Article: “Hoe duurzaam is: MUD Jeans? Aflevering #2” (Anches, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
Nordic Ecolabel	4	Via het Nordic EcoLabel heeft het label een duidelijk overzicht gekregen van de chemicaliën die worden gebruikt bij de productie. Zo wordt er alleen gewerkt met niet-schadelijke, biologisch afbreekbare stoffen. Mud Jeans: ‘we zijn heel trots om aan te kondigen dat we het gebruik van PP-spray en stone washing in de productie hebben geëlimineerd. Deze revolutionaire veranderingen verbeteren de werkomgeving van onze fabriekscollega’s drastisch, omdat deze chemicaliën extreem schadelijk en ongezond zijn.’	Environmental practices Indirect social practices
Nordic Ecolabel Fair Wear Foundation	4 1/3	Mud Jeans heeft als doel om 100 procent circulaire jeans te produceren. Hiervoor analyseert het elk component van de producten. Indien een onderdeel niet recyclebaar is, dan wordt dit vervangen. De focus ligt momenteel op het ontwikkelen van een denimstof van 100 procent post-consumer gerecyclede jeans. Verder wil het nieuwe sociale audits uitvoeren om de audit van de Fair Wear Foundation op te volgen.	Circular economy Developments Consumer

News Article: “Can fashion ever be sustainable” (Ro, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
BCI GOTS	2 4	But it is also possible to look for further ways of reducing the impact of your jeans by looking at the label. Certification	Funding Supply Chain

		programmes like the **Better Cotton Initiative** and **Global Organic Textile Standard** can help consumers work out how green their denim is (although these **programmes aren't perfect** – many suffer from a lack of funding and the complex supply chains for cotton can make it hard to account where it all comes from).	

News Article: "Groene kledinglijnen van ketens: Alsof McDonald's het over sport heeft" (Bruinsma, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Certification and labelling	All	De prijs van kleding is enorm gedaald, terwijl er ook steeds meer wordt geproduceerd. Dat mensen steeds iets nieuws willen en dat bedrijven steeds meer willen verkopen, is de kern van het probleem, zegt Maldini. Fast fashion is hiervan de overtreffende trap, met wekelijks nieuwe items in de rekken. "De impact van elk kledingstuk zou hierdoor moeten halveren om de milieu-impact weer op het niveau van twintig jaar geleden te krijgen."	Price Consumers Impact Comparison
Certification and labelling	All	Wyger Wentholt (SKC) stelt dat het een keuze is van ketens om geen eigen fabrieken te hebben, en dat ze hierdoor goedkope deals kunnen afdwingen en zelf weinig risico lopen. Fabrieken schieten alles voor, en kunnen ineens te horen krijgen dat een opdracht niet doorgaat. Dat gebeurde massaal bij de uitbraak van corona. Alle onzekerheden sijpelen vervolgens door naar arbeiders, in de vorm van overwerk en uitgestelde betaling. Eigen richtlijnen ('gedragscodes') voor beloning en behandeling opleggen aan fabrieken levert niet veel op, en ze hiertoe dwingen terwijl je wel zo goedkoop mogelijke productie afdwingt is tegenstrijdig.	Autonomous solutions Risk Contradiction
Certification and labelling	All	Let op keurmerken, maar let wel op welke. Wentholt: "Vaak als er een	Low standards Competition

		oprecht keurmerk komt met strenge en duidelijke normen, komt er vaak ook eentje vanuit de sector, met slappere normen."	Label shopping

Blog Article: “What is greenwashing and why do some fashion brands do it?” (Malbon, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
Fairtrade (Cotton)	2/3	"For example, Fairtrade cotton requires a minimum fair price to be paid, or organic means that certain chemicals can’t be used. But if a brand is just saying something is good, then either they should be sharing in detail exactly *what* that means in terms of chemicals used, pollution controls, price paid and so on, or I need to ask them all those questions."	Transparency Consumers

Blog Article: “Sustainable Fashion Brands Look To Certification As A Competitive Differentiator” (Moore, 2019)

Units of Analysis	**Group**	**Criticism**	**Code**
BlueSign	1/3	“Looking ahead, we have plans to deepen our BLUESIGN commitment by further reducing our footprint associated with packaging and by incorporating more sustainable fabrics, like hemp,” said Kerry Faherty, Faherty’s Brand President. […] “We look to BLUESIGN as a partner that knows some of the best practices around sustainability that can help us examine what we’re doing and recommend areas for improvement.”	Partnership Broad terminology
Certificiation and labelling	All	There is one element around sustainability certification, however, that retail strategist Ana Andjelic believes consumers should be mindful of: Finding out what different certificates actually mean. She explained that too often consumers are unfamiliar with the requirements of different certification programs and therefore can’t accurately gauge a brand’s performance within those parameters. As a result, companies	Consumer perception Free-riding Transparency

		can hide behind a sustainability index while lacking the transparency that would fully illustrate their performance.	

Blog Article: “Oprichters zetten streep door Boxrs4all en beginnen duurzaam impactbedrijf” (Luimstra, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
OEKO-TEXT GOTS	3/4	Het ondergoed voor de westerse markt wordt geproduceerd volgens de standaarden van het milieukeurmerk OEKO-TEX Standard 100. […] ‘Het is nog niet perfect, maar het is ons doel om progressie te boeken. We willen graag alleen nog maar biologisch katoen gebruiken, maar met onze huidige ordergrootte is dat voor de fabriek nog niet mogelijk.’ Begin volgend jaar verwacht het bedrijf wél zover te zijn. Dan willen de ondernemers het duurzamere Global Organic Textile Standard-keurmerk bemachtigen.	Competition (among eco-labels) Producer perception Accessibility

News Article: “Genoeg van wegwerpmode? Zo maak je een duurzame kledingkast groen” (Trouw, 2020)

Units of Analysis	**Group**	**Criticism**	**Code**
GOTS	4	Wie toch iets nieuws wil aanschaffen, kan steeds vaker terecht bij merken die zich inzetten voor verduurzaming. Hoe herken je deze ‘slow fashion’? Keurmerken kunnen volgens Eyskoot duidelijkheid geven. Een voorbeeld daarvan is de Global Organic Textile Standard (Gots). Een kledingstuk met dit keurmerk is voor minimaal 70 procent gemaakt van biologisch katoen. Het Gots-logo moet te vinden zijn op het kledinglabel.	Reliability Clarity

Coding Scheme

Category	Animal Welfare	Greenwashing	Reputation	Money Issues
Most frequent codes	Animal Abuse Animal Organizations Parallel Production Local Production Lack of transparency Legitimization for unsustainable practices Supply Chain Broad certification Industry approach Price	Low standards Industry approach Competition Greenwashing Transparency Certification paradox Supply Chain Third-party certification Label-shopping Social and environmental issues Regulation Local context Crises	Reliability Industry example Top performer Reputation Consumer trust Competition Supply Chain Trademark Violation Corporate greenwashing International regulation Communication Challenges Transparency	Governmental Expensive Innovation and development Funding Supply Chain Price Competition Reliability