

CSR communication and the use of recycled synthetic fibres in the fashion industry: a content analysis of two Swedish fashion brands

LINN LÖFLING 2023
MVEM30 MASTER'S THESIS 30 CREDITS
ENVIRONMENTAL SCIENCE | LUND'S UNIVERSITY



CSR communication and the use of recycled synthetic fibres in the fashion industry

A content analysis study of two Swedish fashion brands

Linn Löfling

2023



LUNDS
UNIVERSITET

Linn Löfving

MVEM30 Examensarbete för masterexamen 30 hp, Lunds universitet

Huvudhandledare: Emma Samsioe, Institutionen för service management och tjänstvetenskap, Lunds universitet

CEC - Centrum för miljö- och klimatvetenskap

Lunds universitet

Lund 2023

Abstract

The fashion industry is one of the largest contributors to environmental issues and has a significant part of plastic production due to the use of synthetic fibres. Much scientific research indicates that the fast fashion model is a significant part of using synthetic fibres; however, slow fashion brands are also using the fibres. Communicating products' sustainable footprint has become an essential focus for brands in the fashion industry in recent years. One of the most well-used communication strategies is Corporate Social Responsibility (CSR) communication. This study investigates how two Swedish fashion brands, one fast fashion brand and one slow fashion brand, are using CSR to communicate the use of recycled synthetic fibres and how it has developed throughout the years. This study shows that the recycling and synthetic fibres have increased since they first appeared in the two brands' sustainability reports. However, this study did not identify remarkable communication differences between fast and slow fashion brands. Nevertheless, the results show that the slow fashion brand is using a higher percentage of recycled synthetic fibres than the fast fashion brand, the difference was approximately 20% in 2021.

Key words: recycled synthetic fibres, fast fashion, slow fashion, CSR communication

Popular abstract (Swedish)

Fast och slow fashion, skillnader och likheter i användningen av återvunnen syntetisk fiber.

Modeindustrin är bland de industrier som bidrar till de största miljömässiga problemen vad gäller utsläpp av växthusgaser, kemikalie- och vattenanvändning samt ohållbara avfall. Nu står de inför en förändring i att bli en mer hållbar industri, pådriven både från statligt håll samt från konsumenters håll. Ett sätt för modeindustrin att bli mer hållbar är att göra mer hållbara materialval i produktionen, som exempelvis öka andelen av återvunnen fiber.

Vad gäller hållbart mode är slow fashion ofta representerat som det mest hållbara valet medan fast fashion företag blir utpekade som motpolen. En anledning till det är det ökade användandet av icke-naturliga fiber, som exempelvis polyester och nylon som är syntetiska fiber gjort av plast. Dock menar viss forskning att skillnaden mellan fast och slow fashion inte sitter i plaggets kvalitet då även slow fashion företag också använder syntetiska fibrer. En annan anledning till att fast fashions ofta pekas ut som nyckelproblemet ära att affärsmodell bygger på snabba trender som fort ska produceras, säljas och konsumeras vilket även ökar andelen textilier som hamnar på deponier.

Genom en kvalitativ, och en kvantitativ innehållsanalys av hållbarhetsrapporter samt webbsidor från två svenska modeföretags, ett slow fashion och ett fast fashion, har likheter och skillnader kunna identifierats i deras Corporate Social Responsibility (CSR) kommunikation, användandet av återvunnen syntetisk fiber samt hur det förändrat genom åren. Återvinning av textila fibrer är en komplex fråga för både fast och slow fashion företag, vilket nämns som barriärer av de båda företagen. Resultaten i uppsatsen visar att båda företagen har ökat andelen av återvunnen syntetisk fiber sedan de först introducerades, resultatet visar även på en ökad förståelse för problematiken kring val av material från båda företagens håll. Däremot visar resultatet att det analyserade slow fashion företaget i dagsläget använder 20% mer återvunnen syntetisk fiber i jämförelse med vad fast fashion företaget gör. Vad inte redovisas av något av de två analyserade företagen är hur stor del av deras sortiment som representerar viss fiber.

Uppsatsen är en fallstudie av två svenska modeföretag som har en öppen hållbarhetskommunikation. Resultaten från uppsatsen kan appliceras och jämföras med andra företag eller liknande fallstudier.

Table of content

Abstract	3
Popular abstract (Swedish)	4
Fast och slow fashion, skillnader och likheter i användningen av återvunnen syntetisk fiber.	4
Table of content	5
1. Introduction	7
1.1 Problem discussion	9
1.1.1 Synthetic fibres	9
1.1.2 The role of slow and fast fashion	10
2. Purpose and research question	12
2.1 Outline text	12
3. Theoretical framework	14
3.1 Sustainability communication	14
3.1.1 Corporate Social Responsibility	14
3.1.2 Different type of environmental claims	15
3.1.3 CSR walk and talk	16
3.1.4 Choice of media for CSR communication	17
4. Method	18
4.1 Selection	18
4.2 Method choice	19
4.2.1 Quantitative content analysis	20

4.2.2 Qualitative content analysis	20
4.3 Empirical material	21
4.4 Course of action	22
4.5 Ethical consideration	24
5. Results	25
5.1 Quantitative results	25
5.1.1 The use of words and concepts	25
5.2 Qualitative results	30
5.2.1 Transparency in communication	30
5.2.2 Sustainable labels of recycled synthetic fibres	32
5.2.3 Recycle barriers and solutions	39
6. Discussion	41
6.1 Further research	46
7. Conclusions	48
8. Acknowledgement	49
9. References	50
9.1 Sustainability reports	54
Kappahl	54
Nudie Jeans	55

1. Introduction

The fashion industry is facing a change with governmental pressure to transform into a more sustainable industry with sustainable and circular production, business model and consumption (Centobelli et al., 2022). One challenge in this transformation is that sustainability does not have a globally shared definition (Buzzi, 2021). However, most businesses in the fashion industry believe that implementing sustainability in their business model is essential for their company. The same is with the view on 'sustainable fashion' (Brydges et al., 2022). Various definitions and interpretations exist, the most used concepts in sustainable fashion are green, eco, organic, or slow fashion. The definitions and concepts do not have a significant meaning for this thesis, but hereafter the slow fashion will be used since this thesis will make a comparison between fast and slow fashion brands. The definition of slow fashion and fast fashion will be discussed further down.

Today, the fashion industry is one of the most significant contributors to environmental issues concerning CO₂ emissions, chemical and water use, and unsustainable waste management (Colucci et al., 2020; Munir & Mohan, 2022; Shirvanimoghaddam et al., 2020). Yearly, the fashion industry requires 20% of global water consumption and contributes to approximately 10% of global CO₂ emissions (Centobelli et al., 2022).

Since the beginning of the 2000s, textile production and consumption have doubled (Shirvanimoghaddam et al., 2020). Annually \$400 billion worth of clothes is thrown away around the globe, according to Shirvanimoghaddam et al. (2020). The average textile consumer differs depending on the geographical location, from 22-37 kg per person/year in developed countries. In comparison, the average consumer in developing countries consumes less than 5 kg per person/per year. Of the 27 kg of textiles the average user in Australia consumes every year, 23 kg ends up in landfills (Shirvanimoghaddam et al., 2020).

In America alone, 16 million tonnes of textiles became waste in 2015, and only 15% of the textile was recycled (Shirvanimoghaddam et al., 2020). Globally, 92 million tonnes of textile waste are produced yearly (Centobelli et al., 2022; Papamichael et al., 2022).

Worldwide in 2018, plastic was the second largest waste product, and textile was the fourth largest (Gupta et al., 2019). Globally, two-thirds of the textiles end up in landfills at the end-of-use stage instead of being recycled (Shirvanimoghaddam et al., 2020). Unfortunately, according to Gupta et al. (2019), clothes and garments often end up in landfills when a significant part of the potential lifetime is still left, in other words, before the product has reached the end-of-use stage. Additionally, at the same time, the lifetime of garments is decreasing, and the complexity of the compositions of fibres is increasing, which makes the handling of end-of-life harder since the mixed fibres are often made of natural and man-made fibres (Piribauer & Bartl, 2019). A significant part of clothing fibres is made of artificially sourced materials such as plastic, which is one reason for the increasing mass production of plastic since the 1950s (Dasgupta et al., 2022; Ramkumar et al., 2022).

The composition complexity, the increasing textile waste, and the lack of recycled fibres from textiles are growing problems, and the significant factor is the fast fashion industry which contributes to cheap clothes and loads of waste (Gupta et al., 2019; Henry et al., 2019; Meng & Leary, 2021).

1.1 Problem discussion

1.1.1 Synthetic fibres

The increasing plastic production can be traced to the fashion industry since one of the primary purposes of plastic production is for textiles, called synthetic fibres (Henry et al., 2019; Shirvanimoghaddam et al., 2020).

Around two-thirds (63%) of all textiles are made of synthetic fibres (Shirvanimoghaddam et al., 2020). Polyester, acrylic and nylon are the most common synthetic fibres used in the fashion industry (Gupta et al., 2019; Piribauer & Bartl, 2019). In the last four decades, synthetic fibres have increased from 10 million to 63 million tonnes (Piribauer & Bartl, 2019). The production of natural fibres, such as wool and cotton, has been approximately constant since 1980, while the production of synthetic fibres doubled between 1980-2015, as shown in figure 1 (Allwood et al., 2006; Piribauer & Bartl, 2019).

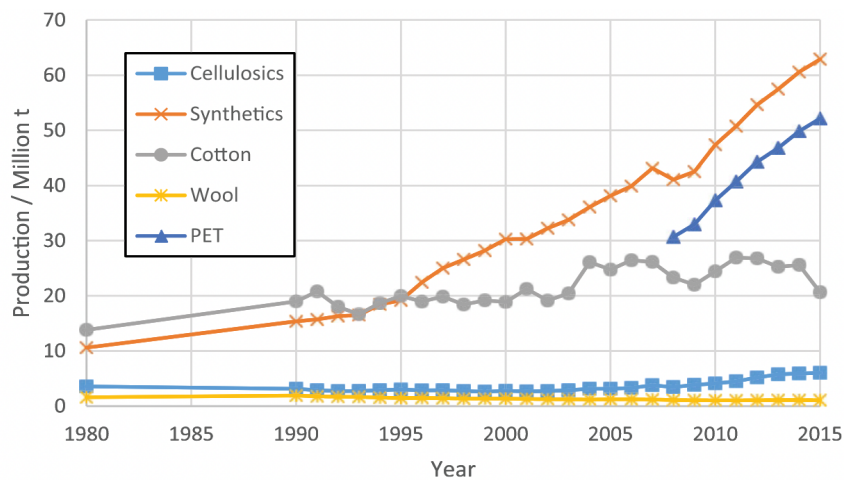


Figure 1. Global fibre production from 1980 to 2015.

The figure shows the global production of different types of fibres from 1980 to 2015 (Piribauer & Bartl, 2019).

The increase in synthetic fibres is partly due to the growing world population since more people require more textiles and clothes (Piribauer & Bartl, 2019; Shirvanimoghaddam et al., 2020). Another reason for the increasing plastic production and synthetic fibres is the fast fashion industry (Centobelli et al., 2022). The synthetic

fibre blends (made of plastic) has been increasing due to its cheap, durable and versatile (Anguelov, 2016). The fast fashion industry has a business model whose characteristics are quick with trends and news that may only be there for a short while, affordable apparel of lower quality (Centobelli et al., 2022). Trends have always been a part of the fashion industry, and however, the quick trends associated with the fast fashion industry are today calculated and introduced to stimulate sales (Anguelov, 2016).

The fast fashion industry also includes overproduction and overconsumption, which increase textile waste (Papamichael et al., 2022). The throwaway society is a result of the fast fashion industry, and the correlation between the growing textile waste and the fast fashion industry is undeniable, according to Strähle et al. (2015). Likewise, the study by Henry et al. (2019), shows that the rapid growth of textile production and waste can be tracked down to the fast fashion sector. Morgan & Birtwistle's study (2009) on young fast fashion consumers' disposal habits shows that young consumers tend to throw away cheap clothing while more expensive apparel is donated or retailed when needed.

A significant reason for the low recycled percentage of textile fibres is traced to the bursting technique required to separate different garments (Centobelli et al., 2022; Meng & Leary, 2021). Clothes are often made of a fibre blend (e.g., cotton and polyester), making recycling difficult since it is both natural and synthetic fibre. However, according to Gupta et al. (2019), the synthetic fibre polyester is fabricated in the same polymer as PET bottles which could increase the use of recycled polyester in the fashion industry. Since the materials, therefore, come from PET bottles and not products made of textiles that could consist of fibre blends.

1.1.2 The role of slow and fast fashion

A significant part of the science available about production, recycling and waste-related information about synthetic fibres blames the problem on the fast fashion industry. For example, Centobelli et al. (2022) mean that slow fashion represents a more sustainable industry than fast fashion brands and that the concept of circular fashion is interconnected with the slow fashion industry. Piribauer & Bartl (2019) argue that the rapid change of trends in the fast fashion industry is partly the reason for the number of textiles getting thrown away annually. Papamichael et al. (2022) also indicate that the

buy-and-throw-away philosophy was born in the fast fashion industry business model. Buzzi (2021) identifies the fast fashion industry as primarily responsible for irresponsible sourcing and production, costing social and environmental damage.

According to Anguelov (2016), the difference between fast and slow fashion is not in the garment quality. Slow fashion brands are using poor garments such as synthetic fibres, to the same extent as fast fashion brands. Even traditional luxury brands nowadays have 'fast fashion' options (Anguelov, 2016). There is a knowledge gap in the science about the fast fashion industry and its transformation into a more sustainable business model, as well as the general perception of how slow fashion and luxury brands are in general more "sustainable".

Communicating products' sustainable footprint has become an essential focus for brands in the fashion industry in recent years (Buzzi, 2021). And fashion brands are working to manage the criticism about irresponsible sourcing and production by having open and transparent communication about what they are doing, both socially and environmentally, through sustainability reports or CSR reports (Buzzi, 2021; Da Giau et al., 2016).

2. Purpose and research question

A lot of the science in synthetic fibres points the problem finger in the same direction, the fast-fashion industry and the consumers' throwaway behaviour. Slow- and circular fashion is considered a part of the solution to the plastic problem in the fashion industry. At the same time, the occurrence of synthetic fibres is significant even in the slow fashion industry. Many slow and fast fashion companies are already selling apparel made of recycled synthetic fibres. By reason of the increasing use of synthetic fibres and the assumed different business model between fast and slow fashion brands, this thesis aims to investigate the communication of recycled synthetic materials as composition in clothes on websites and in sustainability reports by both fast and slow fashion brands.

RQ1: When did the communication of recycled synthetic materials appear in the sustainability reports?

RQ2: How has the appearance of recycled synthetic fibres increased in recent years in the reports?

RQ3: Is there a difference regarding the use of recycled synthetic fibres in the products, between the fast and the slow fashion company?

2.1 Outline text

The theoretical framework is regarding the communicative perspective of using recycled synthetic fibres. It focuses on how it can be used by fashion brands in their sustainability reports and on their websites. The mixed method of quantitative and qualitative content analysis is suitable for this thesis since it makes it possible to answer the research questions which require both a quantitative and a qualitative research approach. The result is divided into two subchapters where the quantitative results are presented with both text and tables, including an analysis based on the theoretical

framework. The second subchapter is the qualitative content analysis based on the sustainability reports from the two brands and their websites. The qualitative result also analyses how the brands make sustainable claims on product pages. It also includes an analysis based on the theoretical framework. The following chapter is the discussion where the findings in the results are discussed and followed by suggestions for further research. Lastly are the conclusions of the thesis and a thank you page.

3. Theoretical framework

This chapter describes the sustainability communication strategy of Corporate Social Responsibility (CSR), which has become a well-used communication strategy in the fashion industry in recent years.

3.1 Sustainability communication

3.1.1 Corporate Social Responsibility

Communicating products' sustainable footprint has become an essential focus for brands in the fashion industry in recent years (Buzzi, 2021). It is partly due to consumers' increasing awareness of the environmental, social and economic issues caused by the fashion industry (Rienda et al., 2022).

In recent years, one sustainability communication strategy that has become efficiently used in the fashion industry is Corporate Social Responsibility (hereafter CSR) (Rienda et al., 2022). CSR consists of three pillars, sometimes called the three Ps *Profit, People* and *Planet* (Buzzi, 2021; Vieira Jr. et al., 2022). However, this study only investigates one of the pillars, planet, and therefore only a brief explanation about profit and people will be presented. The profit pillar refers to the economic side of the CSR, and the people pillar includes fair employments, healthcare and safe work environment (Buzzi, 2021; Vieira Jr. et al., 2022). The planet pillar indicates that protecting the environment is a responsibility for everyone and all companies (Buzzi, 2021). The planet pillar covers, for example, green technology development to address emission mitigation, water and air quality, and the use of natural resources (Vieira Jr. et al., 2022). Buzzi (2021) claims that companies responsible for the planet and preserving the environment are gaining an excellent long-term reputation with customers and stakeholders.

Even though CSR consists of three pillars, companies can choose which of the three Ps they want their CSR communication to be focused on (Buzzi, 2021). Regardless of a company's CSR focus, all companies agree that CSR benefits their business. Transparency is an essential attribute of CSR communication, regardless of its focus. Transparency plays a significant part in communication since it provides the company's environmental work and shows which actions have been taken (Buzzi, 2021). Many apparel brands adopt their own labelling or apply for third-party certifications, such as organic cotton certifications or recycling certifications, to ensure transparent communication (Brydges et al., 2022; Ginder & Byun, 2022). Many consumers expect companies to be transparent in their communication nowadays (Buzzi, 2021). According to Ginder & Byun (2022), communication with specific details tends to be seen as more trustworthy for the recipient. For example, environmental product labelling with detailed information generates trust for consumers (Ginder & Byun, 2022). Third-party certifications are also a way to guide consumers to make more sustainable decisions (Brydges et al., 2022)

The increased requirement for retailers to provide transparent communication has led to more sustainability claims (Buzzi, 2021). Unfortunately, this has led to the misuse of sustainability terms (Buzzi, 2021; Strähle et al., 2015). When companies make environmental claims without being transparent and with no evidence is what is called 'greenwashing'. Claims that are considered greenwashing could include half-lies and half-truths and do not have to be completely false (Ginder & Byun, 2022). However, they are misleading consumers and are aiming to enhance the company's image by making vague promises.

3.1.2 Different type of environmental claims

Through CSR communication, companies make claims, and regarding which type of CSR communication a company chooses to focus on, either concrete and verifiable claims will be made, also called *substantive claims*, or image-oriented claims also called *associative claims* (see table. 1) (Ginder & Byun, 2022). Sustainability communication and claims consist of four different orientations;

Table 1. Substantive and associative claims

Substantive claims	Product-oriented: focusing on the environmentally beneficial aspects of the product.
	Process-oriented: focusing on the company's environmentally beneficial manufacturing and operation practices.
Associative claims	Image-oriented: focusing merely on the connection between a company and the environmental cause, does not include actions taken regarding the effects.
	Environmental fact: contains information about the environment that could be useful and educational without being tied to the company's environmental work.

The first two orientations mentioned above belong to the *substantive claims* and show actions taken by the company that decrease environmental harm (Ginder & Byun, 2022). For example, it could be claims such as "we have increased the amount of recycled nylon in our products by 15%". The claims give great trust since they are tangible and concrete and give evidence of verifiable impacts, according to Ginder & Byun (2022). The latter two orientations above are *associative claims* and aim to portray an impression of being environmentally friendly, with no evidence of the company's contributions or commitment. The associative claims could include "we are committed to maintaining the rainforests", this type of claim risks damaging the brand's image (Ginder & Byun, 2022).

3.1.3 CSR walk and talk

CSR communication can also be divided into two dependent variables, CSR *talk* and CSR *walk* (Colucci et al., 2020; Rienda et al., 2022). CSR talk is the communication about CSR, this could be CSR reports that have become a popular and well-used practice by many companies (Colucci et al., 2020). On the one hand, CSR talk is also communication available on the company's websites, advertising and labelling. On the other hand, CSR talk includes the action taken within the company and the implementation of CSR in the business. The CSR walk could be an improved method

to, for example, decrease energy use and adopt certificates that guarantee more sustainable products (Colucci et al., 2020).

3.1.4 Choice of media for CSR communication

According to Brydges et al. (2022), it is not enough to only communicate a company's sustainability work by publishing sustainability reports on its websites. Many companies have a separate sustainability section on their website where they can communicate their work, more than the annual reports. Instead, it is necessary to incorporate sustainability communication with other digital communication strategies (Brydges et al., 2022). In recent years, web-based sustainability communication has become the predominant way for companies to spread their sustainability information and present sustainability initiatives (Da Giau et al., 2016). Web-based sustainability communication allows companies to quickly and cost-efficiently release much information. The web-based communication also allows companies to have the latest update of information compared to traditional media e.g., adverts in newspapers and magazines. The development of web-based sustainability communication has increased due to the pressure from stakeholders on the fashion industry to improve their social and environmental work and to communicate which actions are taken more transparently. The pressure from external actors has also led to many fashion companies publishing their annual sustainability reports on their websites for full access to those interested (Da Giau et al., 2016).

4. Method

4.1 Selection

The selected brands for the analysis are Kappahl and Nudie Jeans. The selection have been based on the criteria presented in table 2 below. In addition to the criteria listed in the table, the brands were selected based on notoriety. Since the thesis aims to compare a slow fashion brand with a fast fashion brand, another criterion was that one of the brands could fit the description as a slow fashion brand and the other as a fast fashion brand. Anguelov (2016) describes fast fashion as a phenomenon characterised by cheap and readily disposable clothes (p.6). The fast fashion model is built to quickly change collections and products to keep up with the latest trends (Centobelli et al., 2022). As an alternative to the fast fashion model, the slow fashion embraces sustainability in the industry. A circular slow fashion model is in great need, focusing on reuse, second-hand retail and repair (Centobelli et al., 2022).

Furthermore, both of the brands have sustainability associations. On Kappahl's website (2022-09-21), this slogan is the first to be seen "Our business concept is simple: Affordable and responsible fashion, in a simple and inspiring way." (Kappahl, 2022a). And Nudie Jeans "the free repair of your Nudie Jeans program" is one of the things they are most famous for (Nudie Jeans, 2022a). The last criterion in the selection was that the brands needed visible and easily accessible "Sustainability" tabs on their websites.

Table 2. Selection criterias and how the two brands fulfilled these.

Criteria	Kappahl	Nudie Jeans
Have sustainability reports available	x	x
Have at least 6 sustainability reports	x	x
Use recycled synthetic fibres in their products today	x	x
Sweden based headquarter (following the same laws)	x	x
Make sustainability claims	x	x
Member of STICA ¹	x	x

4.2 Method choice

To answer the research questions, a mixed method approach has been chosen. Both belong to the method of content analysis. Bryman (2016) states that content analysis quantifies content from documents and texts in prearranged categories. The method makes it possible to investigate when and where a specific word, concept or item first appears in the material. Content analysis is a flexible method and can be applied to media types, such as newspapers and social media, or the media types this thesis will review documents and websites (Bryman, 2016; White & Marsh, 2006). The content analysis is divided into two steps, a quantitative content analysis which includes all the sustainability reports from the two brands, and a qualitative content analysis, including all the sustainability reports and websites from both selected brands.

Considering the thesis aims to investigate if there are dissimilarities between the selected brands in the use of recycled synthetic fibres and if and how the communication about recycled synthetic fibres may have changed throughout the years, the mix of quantitative and qualitative content analysis is adequate. For example, the research questions have two different approaches where RQ1 will

¹ The Swedish Textile Initiative for Climate Action (STICA) is an initiative started by the Sustainable Fashion Agency (SFA), apparel and textile companies and industry stakeholders to contribute to the Swedish target of net-zero greenhouse gas emissions by 2045 by reducing the climate impact and be in line with the 1.5°C warming pathway (STICA, 2022).

address the quantitative results, while RQ2 and RQ3 will address the qualitative results. The mixed method is suitable for different research questions according to Bryman (2016). Furthermore, since the quantitative content analysis measures the amount of times concepts could be preserved as amorphous on their own, the qualitative content analysis enables them to put it into context and analyse the concepts as a whole (White & Marsh, 2006). The qualitative analysis also helps to provide context to the quantitative findings, according to Bryman (2016).

4.2.1 Quantitative content analysis

Quantitative analysis methods are often used when investigating patterns and can often be presented with figures and tables (Justesen & Mik-Meyer, 2011). Quantitative content analysis requires precise research questions to avoid inappropriate analyses that are not of interest to the results (Bryman, 2016). A quantitative content analysis aims to find categories of the phenomenon or phenomena of interest by coding the text into different subjects and themes (Bryman, 2016). Compared to the categorising stage, which is straightforward, the coding part is more thematic and needs an interpretative approach since it requires searching for both established content likewise latent content which is more to read between the lines according to Bryman (2016).

4.2.2 Qualitative content analysis

The qualitative content analysis is, according to Bryman (2016), the most prevalent approach to the qualitative analysis of documents. Justesen & Mik-Meyer (2011) describes, "qualitative analysis uses methods that are suitable for describing phenomena in their context, and with that background, an interpretation can be made that provides increased understanding of the phenomena" (my translation, p. 13). Also, qualitative content analysis is suitable for analysing communication content (Bryman, 2016), which is the focus of this study. In particular it is suitable in this study since the qualitative content analysis makes it possible to find underlying themes in the analysed documents.

One approach that differs from the traditional quantitative content analysis is called ethnographic content analysis, outlined by Altheide and Schneider (Bryman,

2016). The themes are not as strictly followed from start to beginning when following the method of ethnographic content analysis compared to the traditional one, which makes the process iterative since there is a lot of back and forth between coding, categorising and data collection (Bryman, 2016). The researcher has more space to make changes and can constantly revise the themes and categories. Ethnographic content analysis is suitable when the number of documents is between 6-10 (Bryman, 2016). The total number of documents analysed in this thesis was 21, with a variation of 26-113 pages/report. The qualitative content analysis could make it possible to determine connections between the different documents since it provides underlying themes in the texts (Bryman, 2016), which makes it possible to answer research questions 2 and 3.

4.3 Empirical material

Documents are almost constantly a part of the empiricism in an academic thesis, especially when the analysis is of companies' documents such as websites and CSR reports (Justesen & Mik-Meyer, 2011). In some document studies, the essential part is producing the document. In contrast, other studies are interested in analysing how the documents are being used, while in this case, the essential part is to analyse what the documents say (Justesen & Mik-Meyer, 2011).

The delimitations have a significant part of the document selections, and it is essential to have distinct criteria for the data (Justesen & Mik-Meyer, 2011). The documents that have been analysed are sustainability reports from the selected brands. Although the two brands had various starting points with their sustainability reports, all of them were included in the analysis to answer the research questions. Documents such as the company's sustainability reports and CSR reports are commonly available and open to the public on the company's website (Justesen & Mik-Meyer, 2011). Kappahl had reports regarding environmental and social responsibility since 2008 available on their websites, but on Nudie Jeans website, only the most recent sustainability report was available. However, I contacted one employee who helped to receive all their sustainability reports from when they started working with it in 2015.

4.4 Course of action

Initially, the empirical material was collected, the sustainability reports from the two selected brands. All Kappahls sustainability reports from 2008 were available online on their website, which facilitated the search significantly. This is compared to Nudie Jeans, where only the newest sustainability report was available online on their website. From an email conversation with Nudie Jeans customer service, I got the answer that the elder reports were nowhere for me to find and that they would publish all of them on their website eventually. However, Nudie Jeans helped me out and gave me full access to all sustainability reports since 2015. Further empirical material for this thesis is the sustainability tab on the brand's websites (www.Kappahl.com and www.NudieJeans.com) and a hand-pick of apparel made of recycled synthetic fibres with text information and pictures. Excerpt from the sustainability reports from Nudie Jeans that all empirical material is open to the public.

The first step in the analysis was the quantitative analysis of the sustainability reports, where a selection of words was searched for in the materials. The word was "recycled", "recycling", "synthetic", and "fibre" the words "recycled" and "recycling" was later on joined and was named "recyc*", see table 3.

Table 3. Coding schedule for quantitative content analysis

Year	Report name	Pages	Recyc* ²	Synthetic	Fibre

Since Kappahl was writing their reports in Swedish until 2019/2020, the Swedish translation of recycled and synthetic fibres were searched for. Counting the frequency of certain words in the material is one step in the quantitative content analysis, which will determine if and how the use has changed throughout the years (Bryman, 2016). Using words such as "recycle" and "synthetic" can give an overview of the material and the changes. The number of pages was included in the coding schedule to give an

² Including all word starting with recyc, such as recycling, recycled, recycle

overview of how the sustainability reports may have changed within the companies and compared to each other throughout the years.

The coding is prior in the quantitative content analysis (White & Marsh, 2006). It is also a crucial stage in quantitative content analysis and includes two elements, a coding schedule and a coding manual (Bryman, 2016). The coding schedule is shown in table 3 above. The coding schedule was used for the quantitative content analysis and for all sustainability reports.

The second step in the analysis of the sustainability reports was to do the qualitative content analysis. For the qualitative analysis, a coding manual was made to identify categories (see table 4) (Bryman, 2016). Since the purpose with the thesis was to investigate the communication of the concepts recycled synthetic fibres, the coding manual was based on the words in the coding schedule and was also developed to be able to see how certain words was used together, for example “recycled”, “synthetic” and “fibre”, to be able to see how and when Kappahl and Nudie Jeans started to combine the concepts in the sustainability reports.

Table 4. Coding manual for qualitative content analysis

Year	Pages ³	Recyc*	Synthetic	Recyc* AND fibre ⁴	Recyc* AND synthetic fibre ⁵

When reading the sustainability reports, the colour coding was made to easily identify recurrent words and concepts in the texts. The identified codes were *transparency*, *eco-labeling* and *barriers with textile recycling* and are the structure of how the qualitative results are arranged further down.

³ The sustainability reports between 2014 and 2018 had two parts. Part two is the management report and is therefore not of interest for the result of the thesis, the amount of pages for the second part is therefore in parentheses.

⁴ All sentences including recycle/recycling/recycled and fibres/materials/garments (also in table 5)

⁵ All sentences including synthetic fibres/polyester/elastane/polyamide/nylon/acrylic (also in table 5)

The product pages on the brand's websites were analysed by choosing a random product category. For Kappahl, the category 'dresses' was chosen, where an analysis was made to see if and how they made sustainable claims. For example, Kappahl had sustainability claims directly visible when scrolling in the dress category. One random product with a sustainability claim regarding recycled synthetic fibre was then chosen to analyse further on the product page.

4.5 Ethical consideration

This study has considered the ethical principles; *harm to participants*, *lack of informed consent*, *invasion of privacy* and *deception* (Bryman, 2016). However, since most of the material used for the research has been public access, the ethical principle of harming participants does not apply. The conclusion was made that the brands should have been kept anonymous for the study, but the decision was to use the names since most of the materials are public documents.

No sensitive information, such as personal data or names, has been used for the results of this study. Nudie Jeans did not have its sustainability report published online and have therefore been informed that its sustainability reports are being analysed for the study. All information from Kappahl is available on their website. The ethical principles of lack of informed consent and invasion of privacy have been considered throughout the work's progress.

The last ethical principle is deception, which is described by Bryman (2016) as “deception occurs when researchers represent their work as something other than what it is” (p. 133). This study tries to portray the truth of the findings of the two brands' sustainability reports and the information available on their websites.

5. Results

In the following section, the result will be presented. The first part presents tables and explanations and will answer RQ1: When did recycled synthetic materials start to appear in the sustainability reports? While the second part, the result of the content analysis of the sustainability reports and websites, gives a more qualitative answer of RQ2: How has the appearance of recycled synthetic fibres increased in recent years in the reports? and RQ3: Is there a difference regarding the use of recycled synthetic fibres in the products, between the fast and the slow fashion company?

5.1 Quantitative results

This section will present the result from the quantitative content analysis. The analysed materials for this part of the result are the sustainability reports from both brands, 12 from Kappahl and seven from Nudie Jeans.

5.1.1 The use of words and concepts

The quantitative content analysis material was the two brands' sustainability reports. Kappahl has had 12 sustainability reports since 2008, and Nudie Jeans has had seven sustainability reports since 2015. Both brands have used the concepts of "recycling" and "synthetic fibres" in their sustainability reports over the years.

Table 5 shows Kappahl's development of the use of the concepts. The last column in table 5, "Recyc* AND synthetic fibre", is one of the most interesting ones to analyse and answer RQ1. Even though recycle/recycled/recycling and synthetic appeared in the sustainability report from 2009/2010, the combination of the two concepts in the same sentence started to appear in the sustainability report from

2013/2014.

Kappahl's first sustainability report from 2008 did not address the subject of recycling or fibres at all. However, the appearance of recyc* and synthetic has increased steadily through the years since it first started to appear in Kappahl's reports. The combination of recyc* and synthetic fibres started to appear in the report from 2013/2014. In the sustainability report from 2011/2012 and 2012/2013, Kappahl wrote about recycled textiles/fibres ten, respectively 12 times. The findings do not answer whether Kappahl was using recycled synthetic fibres in their products then. However, since the two concepts included in the same sentence could indicate that the possibility of using those types of fibres has started to appear in Kappahl's product development.

Table 5. Amount of times concepts have been mentioned in Kappahl's sustainability reports.

Year	Pages ⁶	Recyc*	Synthetic	Recyc* AND fibre ⁷	Recyc* AND synthetic fibre ⁸
2008	26	0	0	0	0
2009/2010	54	7	2	1	0
2011/2012	32	17	3	10	0
2012/2013	36	20	1	12	0
2013/2014	94	21	2	10	3
2014/2015	58 (+62)	24	1	13	4
2015/2016	58 (+62)	25	6	10	2
2016/2017	58 (+64)	35	7	21	3
2017/2018	56 (+64)	37	7	16	4
2018/2019	88	37	17	15	5
2019/2020	46	35	20	10	2
2021	56	40	38	17	3

⁶ The sustainability reports between 2014 and 2018 had two parts. Part two is the management report and is therefore not of interest for the result of the thesis, the amount of pages for the second part is therefore in parentheses.

⁷ All sentences including recycle/recycling/recycled and fibres/materials/garments (also in table 6)

⁸ All sentences including synthetic fibres/polyester/elastane/polyamide/nylon/acrylic (also in table 6)

The word recyc* has appeared in all of Nudie Jeans sustainability reports, as seen in table 6. Even though the word synthetic did not appear until 2019, different types of synthetic fibres were used already in 2015, such as polyester and nylon. The combination of the concepts recyc* and synthetic fibres are also used in the first sustainability report from Nudie Jeans. From this result, the first research question can be answered. It started to appear in their first sustainability report in 2015. However, it does not give an answer to when Nudie Jeans started to use the concepts together since there is no previous data.

The concepts recyc* and different synthetic fibres such as polyester, elastane and nylon are more frequently used in the same sentence in the sustainability reports by Nudie Jeans. Compared to Kappahl, where the peak of the use of recyc* and synthetic fibres in 2018/2019's sustainability report, the frequency has a linear increase in the Nudie Jeans reports.

Table 6. Amount of times concepts have been mentioned in Nudie Jeans sustainability reports.

Year	Pages	Recyc*	Synthetic	Recyc* AND fibre	Recyc* AND synthetic fibre
2015	21	24	0	10	4
2016	22	23	0	12	4
2017	37	53	0	23	4
2018	55	62	0	33	5
2019	78	118	2	67	10
2020	107	165	2	93	17
2021	113	121	2	69	24

From the quantitative content analysis, the first research question was acknowledged. The concepts started to appear in Kappahl's sustainability report from 2013/2014, even though it does not answer if Kappahl was using recycled synthetic fibres at that point. The two concepts, recyc* and synthetic fibres, appeared in Nudie Jeans first sustainability report from 2015. Since Nudie Jeans contributed with fewer materials

than Kappahl, it is difficult to answer when Nudie Jeans first addressed recycled synthetic fibres. Since the quantitative content analysis does not give information on how the concepts are used in the material, the qualitative results will put the concepts into context, as stated by White & Marsh (2006).

5.2 Qualitative results

The mainly analysed material for the qualitative content analysis was the sustainability reports from the selected brands and their websites, including product pages where sustainability claims were made and the sustainability tabs. The following section will be presented with different identified themes from the sustainability reports and are answering RQ2: How has the appearance of recycled synthetic fibres increased in recent years in the reports?, and RQ3: Is there a difference regarding the use of recycled synthetic fibres in the products, between the fast and the slow fashion company? The identified themes were; *Transparency in communication*, *Sustainable labels of recycled synthetic fibres* and *Textile recycling barriers and solutions*.

5.2.1 Transparency in communication

Kappahl and Nudie Jeans have valued open communication about their sustainability work since their first sustainability reports were published. For example, one of Kappahl's pillars in their environmental policy from the report in 2008 was open communication. Nudie Jeans sustainability set a goal in 2012 to have total transparency and traceability in production, according to their sustainability report in 2015. They also had transparency as one of the goals for the following years:

“We want to continue being the frontrunner when it comes to transparency; and by continuing to share our knowledge and being part of collaborations lead the industry to further development within the use of sustainable materials and reduction in the use of chemicals.” (Nudie Jeans, 2015, p. 20).

In the citation, Nudie Jeans gives moderate details on how to continue being a frontrunner in the fashion industry, considering transparency by distributing knowledge and collaborations.

Kappahls sustainability report from 2013/2014 was the first time the concept “recycled”, and synthetic fibres were in the same sentence, as seen in table 4. In spring 2014, they made a women’s lingerie collection of recycled polyester. On the one hand, it does not appear how many percentages of the collection are from recycled polyester. In the sustainability report, “In the spring of 2014, a sensual and feminine women’s collection in recycled polyester was launched” (p. 21, my translation). From this citation, assumptions could be made that the collection is made of 100% recycled polyester. However, it means that Kappahl has been using recycled synthetic fibres in the products since 2014, regardless of the amount of the fibres that were recycled. The total amount of used recycled synthetic fibres in 2014/2015 was 0,5%, according to their sustainability report (see table 7).

The last two sustainability reports by Kappahl have shown a more significant awareness of the significance of transparency in communication. In the sustainability report from 2019/2020, they started to use the phrase “More sustainable” instead of “sustainable materials”. From the sustainability report 2019/2020, “More Sustainable means better than conventional materials.” (p. 7), and from the sustainability report 2021:

“What does more sustainable mean? Until we can say for sure that a material or a process is in fact 100% sustainable, Kappahl uses the term “more sustainable”. We only make promises we can keep! Presently, when we use the term “more sustainable” this means better than conventional. [...]” (Kappahl, 2021, p. 7).

Recently, Nudie Jeans not only presented how many percent of sustainable labelled products they hold but also how many percent of the products that were not sustainable. And what kind of products did not fulfil the sustainable criteria:

“1.8% of all Nudie Jeans products did not live up to the criteria for being a sustainable product, in 2021 these were: leatherjackets, leathershirts, leather accessories, a wool hat, four styles of knitted sweaters, the Guppy Friend washing bag.” (Nudie Jeans, 2021, p. 20).

Providing detailed information, like the citation above, gives another aspect to transparency communication. Since it proves that Nudie Jeans not only presents data to enhance the company's image.

5.2.2 Sustainable labels of recycled synthetic fibres

Both Kappahl and Nudie Jeans use eco-labelling on their product. However, they are slightly different. Kappahl has, since the first sustainability report, in 2008, been using the concept of "eco labelled" clothes. Nudie Jeans has instead used the "sustainable material" concept for their products and have a "Good Environmental Choice" eco-label on their secondhand products.

In the sustainability report from 2009/2010, Kappahl accounted for the percentage of "eco labelled" products, which corresponded to 18% of the total assortment. The goal was to reach 15%. In the reports, Kappahl states that the request from consumers for sustainable labelled clothes has increased, which is one of the causes for reaching the goal with margin. The sustainability engagement from the consumers is recurring in Kappahl's sustainability reports, for example, from 2015/2016, "More customers are demanding sustainable fashion" (my translation, p. 20). Table 7 shows the increasing amount of eco-labelling products through the years, when recycled synthetic fibres started to be accounted for, and how the use of recycled synthetic fibres has increased.

Table 7. Kappahl's total amount of eco-labelled products and total use of recycled synthetic fibres

Year	Total eco labelled products (%)	Total recycled synthetic fibres (%)
2008	No data	No data
2009/2010	18	No data
2011/2012	20 ⁹	No data
2012/2013	18	No data
2013/2014	19	No data
2014/2015	24	0,5
2015/2016	38	0,5
2016/2017	53	No data
2017/2018	57	3,7
2018/2019	58	8
2019/2020	70	17
2021	75	31

In the sustainability report for the years 2014/2015 and 2015/2016, Kappahl accounted for their sustainable materials for the first time, of which recycled polyester/synthetic fibres is one of them and stands for 0,5% of the total use of their sustainable materials.

The sustainability report from 2016/2017 did not provide information about the total amount of recycled synthetic fibres used in the products. However, the percentage of recycled synthetic fibres increased to 3,7% in 2017/2018. The amount of recycled synthetic fibres increased to 8% in 2018/2019 and 17% in 2019/2020. In the latest sustainability report in 2021, 31% of synthetic fibres came from recycled sources.

Table 7 clearly shows the actions Kappahl has taken since the sustainability

⁹ “Today, over 11 000 000 of our garments are eco-labelled. That corresponds to roughly 20% of our products” (Kappahl, 2011/2012, p. 23, my translation).

report 2014/2015 until the latest reports in 2021, considering the use of recycled synthetic fibres instead of virgin fibres.

Compared to sustainability reports that companies usually publish once a year, the communication on their websites is more flexible in that they can update it more easily. Kappahl makes sustainable claims on its website for the products they classify as more sustainable, and figure 2 presents how these claims are made from the product overview on the website.

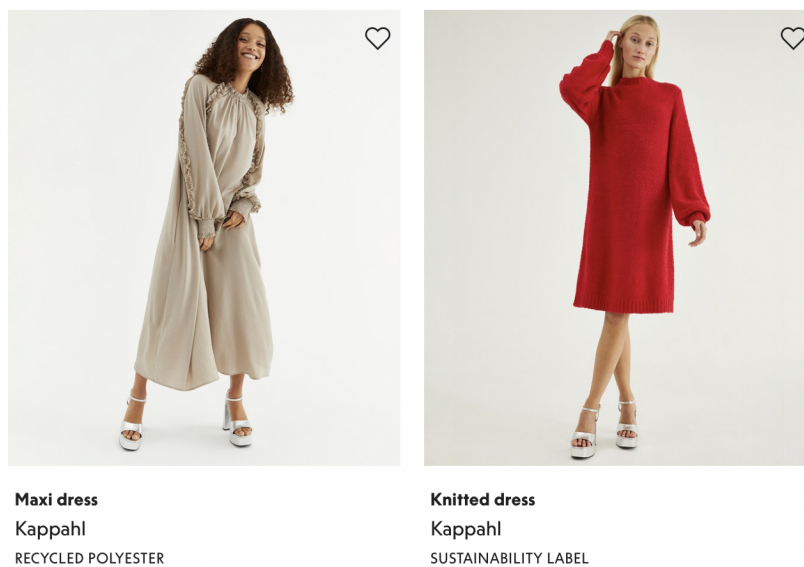


Figure 2. Two different sustainability claims on the product page from Kappahl (Kappahl, 2022b).

According to Kappahl’s website, they state that “We have strict requirements that a product must meet to be described as “more sustainable”, and these are based on external certifications and third-party data.” (Kappahl, 2022d).

The product information for the dress with the sustainability claim “recycled polyester” in figure 2 presents that the dress is made of 100% polyester, of which 67% is recycled polyester (Kappahl, 2022c). From the product information is an additional reference to a new page, “Recycled polyester”, which leads to Kappahl’s sustainability label page, where recycled polyester is described as:

Recycled polyester is made from PET bottles and scraps and by-products from the manufacturing industry, as opposed to conventional polyester which is made from oil. Making recycled material is less resource-intensive than producing material from scratch, which is why it reduces pollution and energy consumption. It also reduces the volume of waste. Our Recycled Polyester-labelled garments contain at least 50 percent recycled material. (Kappahl, 2022d).

The citation above provides information on which of Kappahl's products is labelled with the sustainability label "Recycled polyester" and what the recycled polyester is extracted from. However, it does not include evidential information that could provide information of a third-party certification that Kappahl stated that their "more sustainable" products have. Kappahl lists the recycled synthetic fibre polyester and polyamide under "Our sustainable labels" on their website (Kappahl, 2022d).

Nudie Jeans work differently from Kappahl with eco labelling. While Kappahl has its eco label on new products, Nudie Jeans have the eco label on jeans handed in by customers for different reasons (e.g., as they are too big or too small). They wash and repair them if needed before selling them again. These jeans have the eco label from The Swedish Society for Nature Conservation, "Good Environmental Choice" (Bra Miljöval). Nudie Jeans also has other certifications, but not yet are their recycled fibres certified by any standard.

In contrast to Kappahl, Nudie Jeans does not make a clear sustainability claim on the product overview on the website. For example, naming a product "Cardigan Rebirth" could be considered a more sustainable choice. Figure 3 shows the compositions in the cardigan named "Cardigan Rebirth", containing, among other fibres, recycled polyester.

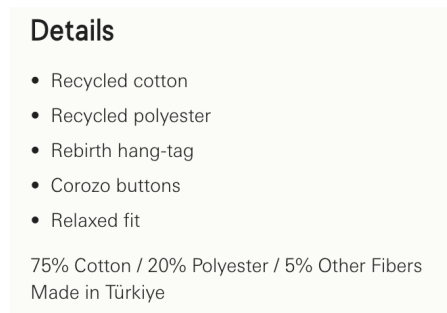


Figure 3. Information of the composition (Nudie Jeans, 2022b).

The details in figure 3 do not include detailed information about certifications for the claim. However, well accessible on Nudie Jeans website is their sustainability menu, which leads to the materials used in their products. Polyester was one of the fibres in the cardigan in figure 3, and the website Nudie Jeans writes about polyester:

In 2021, we continued to only work with recycled polyester in denim fabrics containing a polyester blend, and we also used recycled polyester for linings. Virgin polyester is still used in some of our knitted garments. [...] Most of our recycled polyester originates from India, and we are still in the process of tracing the virgin polyester that we use. (Nudie Jeans, 2022b)

Compared to Kappahl, who stated where the recycled polyester is extracted from (PET bottles, for example), Nudie Jeans has a more described communication about what polyester is and how they use it. Nudie Jeans also show traceability since they can track where the material comes from, and they are also open to the lack of information about the virgin polyester being sourced. However, similar to Kappahl, Nudie Jeans does not have a third-party certification that could provide evidence for their statement.

In Nudie Jeans first sustainability report in 2015, they stated that 76% of all products were made with "sustainable materials". Nudie Jeans has used the definition of sustainable materials from Made-By¹⁰ and used the classifications A and B, which include recycled materials, organic cotton and Tencel, see figure 4. The following year, 2016, the total amount of sustainable materials increased to 85%, and in 2017, 95% of Nudie Jeans products were made in sustainable materials. In the sustainability reports from 2015, 2016 and 2017, Nudie Jeans did not mention how much of the sustainable materials came from which fibre or which classification (A or B). The classifications have changed since the table in figure 4, and Nudie Jeans are using the classification shown in figure 5 from 2021. For example, recycled polyester and nylon were classified as one of the most sustainable materials in figure 4. In contrast, figure 5 indicates that recycled synthetic fibres such as polyester, nylon and acrylic belong to Class 2 (of a total of three classifications).

¹⁰ A non-profit-organisation with the mission to make sustainable fashion common practice (Made-By, 2022).

MADE BY ENVIRONMENTAL BENCHMARK FOR FIBERS

CLASS A	CLASS B	CLASS C	CLASS D	CLASS E	UNCLASSIFIED
Mechanically Recycled Nylon	Chemically Recycled Nylon	Conventional Flax (Linen)	Modal® (Lenzing Viscose Product)	Bamboo Viscose	Acetate
Mechanically Recycled Polyester	Chemically Recycled Polyester	Conventional Hemp	Poly-acrylic	Conventional Cotton	Alpaca Wool
Organic Flax (Linen)	CRAILAR® Flax	PLA	Virgin Polyester	Cuprammonium Rayon	Cashmere Wool
Organic Hemp	In Conversion Cotton	Ramie		Generic Viscose	Leather
Recycled Cotton	Monocel® (Bamboo Lyocell Product)			Rayon	Mohair Wool
Recycled Wool	Organic Cotton			Spandex (Elastane)	Natural Bamboo
	TENCEL® (Lenzing Lyocell Product)			Virgin Nylon	Organic Wool
				Wool	Silk

MORE SUSTAINABLE LESS SUSTAINABLE

Figure 4. Definition of sustainable materials used by Nudie Jeans from 2015, 2016 and 2017.

Sustainable Fibers		
Class 1 ¹	Class 2 ²	Class 3 ³
Recycled cotton	Recycled polyester	Certified alpaca
Post consumer Nudie Jeans	Recycled nylon	Certified yak
Recycled wool	Certified wool	Certified mohair
Traceable, organic, and/or Fairtrade cotton	Certified organic cotton	Certified and vegetable tanned leather
Certified organic jute	Certified organic linen	Certified organic silk
TENCEL™ Lyocell	Certified organic hemp	
FSC® or PEFC™ Pulp	Certified kapok	
Recycled down	Recycled acrylic	

Figure 5. Definition of sustainable materials used by Nudie Jeans from 2021.

Nudie Jeans focuses its claim on the environmental benefits of the products and the productions by presenting how many percent of its products are made with a more sustainable garment.

Nudie Jeans started to measure the total material use and total use of recycled fibres in 2018, see table 8. Recycled polyester was introduced in some of Nudie Jeans products the same year. In the sustainability report from 2018, "In some products, we still use virgin polyester as a complementary fibre, but we are working to be able to only use recycled polyester in the future." (p. 17). Nudie Jeans used 1466 kg of recycled polyester compared to 1765 kg of virgin polyester in 2018. The following year, 2019, recycled polyester became the primary polyester source. Moreover, they used 4176 kg of recycled polyester compared to 262 kg of virgin polyester.

Recycled elastane was introduced in Nudie Jeans products in 2020, about 150 kg of recycled elastane was used compared to 3386 virgin elastane in 2020, and a further

305 kg of recycled elastane was used the following year. 2021 was also the first year when the synthetic fibre polyamide was first used as recycled.

Table 8. The total use of recycled fibres and type of recycled synthetic fibres since Nudie Jeans started to measure the total material use in 2018.

Year	Total recycled fibres (%)	Recycled polyester (kg) (virgin)	Recycled elastane (kg) (virgin)	Recycled polyamide (kg) (virgin)	Total recycled synthetic fibre (%)
2018	1	1466 (1765) 45%	0 (6899)	0 (324)	16%
2019	2,9	4176 (262) 94%	(3579)	0 (766)	90%
2020	1,4	2482 (374) 86%	150 (3386) 4%	0 (658)	41%
2021	3,7	2298 (126) 95%	305 (2012) 13%	247 (595) 29%	51%

In 2021, recycled polyester accounted for 95% of the total polyester use, recycled elastane accounted for 13% of the total elastane use, and recycled polyamide accounted for 29% of the total polyamide use (my calculations, the amount divided by the total). As presented in table 8, the use of recycled polyester decreased between 2019 and 2020, an explanation for that Nudie Jeans written in their sustainability report from 2020:

The use of recycled polyester has decreased slightly, but the total use of polyester has decreased as well. The volumes of recycled polyester had a pike in 2019 seen to the last these three years due to a few styles made in only recycled polyester. We did not continue with these styles in 2020, but instead the recycled polyester has mostly been used in linings and in some of our denim fabrics. (Nudie Jeans, 2020, p. 20)

Although the total amount of polyester decreased between 2019 and 2020, the percentage of recycled polyester was lower in 2020 (86%) than in 2019 (94%). The total amount of recycled fibres decreased between 2019 and 2020, from 2,9% to 1,4%. The reason or thoughts about that was not mentioned. However, the total amount of recycled fibres increased again in 2021 to 3,7%, the highest percentage. The total amount of used polyester and elastane (recycled and virgin) decreased in 2021.

However, Nudie Jeans has been using the words *recyc** and synthetic fibre combined since the first sustainability report was published in 2015. The four times *recyc** and synthetic fibres were in the same sentence in the sustainability reports from 2015, 2016 and 2017 in a table showing how fibres are classified from "More sustainable" to "Less sustainable". It does not appear if, and in that case, how much recycled synthetic fibres are used in their products. This gives the logic to use the mixed method of quantitative content analysis and qualitative content analysis (Bryman, 2016).

5.2.3 Recycle barriers and solutions

Kappahl and Nudie Jeans are aware of the problem with clothing ending up in landfills, and both brands have brought up the barriers to the recycling process of fibre blends. In Nudie Jeans sustainability report from 2020, "Common material blends such as cotton and polyester, but also as many other fibre blends, are currently only recycled in laboratories today, and the technology is not yet scalable for commercial use." (p. 28).

Nudie Jeans has had a recycling focus on jeans, whose primary fibre is cotton, and stated in the most recent sustainability report, 2021, that one of their focus in the recycling process is to keep the organic cotton separated from conventional cotton. In the same report, "Mixing synthetic fibres with cellulosic fibres can also impact the recyclability of a garment or fabric." (p. 28).

However, from the first sustainability report in 2016, Nudie Jeans stated that "We don't believe "throwaway" and "jeans" are words that belong together [...]" (p. 6). Nudie Jeans have taken some actions to prevent their clothes, especially from ending up in landfills. For example, one of Nudie Jeans services is that they provide a free repair of customers' Nudie Jeans in their Repair Shops (which they call their stores), or if customers do not have the ability to visit one of the Repair Shops, Nudie Jeans send out free repair kits to guarantee a longer life for the clothes, which contributes to more

sustainable consumption.

Kappahl was 2011/2012 one of the members of a network Textile for Recycle Initiative (T4RI) with other Swedish colleagues in the industry that, among other things, tries to find solutions to promote the recycling of garment fibres. Since 2013/2014, Kappahl has been offering to collect customers' old textiles in their stores and was saving 195 tonnes of textiles in 2021. Kappahl has since 2018/2019 been a partner in the Re:newcell, which is the first in the world to break down textiles so they can be used for new clothes on an industrial scale. They are also involved in other recycling projects, for example, SIPTex, establishing the world's first automated textile sorting facility for industrial scale.

6. Discussion

All sustainability communications Kappahl and Nudie Jeans provide in their sustainability reports and on their websites are classified as CSR talk since it provides information about their sustainability work (Colucci et al., 2020). The quantitative analysis indicates that the amount of times the concepts considering recycling materials has increased since the first sustainability report was published by each brand. The increasing number of times the concepts appear in the material is in line with the allegation by Buzzi (2021) that brands have started to have their essential focus on the product's sustainable footprint in their communication in recent years.

To be transparent and openly communicate sustainable work and which actions have been taken has been valued by both Kappahl and Nudie Jeans since their first sustainability reports were published in 2008 (Kappahl), respectively 2015 (Nudie Jeans). Kappahl has shown a development in transparency in their communication in the sustainability reports. For example, in the report from 2013/2014, Kappahl expressed that they had launched a collection made of recycled polyester without further information about how much of the collection consisted of recycled material. The claim focuses on the environmentally beneficial aspect of the product, which is a substantive, product-oriented claim, according to Ginder & Byun (2022). Buzz (2021) and Sträthle et al. (2015) stated that providing environmental claims without being transparent, providing evidence or available quantitative information to back up the claim is misleading and could be classified as greenwashing.

In the sustainability report from 2019/2020, Kappahl started to use the concept "more sustainable" instead of "sustainable materials" since they do not want to say something they can not be 100% sure is true. Kappahl also expresses the insurance they want to provide the receiver that they are only making promises they can keep.

In the first sustainability report by Nudie Jeans they stated that they wanted

to continue being the forrunner when it comes to transparency (see the first citation in section 5.2.1 above). According to Colucci et al. (2020), the citation by Nudie Jeans could be classified as a CSR walk since it communicates about CSR. Nudie Jeans could be seen as transparent in their communication in the citation. Transparency is an essential attribute in CSR communication, according to Buzzi (2021). The citation is also, according to Ginder & Byun (2022), a substantive claim and is considered more trustworthy for the recipient, since it includes actions they will proceed.

Essential in transparent communication is to present what has been done and which actions have been taken (Buzzi, 2021). This can also give an understanding of what has not been done and which goals have not been achieved. Nudie Jeans has been working with transparency in a slightly different way lately. The latest sustainability report did not only present which goals they had reached. Nudie Jeans also presented how their products did not meet their sustainability criteria and how many percent failed to do that, a total of 1.8% of their products. The question is if they would have shown the same transparency with the number of products that did not live up to the sustainability criteria would have been much higher. Whether they would have done it or not, Nudie Jeans has provided quantitative information about the parts of their not so sustainable work for the year. It also proves that Nudie Jeans not only presents data to enhance the company's image, as established by Ginder & Byun (2022) but also shows transparency in which areas they did not deliver sustainable products. This also tends to be received as more trustworthy by the recipient (Ginder & Byun, 2022).

Since Kappahl has published seven more sustainability reports throughout the years compared to Nudie Jeans, it is hard to compare the development between the two companies. In 2015, when Nudie Jeans first published its sustainability report, Kappahl had already launched its first collection made with recycled synthetic fibres. Both Kappahl and Nudie Jeans are using eco labels on products that are considered more environmentally friendly. Putting labels on products is considered CSR talk, according to Colucci et al. (2020). CSR talk includes the actions taken in which labelling products is one way of taking action. According to Ginder & Byun (2022) eco-labelling could positively affect consumers since it provides information that generates trust for the receiver. Rienda et al. (2022) indicate that the consumers' increased knowledge of the environmental, social and economic issues the fashion industry is responsible for has increased fashion companies' communication about

products' sustainable footprint.

The total percentage of recycled synthetic fibre both brands have been using in their products has increased since they started to measure their total use of recycled fibres (see table 7 and 8). Both Kappahl and Nudie Jeans communicate its use of recycled synthetic materials with tangible claims that clearly show the company's actions that benefit the environment (Ginder & Byun, 2022).

Nudie Jeans has been separating the synthetic fibres they use in their styles, polyester, elastane and polyamide, while Kappahl has one group called "synthetic fibres". Nudie Jeans has used more than 90% recycled polyester in its products since 2018. 2020 was an exception where they also explained that the total use of polyester decreased. However, they did not mention that the percentage of recycled polyester decreased between 2019 and 2020 by -8%. In the latest sustainability reports, Nudie Jeans presented that 95% of all polyester was recycled, 13% of the elastane used was recycled, and 29% of all polyamide was recycled. To be able to compare the total amount of recycled synthetic fibres between the brands, a calculation was made on Nudie Jeans numbers since they were presented in kilograms. It has been discovered through my calculations that Nudie Jeans used a total of 51% recycled synthetic fibres (table 8), which included polyester, elastane and polyamide. Kappahl, on the other hand, started to use recycled synthetic materials in 2014/2015. Between 2014 and 2016, they used a total of 0,5% recycled synthetic fibres, and in their latest sustainability report, 31% of the synthetic fibres were recycled (table 7). Which is 20% less than Nudie Jeans. The increase in recycled synthetic fibres indicates that Kappahl and Nudie Jeans has reduced the company's harm to the environment in the stage of plastic pollution due to the use of virgin materials, which is in line with the statements made by Henry et al. (2019) and Shirvanimoghaddam et al. (2020).

Based on the results, Nudie Jeans are using more recycled synthetic fibres compared to Kappahl. However, the results do not include how many percent of both of the brands assortment are made of synthetic fibres. Nudie Jeans, on one hand, has a lot of jeans in their assortment and have a focus on jeans, which mainly consist of cotton. Kappahl, on the other hand, has a wider assortment with apparels for all ages. Kappahl has not the same main focus on one fibre in the same way as Nudie Jeans has. Therefore, assumptions can not be made if the use of recycled synthetic fibres are more used in a slow fashion brand than a fast fashion brand. Nevertheless, what is not reported by either of the two brands is how much of their assortment a certain fibre represents.

Nudie Jeans has been using the concept of "recycled synthetic fibres" more frequently than Kappahl in its sustainability reports over the years. In the latest report from 2021, recycled synthetic fibres were included in the same sentence 24 times in Nudie Jeans reports compared to 3 times in Kappahl's. Despite the fact that the sustainability report by Nudie Jeans has twice as many pages (117) compared to Kappahl (56), the use of the concepts is more than twice as many. However, just because a company communicates a concept more times than the other does not have to indicate that their sustainability work is 'better'.

Neither Kappahl or Nudie Jeans does not give information about certified recycled products in either their sustainability reports or on their website. Kappahl are stating that their sustainable labels, such as recycled polyester and recycled polyamide, have strict requirements and are based on third-party data and external certifications. However, it does not include evidential information that could provide information of a third-party certification that Kappahl stated that their "more sustainable" products have. Kappahl may have external certifications on recycled synthetic fibres. According to Ginder & Byun (2022), this type of claim could be considered vague with "half-lies". It does not necessarily have to be a lie. By stating who the "third party" is would increase the statement's credibility. Nudie Jeans states in the sustainability report from 2021 that they are endeavouring for a recycling standard. Including a third-party certification, such as the "Good Environmental Choice", which is one way for brands to ensure their customers that the information they are communicating is transparent and reviewed by an unbiased actor (Ginder & Byun, 2022).

Da Giau et al. (2016) implied that the pressure from external actors has led to many companies pursuing easily accessible sustainability communication on their websites and publishing sustainability reports on their websites, open to the public. Kappahl provides all sustainability reports on its websites, while Nudie Jeans have its newest one published on its website. While the sustainability reports are published once a year and do not change in the meantime. Da Giau et al. (2016) meant that web-based communication allows companies to quickly publish new information and keep up with the latest facts, compared to traditional media. The information on the brands product pages for the clothes with sustainable claims such as "recycled polyester" is that the products are made with recycled polyester and includes a link to the page "Our sustainable labels". The question is, who is interested enough to click on the button that takes them to a new page and to find out what recycled polyester means. Brydges et al. (2022) established that brands need to do more than just

communicate their sustainability work in sustainability reports once a year. Kappahl and Nudie Jeans have sustainable sections on their websites (one of the selection criteria) where they communicate their sustainability work. Both companies also have separate fibre pages on their sustainability sections on the websites, with information about, for example, what recycled synthetic fibre is and other materials and certifications. However, more information directly on the product pages would benefit the recipient and result in more people taking part in the information.

Kappahl and Nudie Jeans have been using recycled synthetic fibres since 2014/2015, respectively 2018. Nevertheless, the recycling claims they have made throughout the years are missing evidence-based information that could provide greater trust for the claims. For example, both brands are members of the non-profit organisation Textile Exchange which holds several recycling standards that Kappahl and Nudie Jeans could have applied for and provided in certificated recycled fibres (Textile Exchange, 2022). In figure 5 can be seen that Nudie Jeans are using certificates on other fibres, and Nudie Jeans state on their website that they aim to start using well-known recycled standards in the future. However, Nudie Jeans has significant involvement in projects to maintain the development of a more sustainable fashion industry. One project is the "certification to LAST" (Long life design, Accessible spare parts, Sustainable production and materials and Transparency made by Research Institute Sweden (RISE) whom Nudie Jeans started to collaborate with in 2021, according to Nudie Jeans sustainability report from 2021.

In the CSR communication, there is no significant difference between how Kappahl, which, in this thesis, is classified as a fast fashion brand, communicates its work compared to Nudie Jeans, which has the classification as a slow fashion brand in this thesis. This study has identified some similarities between how the two brands handle the barriers of textile recycling.

The difficulties with textile recycling on an industrial level could answer the low use of recycled synthetic fibres such as polyester and nylon. Both Kappahl and Nudie Jeans have expressed the hardship with fibre blends and the problem with separating these in the recycling process. The problem with separating different types of fibres has also been stated by (Centobelli et al., 2022)), and is one of the biggest causes of low textile recycling. However, as stated by (Gupta et al., 2019), polyester is manufactured in the same way as PET bottles, and recycled polyester usually originates from PET bottles and not textile products. Therefore, the argument for the difficulties with recycling textile products is only part of the reason for the low range

of recycled polyester in the fashion industry. Since plastic and textile were the top five waste products in 2018 (Gupta et al., 2019), the waste problem could decrease if more plastic products were recycled into polyester. However, it would likely not decrease textile waste. Kappahl states that their recycled polyester origins come from PET bottles. However, they still do not include certifications or confirmations reinforcing the claim.

6.1 Further research

Does the information from the sustainability reports reach out to the general public? According to Brydges et al. (2022), more than the sustainability reports available on the company's websites are needed to communicate the sustainability work. Further research could investigate if the information from the sustainability reports reach out to the general public, who is the general reader of the sustainability reports and for what reason are they reading it. Further research could also include investigating more of the sustainability communication on the websites than what this thesis made. For example., the sustainable claims Kappahl are making on its product pages include a link to its "sustainable labels" page where information about the recycled synthetic fibres can be found. However, for whom is this link? Customers and stakeholders? Is it there to avoid being accused of greenwashing? Furthermore, how many people click the link? The generation aspect could have been interesting to include as well. According to Centobelli et al. (2022), the biggest consumer of fast fashion is Generation Y (persons born between 1981-1995), even though their knowledge about the negative environmental and social impact caused by the fashion industry.

The sustainability reports from both Kappahl and Nudie Jeans state the barriers to recycling textiles, especially apparel made of fibre blends. The recycling of textiles on an industrial level has started to appear in recent years. Although the problem with the recycling process of fibres would be solved, and more textiles would be able to be recycled, it would probably not solve the overconsumption and production that the fashion industry contributes to. Further research could therefore investigate how and if recycling could contribute to keeping driving the fashion industry towards a more sustainable direction.

The last suggestion for further research is to investigate how sustainable it is with recycled synthetic fibres, if it has environmental benefits by recycling fibres instead of using virgin synthetic fibres. According to (Sarioğlu, 2019), recycled synthetic fibre is of poor quality compared to virgin synthetic fibre for example. There is also chemical leakage (micro-plastic) of both virgin synthetic fibre as well as recycled, which for example Nudie Jeans are aware of and hands out washing bags for their products made of synthetic fibres.

7. Conclusions

- The result showed that the fast fashion brand (Kappahl) was starting to mention recycled synthetic fibres in the sustainability report from 2013/2014, and they started to use recycled synthetic materials in the following year (2014/2015). The slow fashion brand (Nudie Jeans) has mentioned recycled synthetic fibres since its first sustainability report in 2015. However, they did not start to use recycled synthetic fibres in their products until 2018. Nudie Jeans has used the concept more frequently than Kappahl in its sustainability reports.
- The use of recycled synthetic fibres also has, since both of the brands have been measured, the total use of recycled fibres has always been higher in Nudie Jeans products than Kappahl. However, the difference between how many percent of recycled synthetic fibres they are using is about 20%. Nudie Jeans was using 51% recycled synthetic fibres in 2021, and Kappahl was using 31% recycled synthetic fibre at the same time.
- Both Kappahl and Nudie Jeans are making sustainability claims regarding recycled synthetic fibres on their websites. However, neither of them has a third-party certification of their recycled fibres, which could have increased their credibility for the receiver. However, Kappahl and Nudie Jeans are two brands that show transparency in their communication. Kappahl has, in the two last sustainability reports, used an approach of not wanting to make promises they can not keep. They started to use the term "more sustainable" instead of "sustainable materials" because they did not want to mislead anyone since "sustainable materials" can be received as 100% sustainable. Nudie Jeans has been presenting how many of its products did not fulfil the sustainability criteria in 2021.

8. Acknowledgement

I want to thank my supervisor, Emma Samsioe, who has given feedback and support, provided new insights into the fashion industry, and had exciting angles on the subject. Also, thank you to my classmates for moral support in weekly Zoom meetings when we all have been writing our thesis on distance. Thank you Luuk, for curing my imposter syndrome and being the best rooter. Lastly, thanks to my friends and family for showing interest and support.

9. References

- Allwood, J. M., Laursen, S. E., de Rodríguez, C. M., & Bocken, N. M. P. (2006). *Well dressed?: The present and future sustainability of clothing and textiles in the United Kingdom*. University of Cambridge, Institute of Manufacturing.
- Anguelov, N. (2016). *The Dirty Side of the Garment Industry* (Vol. 2016). Taylor & Francis eBooks (Complete Collection).
- Brydges, T., Henninger, C. E., & Hanlon, M. (2022). Selling sustainability: Investigating how Swedish fashion brands communicate sustainability to consumers. *Sustainability: Science, Practice and Policy*, 18(1), 357–370. <https://doi.org/10.1080/15487733.2022.2068225>
- Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.
- Buzzi, T. (2021). The state of CSR Strategic Communication and company reputation in the Fashion Industry: The consumer's perspective after Covid-19 pandemic. *Economia Aziendale Online -*, Vol 12, 351-362 Pages. <https://doi.org/10.13132/2038-5498/12.3.351-362>
- Centobelli, P., Abbate, S., Nadeem, S. P., & Garza-Reyes, J. A. (2022). Slowing the fast fashion industry: An all-round perspective. *Current Opinion in Green and Sustainable Chemistry*, 100684. <https://doi.org/10.1016/j.cogsc.2022.100684>
- Colucci, M., Tuan, A., & Visentin, M. (2020). An empirical investigation of the drivers of CSR talk and walk in the fashion industry. *Journal of Cleaner Production*, 248, 119200. <https://doi.org/10.1016/j.jclepro.2019.119200>
- Da Giau, A., Macchion, L., Caniato, F., Caridi, M., Danese, P., Rinaldi, R., & Vinelli, A. (2016). Sustainability practices and web-based communication: An analysis of the Italian fashion industry. *Journal of Fashion Marketing and Management*, 20(1), 72–88. <https://doi.org/10.1108/JFMM-07-2015-0061>
- Dasgupta, S., Sarraf, M., & Wheeler, D. (2022). Plastic waste cleanup priorities to reduce marine pollution: A spatiotemporal analysis for Accra and Lagos with satellite data. *Science of The Total Environment*, 839, 156319.

- <https://doi.org/10.1016/j.scitotenv.2022.156319>
- Ginder, W., & Byun, S.-E. (2022). To trust or not to trust? The interplay between labor-related CSR claim type and prior CSR reputation of apparel retailers. *Journal of Retailing and Consumer Services*, 65, 102875. <https://doi.org/10.1016/j.jretconser.2021.102875>
- Gupta, R., Shukla, V., & Agarwal, P. (2019). Sustainable Transformation in Modest Fashion Through 'RPET Technology' and 'Dry-Dye' process, using Recycled PET Plastic. *International Journal of Recent Technology and Engineering*, 8, 515–5421. <https://doi.org/10.35940/ijrte.A1432.098319>
- Henry, B., Laitala, K., & Klepp, I. G. (2019). Microfibres from apparel and home textiles: Prospects for including microplastics in environmental sustainability assessment. *Science of The Total Environment*, 652, 483–494. <https://doi.org/10.1016/j.scitotenv.2018.10.166>
- Justesen, L., & Mik-Meyer, N. (2011). *Kvalitative Metoder: Från vetenskapsteori till praktik* (1:2). Studentlitteratur AB.
- Kappahl. (2022a, October 26). *Om Kappahl*. <https://www.kappahl.com/sv-SE/om-kappahl/>
- Kappahl. (2022b, December 6). *All Womenswear*. <https://www.kappahl.com/en-US/woman/clothes/all-womenswear/>
- Kappahl. (2022c, December 6). *Maxi dress*. <https://www.kappahl.com/en-US/woman/klanningar--kjolar/dresses/maxi-dresses/196832/>
- Kappahl. (2022d, December 6). *Our sustainability labels*. <https://www.kappahl.com/en-US/about-kappahl/sustainability/sustainable-fashion/our-sustainability-labels/>
- Made-By. (2022, December 7). *Made-By Environmental Benchmark for Fibres*. Common Objective. <http://www.commonobjective.co/article/made-by-environmental-benchmark-for-fibres>
- Meng, M. D., & Leary, R. B. (2021). It might be ethical, but I won't buy it: Perceived contamination of, and disgust towards, clothing made from recycled plastic bottles. *Psychology & Marketing*, 38(2), 298–312. <https://doi.org/10.1002/mar.21323>

- Morgan, L. R., & Birtwistle, G. (2009). An investigation of young fashion consumers' disposal habits. *International Journal of Consumer Studies*, *33*(2), 190–198. <https://doi.org/10.1111/j.1470-6431.2009.00756.x>
- Munir, S., & Mohan, V. (2022). Consumer perceptions of greenwashing: Lessons learned from the fashion sector in the UAE. *Asian Journal of Business Ethics*, *11*(1), 1–44. <https://doi.org/10.1007/s13520-021-00140-z>
- Nudie Jeans. (2022a, October 26). *Repair Partners—Nudie Jeans*. <https://www.nudiejeans.com/repair-spots/>
- Nudie Jeans. (2022b, December 6). *Cardigan Rebirth Beigemelange*. <https://www.nudiejeans.com/product/cardigan-rebirth-beigemelange/>
- Nudie Jeans. (2022c, December 6). *Sustainability—Materials 4—Not just denim*. <https://www.nudiejeans.com/sustainability/not-just-denim/>
- Papamichael, I., Chatziparaskeva, G., Pedreño, J. N., Voukkali, I., Almendro Candel, M. B., & Zorpas, A. A. (2022). Building a new mind set in tomorrow fashion development through circular strategy models in the framework of waste management. *Current Opinion in Green and Sustainable Chemistry*, *36*, 100638. <https://doi.org/10.1016/j.cogsc.2022.100638>
- Piribauer, B., & Bartl, A. (2019). Textile recycling processes, state of the art and current developments: A mini review. *Waste Management & Research*, *37*(2), 112–119. <https://doi.org/10.1177/0734242X18819277>
- Ramkumar, Mu., Balasubramani, K., Santosh, M., & Nagarajan, R. (2022). The plastisphere: A morphometric genetic classification of plastic pollutants in the natural environment. *Gondwana Research*, *108*, 4–12. <https://doi.org/10.1016/j.gr.2021.07.004>
- Rienda, L., Ruiz-Fernández, L., Poveda-Pareja, E., & Andreu-Guerrero, R. (2022). CSR drivers of fashion SMEs and performance: The role of internationalization. *Journal of Fashion Marketing and Management: An International Journal*, *ahead-of-print*(ahead-of-print), 1–16. <https://doi.org/10.1108/JFMM-06-2021-0151>
- Sarioğlu, E. (2019). An investigation on performance optimization of r-PET/cotton and v-PET/cotton knitted fabric. *International Journal of Clothing Science and Technology*, *31*(3), 439–452. <https://doi.org/10.1108/IJCST-08-2018-0108>
- Shirvanimoghaddam, K., Motamed, B., Ramakrishna, S., & Naebe, M. (2020). Death

- by waste: Fashion and textile circular economy case. *Science of the Total Environment*, 718, 10. <https://doi.org/10.1016/j.scitotenv.2020.137317>
- Strähle, J., Will, C., & Freise, M. (2015). COMMUNICATION OF SUSTAINABILITY AT EUROPEAN FASHION ONLINE SHOPS. *International Journal of Economics, Commerce and Management*, 2015(7), 16.
- Textile Exchange. (2022, December 7). *Our standards*. Textile Exchange. <https://textileexchange.org/standards/>
- Vieira Jr., E. T., Grantham, S., & Sampson, S. D. (2022). Corporate Social Responsibility and Its Reporting From a Management Control System Perspective. *Managing Global Transitions: International Research Journal*, 20(1), 127–144. <https://doi.org/10.26493/1854-6935.19.127-144>
- White, M. D., & Marsh, E. E. (2006). Content Analysis: A Flexible Methodology. *Library Trends*, 55(1), 22–45. <https://doi.org/10.1353/lib.2006.0053>

9.1 Sustainability reports

Kappahl

Kappahl. (2008). Miljö och socialt ansvar.

https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/2008/kappahl_hallbarhetsredovisning_2008.pdf

Kappahl. (2009/2010). CSR rapport 2010.

https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/20092010/kappahl_hallbarhetsredovisning_2009_2010.pdf

Kappahl. (2011/2012). Hållbarhetsredovisning 2012.

https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/20112012/kappahl_hallbarhetsredovisning_2011_2012.pdf

Kappahl. (2012/2013). Hållbarhetsredovisning 2013.

https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/20122013/kappahl_hallbarhetsredovisning_2012_2013.pdf

Kappahl. (2013/2014). Årsredovisning 2014.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20132014/se/kappahl_arsredovisning_2013_2014.pdf

Kappahl. (2014/2015). Årsredovisning 2015. Del 1.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20142015/kappahl_arsredovisning2015_del1.pdf

Kappahl. (2015/2016). Årsredovisning 2016. Del 1.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20152016/kappahl_arsredovisning_2015-16_del1.pdf

Kappahl. (2016/2017). Årsredovisning 2017. Del 1.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20162017/arsredovisning_del1_kappahl.pdf

Kappahl. (2017/2018). Årsredovisning 2018. Del 1.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20172018/kappahl_2018_del1.pdf

Kappahl. (2018/2019). Årsredovisning 2019.

https://www.kappahl.com/globalassets/corporate/investors/annual--interim-reports/20182019/kappahl_arsredovisning_2019_swe.pdf

Kappahl. (2019/2020). Sustainability reports 2019/2020.

https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/20192020/kappahl-sustainability-report-2019-2020_72-ppi.pdf

Kappahl. (2021). Annual Sustainability Report 2021.

<https://www.kappahl.com/globalassets/corporate/sustainability/documents/sustainability-reports-201314/kappahl-sustainability-report-2021.pdf>

Nudie Jeans

Nudie Jeans. (2015). Sustainability report 2015.

Nudie Jeans. (2016). Sustainability report 2016.

Nudie Jeans. (2017). Sustainability report 2017.

Nudie Jeans. (2018). Sustainability report 2018.

Nudie Jeans. (2019). Sustainability report 2019.

Nudie Jeans. (2020). Sustainability report 2020.

Nudie Jeans. (2021). Sustainability report 2021.

https://cdn.nudiejeans.com/media/files/Nudie_Jeans_Sustainability_Report_2021.pdf



LUNDS
UNIVERSITET

WWW.CEC.LU.SE
WWW.LU.SE

Lunds universitet

Miljövetenskaplig utbildning
Centrum för miljö- och
klimatforskning
Ekologihuset
223 62 Lund