Master of Science in Geography

The sustainability discourse in the fashion industry between 2010 and 2020: an ecolinguistics study of five leading international fashion groups' annual and sustainability reports.

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(Pitteloud, 2021).

Abstract

The contemporary fashion industry has been known to have various negative social, environmental and economic impacts which grew along globalization. There has been lots of changes in the fashion industry's discourse and actions around sustainability over the past decades and this master's thesis explores the evolution of this discourse between 2010 and 2020 with an ecolinguistics' perspective. Building on the textual data analysis software *IRaMuTeQ*, I analyzed 84 annual and sustainability reports published by five leading international fashion groups: H&M, Inditex, Nike, Adidas and Fast Retailing. I searched for the frequency and similarity analysis of a pre-defined sustainability lexicon. The discourse is then confronted to an ecosophy and ranked regarding its alignment with the principles of sustainability, following Fairclough's three-dimensional framework to structure the analysis. The findings show an evolution of the discourse towards a more precise and accurate discourse around sustainability, picking up the latest trends in sustainability such as circular economy and the 5R strategy. However, the discourse fails to address the "raison d'être" of the fashion economic model, the fast fashion model. The discourse shows great understanding of the terms englobing sustainability today, however, when recontextualized, the actions of the fashion industry do not match their written statements as they continue to have negative environmental, economic and social impacts. Thus, the discourse analyzed here is ambivalent as it partially aligns with the principles of sustainability, while failing to apply them in the fashion industry's actions. As long as the fashion industry will continue to focus only on recycling, synthetic fibers and cotton, without questioning the fast fashion business model, it will not be truly and completely sustainable. However, the lack of monitoring tools for fashion sustainability prevents us from knowing if the will of change identified in the discourse is sincere or only greenwashing.

Keywords: Ecolinguistics; Fashion Sustainability; Corporate Discourse; Fairclough's Three-Dimensional Framework; Textual Data Analysis; Annual and Sustainability Reports; Ecofashion Lexicon; 5R; Fibers

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Disclaimers

In order to be neutral and not misgender the various authors cited in this research I will use the neutral pronouns they/them when referring to them, instead of he/him/she/her.

Fashion brands/companies/groups usually refer to the five groups studied in this paper, as the name of the group usually the same as their main brand (i.e., H&M group for the brand H&M; Nike Inc. for Nike, etc.).

This paper is written in American English.

Statistics about the fashion industry global market, its value/revenue, production, etc. must be taken with precaution as statistics vary a lot in the literature and it does not consider the informal/black market. Moreover, those statistics usually must be paid for and are extremely expensive (e.g., 4000 USD for the whole *Fiber Year 2020* report). I was not able to pay for them, therefore, I used the free statistics I found in the literature and various statistics websites.

Abbreviations

CDA: Critical Discourse Analysis

CSR: Corporate Social Responsibility

FTI: Fashion Transparency Index

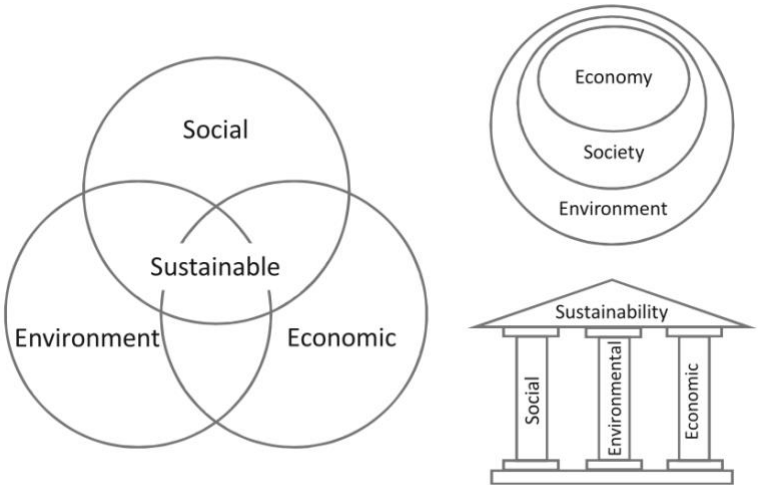
Introduction (literature review, research question and hypothesis)

Sustainability and sustainable development

To begin with, according to the *Oxford English Dictionary*, the term *sustainability* means "the property of being environmentally sustainable; the degree to which a process or enterprise is able to be maintained or continued while avoiding the long-term depletion of natural resources" (OED, 2021). Sustainability signifies "enduring in the long-term future; it refers to systems and processes that are able to operate and persist on their own over long periods of time." (Robertson, 2017, p. 3). Therefore, sustainable means to be "able to continue without interruption" and/or to be "able to endure without failing" (Robertson, 2017, p. 3), while englobing three interrelated dimensions: ecological, economic, and social" (Robertson, 2017).

As displayed in **Figure 1** below, one of the most common way of presenting 'sustainability' is by conceptualizing it as the base of three interconnected 'pillars' or as the center of a Venn diagram of three overlapping 'dimensions', presenting economic, social and environmental or ecological factors (Purvis et al., 2019).

Figure 1. *The Three Pillars of Sustainability*



As Purvis et al. pointed out, while these graphic representations are engaging, their meaning and their conception is "often unclear, hampering its ability to be coherently

operationalized" (Purvis et al., 2019, p. 682). While doing an historical review to uncover the origin of sustainability and untangle its meaning, they demonstrate how the origin itself of the term is unclear and its meaning and understanding is heterogenous even within the institutions promoting and conceptualizing it (Purvis et al., 2019). In order to define what sustainability means today and understand why it is a complex and ambiguous term, a brief history of sustainability is needed.

After World War II, a consensus emerged in the Western world regarding "urgent need for international efforts to aid the 'development' of 'less advanced countries'" (Purvis et al., 2019, p. 683). The notion of economic development "evolved from specifically denoting the exploitation of natural resources in a colonial context, to refer to a rise in material well-being indicated by an increase in the flow of goods and services, and growth in per capita income" (Purvis et al., 2019, p. 683). Development became synonymous to growth in the economy, with the Western world urging developing countries' economic growth through technical assistance programs (aka Truman's Point Four Program in 1949) and encouraging international free trade (Purvis et al., 2019).

In the late 1960s-early 70s, there is a rise of the modern environmental movement in the West with the publication in 1962 of Rachel Carson's famous book *Silent Spring* and "widespread media coverage of environmental disasters" (e.g. Santa Barbara oil spill in 1969) (Purvis et al., 2019). With this early environmental critique of the economic growth paradigm, there was also broad criticism of the various economic development programs carried out in developing countries. Numerous development projects had failed and they were mainly criticized for their "tendency to prioritize short-term gains over serious considerations of ecological impacts, either to biodiversity or ecosystem services" (Purvis et al., 2019, p. 683). This led to realization that this so-called 'progress' promised by growth-based development

programs was not working, inequalities and poverty rising again in most countries even with a rise of living standards (Purvis et al., 2019).

Stockholm UN Conference in 1972 is the "first global summit to consider human impacts on the environment, and the first major attempt to reconcile economic development with environmental integrity which were commonly regarded as incompatible" (Purvis et al., 2019, p. 683). After this event, there is an emergence of the concept "environmentally sound development", coined as "eco-development" in 1973 (Purvis et al., 2019, p. 683). Environment and economic development were reconciled together and the "basic needs approach was being rejected by governments in the developing world", mainly because of its incompatibility with the general desire for modernization and the "creation of a new international economic order" after the 70s global recession (Purvis et al., 2019, p. 684).

After this, and the publication of *The Brundtland Report in 1987, sustainable development* grew in popularity and became the "dominant paradigm of the environmental movement", supported by the following Earth Summits, in 1997, 2002, 2012, with the 27 principles of the 1997 Rio Declaration promoting "sustainable development" (Purvis et al., 2019, p. 684). Moreover, the famous Agenda 21 (i.e., plan for the implementation of the Rio principles) focused mainly on "the problems of the North–South development divide, championing economic growth and free trade, and emphasized the need to link social and economic development with environmental protection" (Purvis et al., 2019, p. 684).

As *sustainable development* is starting to have a buzzword reputation today, *sustainability* "carries far less historical baggage and its necessity for a specific context prompts conceptual questions, such as for whom and of what" (Purvis et al., 2019, p. 691). Therefore, sustainability will be the focus of this research, instead of traditional sustainable development, building on Stibbe's definition of ambivalent, beneficial and destructive stories (Stibbe, 2015). Regarding ecosystems and environment, there are two errors of politics and of environmental

management practices: until now there has been "an implicit assumption that ecosystem responses to human use are linear, predictable and controllable" (Folke et al. 2002, p.1) and the "assumption that human and natural systems can be treated independently" (Pisano, 2012, p. 10).

Emergence of the contemporary fashion industry

The world textile and clothing trade has grown exponentially the past 30 years, from USD 272.43 billion in 1994, to USD 583 billion in 2007 (Chaudhary, 2011, p. 1) and up to USD 1000.3 billion in 2020 (Grand View Research, 2021). It is expected to continue to grow exponentially with an annual growth rate of 4.4% from 2021 to 2028 (Grand View Research, 2021).

The history of today's fashion industry is intertwined with the history of globalization, capitalism and the Industrial Revolution (Radner Linden, 2016). With major technical progresses in sewing machines, fibers production and usage, mixed with a growing population, demanding more garments, the fashion industry has not stopped its growth since the 19th century (Radner Linden, 2016). In the western world in the 1960s and 70s, fashion became a way of expressing oneself, the distinction between high fashion (haute couture) and ready-to-wear clothing remaining strong (Cervellon & Carey, 2012; Rauturier, 2021). The late 90s-00s show the real arrival of a cheaper, more affordable, and ever-changing fashion, and soon available everywhere with the coming of online shopping (Rauturier, 2021). Over the years, globalization has led most textile companies to move their sourcing and production to less developed countries, which led to unemployment of European textile workers (spinning, weaving, etc.) and an increasing negative environmental impact regarding the transportation and production practices (Turker & Altuntas, 2014). Delocalization enables companies to widen their supplier base and increase their flexibility (Belin-Munier & Moncef, 2013, p. 60). Most fashion companies are now relocated in South countries, mainly in Asia (India, Bangladesh, China,

Vietnam, Thailand, etc.), moving their supply chain « close to needle point » (Belin-Munier & Moncef, 2013, p. 65). It is the whole supply chain that moved to Asia, from raw material sourcing to weaving and sewing (Belin-Munier & Moncef, 2013), while most of the consumption takes place in developed countries: European countries, USA, UK, Canada (Statista Research Department, 2021b). Moving the production to Asia offers low production costs but with an increasing risk of breakdown because of the inertia due to supplying delays, while the leading fashion brands headquarters are almost exclusively based in Western countries (Belin-Munier & Moncef, 2013).

In addition to the impact of globalization, it is the "nature of the industry itself" that has important environmental and social negative impacts: bad working conditions (low wages, forced labor, discriminations, etc.), utilization of chemicals and non-renewable natural resources harmful for the environment and the workers (Turker & Altuntas, 2014, p. 839). Moreover, the majority of the garment workers in developing countries is composed of young and undereducated women and children, making them a particularly vulnerable social group (Turker & Altuntas, 2014). Basic products, based on low production costs and optimized sea shipping, essentially come from Asia with a delay of 3-4 months from the moment of the order to the completed transport (Belin-Munier & Moncef, 2013). Since textile products follow « la tendance du moment », it is difficult to forecast sales, thus they are based on a pull-flow system (Belin-Munier & Moncef, 2013, p. 62). The logistic particularities of textile products, such as the multitude of collections during the year, sales, constant renewal, enormous number of products (size, colors, etc.), online and on-site commerce, dependence on trends, makes it a complex economic field which involves a wide variety of stakeholders (Belin-Munier & Moncef, 2013). Moreover, most companies do not own the production factories which makes it extremely difficult to have a control over the working conditions and environmental impacts

of the production, which consequently enables fashion brands to not take responsibility for the actions taken along their supply chain (Fashion Revolution, 2019).

Today these changes in the mainstream fashion business model are displayed by the concept of *fast fashion*. Fast fashion refers to the "readily available, inexpensively made fashion of today", which translates into the majority of today's biggest fashion brands' business model (Bick et al., 2018, p. 1). During the past 20 years, the fast fashion model has become the norm, however, it is slowly getting challenged by some consumers, activists, and workers in the industry with the emergence of a different vision for the industry. The concept and movement of *slow fashion* was created by Kate Fletcher, inspired by the *slow food* movement (Brewer, 2019). Slow fashion is a form of alternative business model in the fashion industry which seeks to "naturally promote sustainability through more ethical sourcing and production techniques" by "prizing craftsmanship, good stewardship and quality products", using durable materials such as organic or recycled fabrics (Brewer, 2019, p. 7). Workers in the slow fashion industry are usually paid more and benefit from better protection than the one in the fast fashion industry. Slow fashion goods are usually more expensive than in fast fashion, however, the goal is to produce longer lasting and high quality products with a certain "timeless style" which "do not go out of fashion" like the "cheap knock-off designs massed-marked" of the fast fashion industry (Brewer, 2019, p. 7). Slow fashion aims at connecting "raw materials, designers, artisans, retailers, and consumers" with an emphasis on sustainability along the whole supply chain (sourcing, production and consumption) (Brewer, 2019, p. 7). Some talk about *slow fashion*, others about *ethical* or *sustainable* fashion (which will be discussed later), however, what matters here is to understand that various terms exist, with their specificities, but they all share the aim to create an alternative to the fast fashion model.

The unsustainability of the fast fashion model

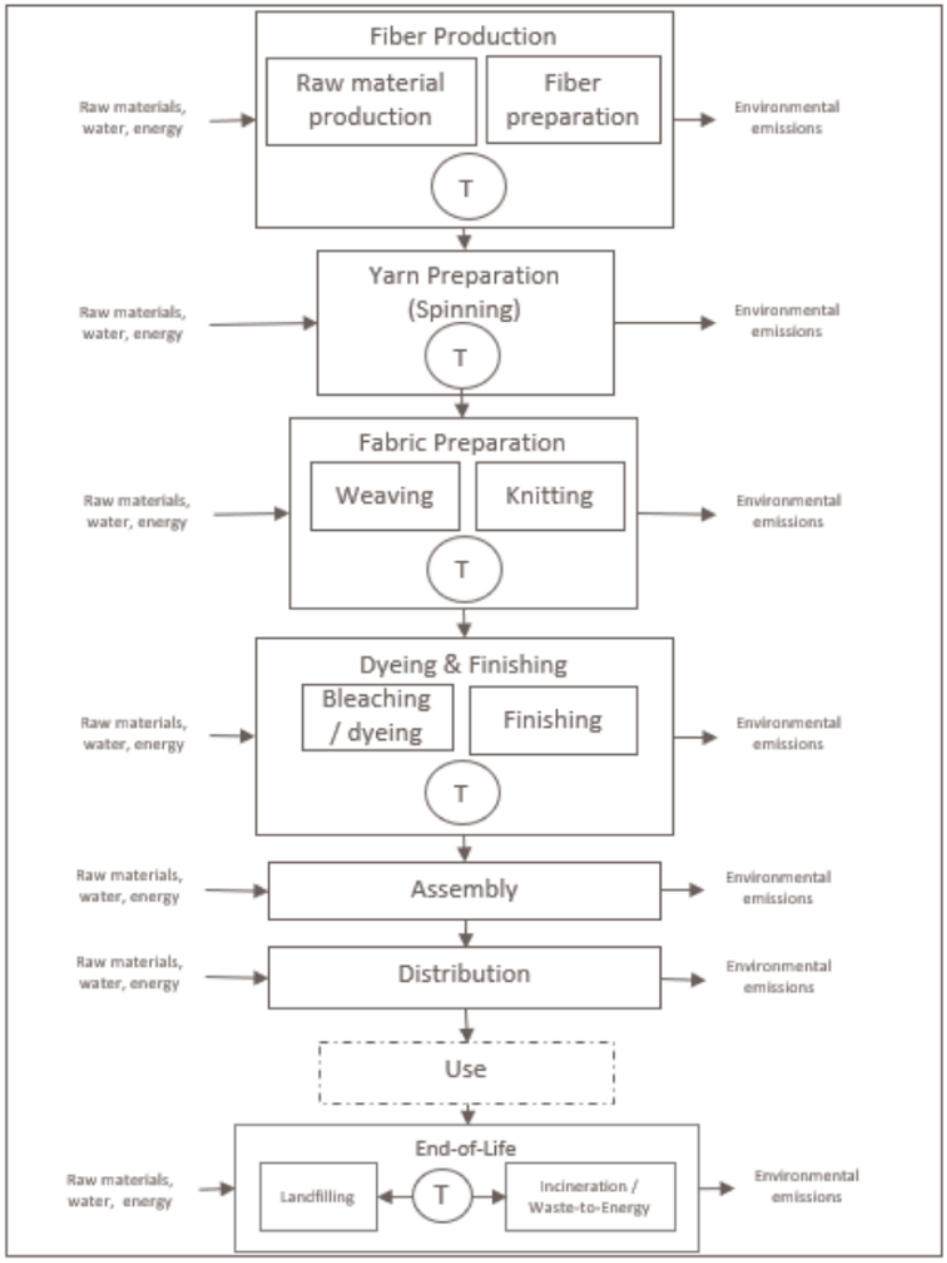
Brewer argue that "the fashion industry's very *raison d'être* is inherently diametrically opposed to sustainability" (Brewer, 2019, p. 3). This is what they call *the fashion paradox*, where the fashion industry creates both the supply and the demand in order "to satisfy consumers' insatiable desire to acquire the most exclusive, latest trends", which is almost immediately satisfied and replaced by a new desire, as "once a new fashion goes mainstream, it becomes obsolete, losing its allure and encouraging trendsetters to search for the next new fad" (Brewer, 2019, p. 3). This paradox opposes "fashion's imperative to be *in style*" by constantly following the latest trends each new seasons, with accountability and sustainability (Brewer, 2019, p. 3).

Fast fashion can be defined as the "transformation of trendy design into articles that can be bought by the masses" and "aims to attract customers into stores as frequently as possible in order to increase the frequency that they purchase fashionable styles" (Turker & Altuntas, 2014, p. 838). Over the years, the fashion industry has shifted to a shorter market cycle which meant more and more seasons and heavier manufacturing organization, all based on low cost of production and low price of the products (Turker & Altuntas, 2014, p. 838). While the rise of fast fashion has "revolutionized the traditional marketplace" by democratizing fashion, it has also promoted a "culture of waste", undermined designers' intellectual property and discouraged individuality and creativity (Brewer, 2019, p. 3). Moreover, there is a dichotomy between the "cheap prices demanded by consumers" and the "ethical concerns of the public" (Brewer, 2019, p. 5). Overall, fast fashion represents the unsustainability of the fashion industry today as the biggest fashion brands are usually fast fashion companies, with a legal form of limited companies. However, in the recent years there has been an emergence of more sustainable fashion corporations, adopting more binding codes of conduct.

Moreover, “prevailing concepts of corporate personality may straightjacket fashion companies into maximizing short-term corporate profits over other considerations” (Brewer, 2019, p. 5). The dominant corporate personality view “focuses on shareholder value and shareholder primacy over other considerations” (Brewer, 2019, p. 5). This view comes from Milton Friedman’s economy theory where he argues that there is “only one social responsibility of business — to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engage in open and free competition, without deception or fraud” (Friedman, 1962 in Brewer, 2019, p. 5). Because of this dominant capitalistic view of the business model, companies have a tendency to focus their efforts on “maximization of shareholder value” while ignoring their impact on other stakeholders, local communities, consumers, workers, the environment, etc. (Brewer, 2019, p. 5). Moreover, companies are *legal persons*, which means that they have “a number of rights and privileges” while decision-makers do not bare personal responsibility for their business’s activities and practices (Brewer, 2019, p. 5). This issue is called the *agency-principal problem*: “the board of managers makes decisions for the corporation and exercises control with limited oversight by its shareholders who are dispersed and meet only periodically”, while the law “often protects corporate boards from liability for their decisions through the business judgment rule” (Brewer, 2019, p. 6).

According to Kibbey et al.’s report *Measuring Fashion: Insights from the Environmental Impact of the Global Apparel and Footwear Industries study*, in 2016 the apparel and footwear industry amounted up to 8,1% of the total global CO2 emissions, the apparel industry alone 6,7% (Kibbey et al., 2018, p. 17). **Figure 2.** details below the “life cycle of the global apparel system” (Kibbey et al., 2018, p. 10). It is important to note that each stage produces environmental emissions, it is therefore necessary to take the whole system into account when talking about sustainability.

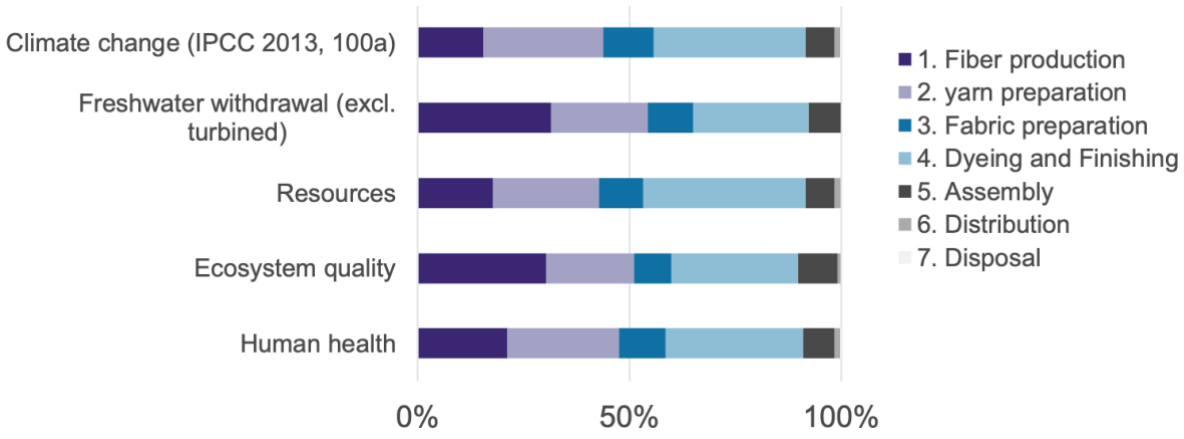
Figure 2. *The Life Cycle of the Global Apparel System (Kibbey et al., 2018, p. 10)*



Moreover, in 2016, the global consumption of fiber materials per capita amounted to 11,4 kg, with the United States having the "highest demand for apparel fibers": 37,6 kg per capita, Europe: 31,21 kg and China: 1,08 kg (Kibbey et al., 2018, p. 19). Overall, the global consumption amounted to 442 kg of CO2 per capita emissions which is "equivalent to a 4'100 km-long continental flight, or driving 2'400 km in a passenger car" (Kibbey et al., 2018, p. 19). More specifically, "the apparel industry's annual per capita water consumption tallies up to an

estimated 23,900 liters, which is akin to taking about 150 baths" (Kibbey et al., 2018, p. 19). As **Figure 3** below indicates, the most polluting stages of the apparel and footwear industry are dyeing and finishing, yarn preparation and fiber production, rather than distribution and disposal (Kibbey et al., 2018). Fiber production has the "highest impact on freshwater withdrawal and ecosystem quality due to cotton cultivation", while the impacts of dyeing and finishing and yarn preparation are "mainly due to the energy intensive processing and high dependence on fossil-based energy" (Kibbey et al., 2018, p. 20).

Figure 3. *Contribution of each life cycle stage of the global apparel industry by five impact indicators (Kibbey et al., 2018, p. 19)*



Regarding climate change, the apparel industry's production impacts "increased 35% between 2005 and 2016 and are projected to steadily rise in 2020 and 2030, if a business-as-usual scenario prevails" (Kibbey et al., 2018, p. 31). On one hand, this increase is due to "apparel's reliance on hard coal and natural gas to generate electricity and heat in key processing locations", with the biggest textile manufacturing countries such as China, India and Bangladesh having "heavily coal-based energy mixes" (Kibbey et al., 2018, p. 21). More specifically, while fabric and yarn preparation have a lower impact because it requires "mostly electricity and almost no additional heat", the much higher climate change impacts of the dyeing and finishing step are caused by their reliance on hard coal (60%) and natural gas (70%)

(Kibbey et al., 2018, p. 21). On the other hand, the increased impacts on climate change are also due to an "increasing consumption per capita while global population rises, along with a shift in material use towards more synthetics and less natural fiber, cotton and cellulosic" (Kibbey et al., 2018, p. 31).

Emergence of fashion sustainability

Today's fashion industry is composed of rather heterogenous stakeholders regarding sustainability in their general businesses models: fast vs. slow fashion, circular economy, benefit corporation, sustainable vs. unsustainable fashion, etc. However, companies usually brand themselves only with the positively connotated side of the terms to put forward a positive self-image to sustain legitimacy (i.e., no brand present themselves as "unsustainable" or related to "fast fashion") (Jaworska, 2020).

Since the 1960s, and especially after the Rana Plaza garment factory collapse disaster in 2013 which killed over a thousand garment workers in Bangladesh (Plank, 2018), transnational fashion companies' irresponsibility has often been publicly highlighted by human rights or environmental NGOs (Martin-Chenut & de Quenaudon, 2016; Solér et al., 2015; S. Thomas, 2008). Human rights, animal welfare and environmental issues have often been raised by the media and the public regarding the fashion industry's activities (Horton & Payne, 2018; K. Thomas, 2020; S. Thomas, 2008). More recently, even the fashion economic model have been questioned as the consumerist economic model of capitalism is destructive to the environment (Horton & Payne, 2018; Hristova, 2019; Jones, 2014; Peirson-Smith & Evans, 2017; Stibbe, 2014). Nowadays, these issues mainly originate in consumers' buying preferences (Brewer, 2019; Hristova, 2019; Sohn et al., 2021), switching from a highly consumerist model to more sustainable products, as:

> Increasing consumer preference towards sustainable products is forcing major textile companies to focus on restructuring their business and investing in manufacturing practices that target sustainable products (Grand View Research, 2021).

Sustainability in the fashion industry emerged at the same time as the rise of ecological movement, as Kedron Thomas explain in their article *Cultures of Sustainability in the Fashion Industry*:

> At the broadest level, the relationship of fashion to sustainability has been influenced by a set of social and cultural movements evident in the US and Europe since the 1960s (K. Thomas, 2020, p. 721).

However, while "sustainable fashion" started in the 60s, it is negatively perceived until the 80/90s, the peak of the anti-fur campaigns (K. Thomas, 2020). Then, there is a noticeable shift in the 1990s regarding the dynamics of problematization of the fashion industry as "reports on sweatshop labor appeared in major media outlets, intensifying international public concern and moving many large-scale firms to adopt voluntary codes of conduct" (K. Thomas, 2020, p. 722). This led to a growing interest in ethical fashion and an increasing focus on certification, traceability, fair working conditions, sustainable business model, organic and environmentally friendly materials (Henninger et al., 2016). After the 90s, "sustainability platforms and CSR [corporate social responsibility] claims have become standard across large firms" and fashion brands and groups started to publish sustainability and/or CSR reports, along their annual reports (K. Thomas, 2020, p. 722).

Today, after the release of the documentary *The True Cost* in 2015 exposing the unsustainability of the global fashion industry (Morgan & Ross, 2015), the global climate strike movement launched by Greta Thunberg in 2019, there is a new rise of global ecology with a call for more climate justice, responsibility and systemic change, especially in the younger generations born with climate change (Lobo et al., 2021). According to Thomas, while "sustainability" is conceptualized by people working in the fashion industry, terms like

"sustainable", "eco-friendly" and "responsible" "routinely appear in the marketing materials and annual reports of major labels and fashion retailers and are used to describe their commitments and initiatives" (K. Thomas, 2020, pp. 716–717). As a matter of fact, sustainability "has become a keyword in the fashion industry" (K. Thomas, 2020, p. 716). However, the meaning of the term sustainable/sustainability is quite vague and there is currently no clear-cut definition of the term, as they point it out: "the range of possible meanings, associations, and practices that are said to fall under the category of "sustainable fashion" is expansive" (K. Thomas, 2020, p. 717). Today greenwashing is so efficient that it has become almost impossible to identify real sustainable practices, as Thomas explains:

> there is no clear system for distinguishing what is sustainable from that is unsustainable in fashion design and manufacturing, and consumers must sort through a plethora of terms and claims to make their decisions (K. Thomas, 2020, pp. 717–718).

Therefore, it makes this research case study a complex subject and the results and discussion have to be taken with a lot of caution as it is almost impossible to distinguish truth from false claims and promises of sustainable practices. Moreover, due to the large size of the selected companies, their global impact in the fashion industry and many countries, and their presence on various medias (e.g., social media such as Instagram, Twitter and Facebook, as well as other medias like the newspapers, documentaries, conferences, podcasts, etc.), the information analyzed here cannot be exhaustive of their public discourse and position towards sustainability. Besides, the perpetual changing new information and statements these companies make in these various media make it hard to pin their actual discourse in time. However, as Alexander says, language-oriented scholars have a responsibility to study the fact that:

> the perceptions or non-perceptions of ecological crises or of environmental problems . . . are not sensorially experienced. It is the many-voiced discourse of scientists that is the

> source of our knowledge of such issues. These voices are filtered and very often distorted by the media presentations of such happenings. (Alexander, 2010, p. 18).

Building on Alexander's argument that "critical discourse analysis can benefit from employing concordancing and corpus linguistic methods", I will support my ecolinguistics analysis with the corpus linguistics methodology (Alexander, 2010, p. 129) and Fairclough's three dimensional analytical framework (source Fairclough).

While it is now clear that the fashion industry has a massive negative impact on the environment and raises several social issues, the emergence of alternative business models (e.g., circular economy, secondhand and vintage goods, slow fashion) shows hope for the coexistence of fashion and sustainability.

Terminology deconstruction: the Eco-fashion lexicon

In their article *Cultures of sustainability in the fashion industry*, Kedron Thomas highlights how "sustainability" is conceptualized by people working in the fashion industry. They found that terms like "sustainable", "eco-friendly" and "responsible" "routinely appear in the marketing materials and annual reports of major labels and fashion retailers and are used to describe their commitments and initiatives" (K. Thomas, 2020, pp. 716–717). As a matter of fact, sustainability "has become a keyword in the fashion industry" (K. Thomas, 2020, p. 716). However, the meaning of the term sustainable/sustainability is quite vague and there is currently no clear-cut definition of the term, as they point it out: "the range of possible meanings, associations, and practices that are said to fall under the category of "sustainable fashion" is expansive" (K. Thomas, 2020, p. 717).

Transition towards a circular economy?

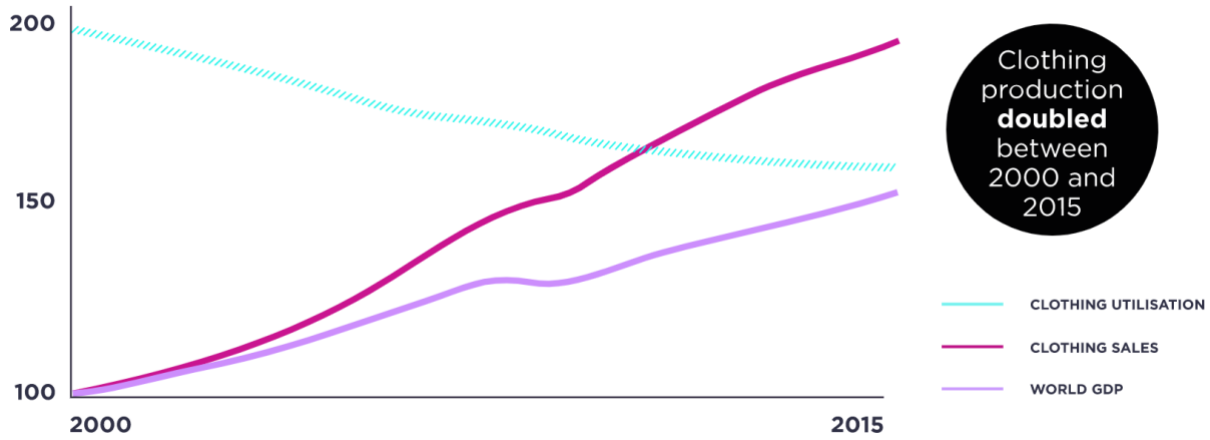
Circular economy has been getting more attention in the last couple of years. For instance, the non-profit/charity organization *Ellen MacArthur Foundation* has been promoting and developing the "idea of a circular economy" to businesses, academia, policy makers and

institutions around the world and in various domains (including fashion) since 2009, mobilizing systems solutions. Their vision for circular economy is the following, it is:

> designed to eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature. It's an economic system that delivers better outcomes for people, and the environment (Ellen MacArthur Foundation, 2021a).

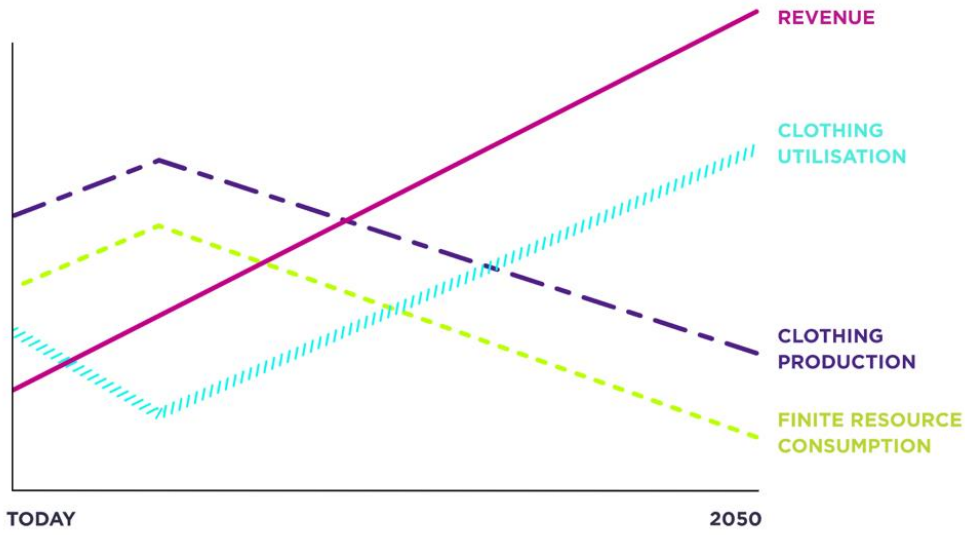
One of their area of concern is the fashion industry, where circularity would "allow companies to make revenue without making new clothes, represent a significant opportunity for new and better growth in the fashion industry", where business models would "include resale, rental, repairs and remaking" while providing "considerable greenhouse gas savings, and could be worth USD 700 billion by 2030, making up 23% of the global fashion market" (Ellen MacArthur Foundation, 2020a). The foundation also promotes secondhand clothing consumption (e.g., promotion of secondhand websites like *ThredUP*). In the past decades, the growth has been exponential in the fashion industry, while clothing utilization has decreased, as **Figure 4** below shows. This indicates that a high consumerist and unsustainable business model has been well integrated in the fashion industry until today.

Figure 4. *Growth of clothing sales and decline in clothing utilization since 2000 (Ellen MacArthur Foundation, 2020a)*



Ellen MacArthur Foundation identifies three categories to consider for circular business models: more use per user (i.e., increase products' life cycle and wearing time), more users per product (i.e., facilitating products' movement) and going beyond material products (Ellen MacArthur Foundation, 2020a). Besides, four key actions for businesses are described: 1. rethink performance indicators, customer incentives, and customer experiences; 2. design products to be used more and for longer; 3. co-create supply networks; and finally, 4. scale a wider range of circular models (Ellen MacArthur Foundation, 2020a). **Figure 5** below displays the main goals of the foundation regarding fashion circular economy: they wish for clothing production and finite resource consumption reduction, while increasing clothing utilization and keeping exponential growth in revenue.

Figure 5. *Circular business models decouple revenue from production and resource use (Ellen MacArthur Foundation, 2020a)*



Implication for this research.

The Ellen MacArthur Foundation's discourse about circularity fits in this research as four of the five studied groups are involved in the *Circular Vision for the Fashion Industry*, H&M group and Inditex are core partners, and Adidas and Fast Retailing are participants in the project (Ellen MacArthur Foundation, 2020b). The foundation also produces short reports of

activities of their partners' activities towards sustainability and circularity, as **Figure 6** and **Figure 7** below show H&M and Inditex's commitment towards reducing and improving their plastic packaging.

Figure 6. *Key metrics regarding global commitment 2021 signatory report, H&M group (Ellen MacArthur Foundation, 2021b)*

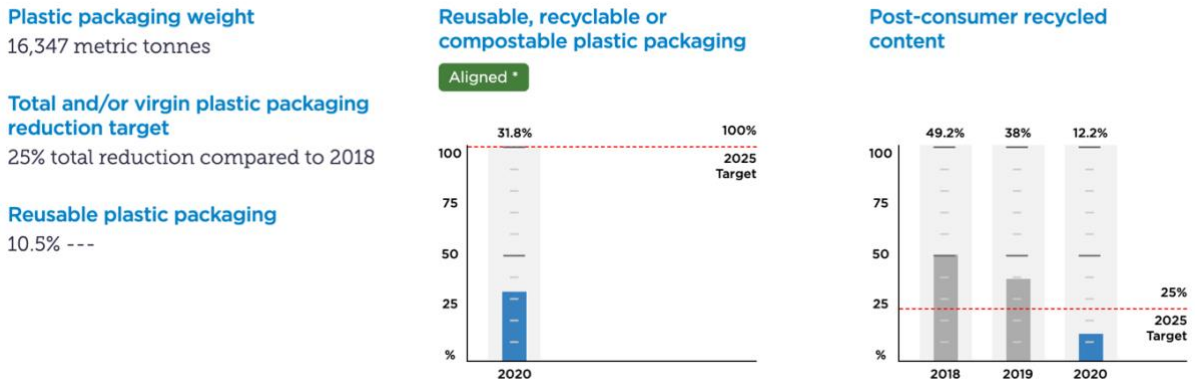
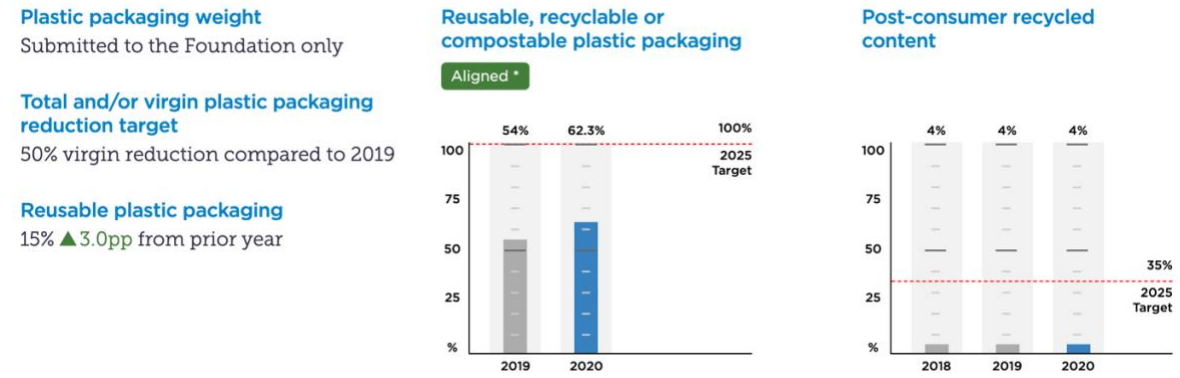


Figure 7. *Key metrics regarding global commitment 2021 signatory report, Inditex group (Ellen MacArthur Foundation, 2021c)*



Sustainability lexicon used in this research

Updated fashion eco-lexicon

Circularity for the fashion industry means that "all materials (including biological materials such as wool or cotton) should first be cycled through the technical cycle loops of reusing, repairing, remaking, and recycling" (Ellen MacArthur Foundation, 2020b, p. 5). In

their guidelines for circularity, *Vision of Circular Economy for Fashion: 2020*, the Ellen MacArthur Foundation identifies various key terms of circularity and sustainability. I combine these terms with the ones selected by Thomas' eco-lexicon in **Table 1** below (S. Thomas, 2008). It will be completed with other terms used by the fashion industry regarding sustainability, which have been identified by Peirson-Smith & Evans (2017), Thorisdottir & Johannsdottir (2019) and Beard (2008).

Table 1. *Updated Eco-Fashion Lexicon*

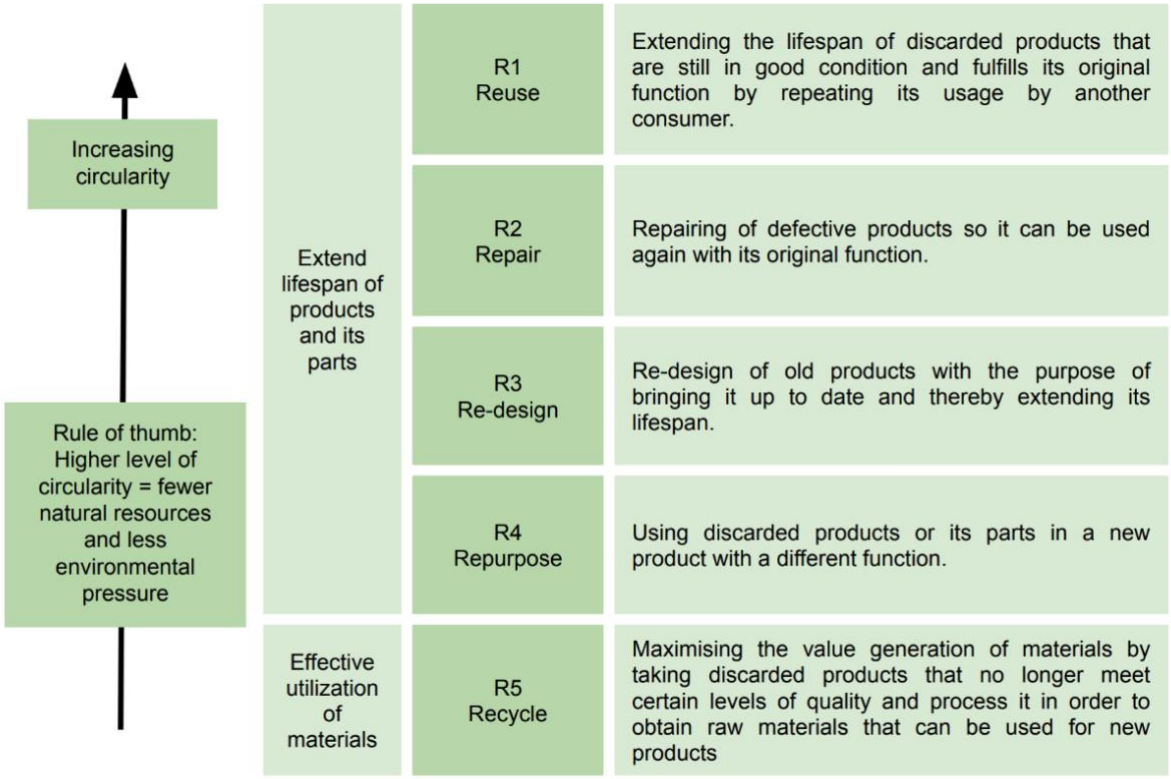
Thomas, S. (2008). From "green blur" to ecofashion: Fashioning an eco-lexicon. *Fashion Theory - Journal of Dress Body and Culture*, *12*(4), 525–540.			
Eco (adj.) *Ecofashion* (or Eco-fashion) (n.) *Environmental* (adj.)	*Ethical* (adj.) *Fair* (adj.) *Green* (adj.) *Organic (adj.)*	*Natural* (adj.) *Recycle (v.)* *Upcycle (v.)* *Redeploye (v.)*	*Downcycle (v.)* *Sustainability* (n.) *Sustainable* (adj.)
Ellen MacArthur Foundation. (2020b). *Vision of a circular economy for fashion*.			
Durability (n.) *Durable* (adj.) *Reuse* (v.) *Reusable* (adj.) *Repair* (v.) *Repairable* (adj.)	*Compost* (v.) *Compostable* (adj.) *Design for disassembly* *Recyclable* (adj.) *Remake (v.)*	*Hazardous substances* (n.) *Microfibers* (n.) *Recycled material* (n.) *Regenerative production practices*	*Renewable* (adj.) *Waste* (n.) *Traceability* (n.) *Transparency* (n.)
Peirson-Smith, A., & Evans, S. (2017). Fashioning Green Words and Eco Language: An Examination of the User Perception Gap for Fashion Brands Promoting Sustainable Practices. *Fashion Practice*, *9*(3), 373–397.			
Bio-based (adj.) *Non-toxic* (adj.)	*Pure* (adj.) *Reduce* (v.)	*Renewable* (adj.) *Responsible* (adj.)	*Secondhand* (adj.)
Thorisdottir, T. S., & Johannsdottir, L. (2019). Sustainability within Fashion Business Models: A Systematic Literature Review. *Sustainability*, *11*(8), 2233.			
Closing the loop *Circularity (n.)*	*Circular economy (n.)*	*Local (adj.)*	*Reuse (v.)*
Beard, N. D. (2008). The branding of ethical fashion and the consumer: A luxury niche or mass-market reality? *Fashion Theory - Journal of Dress Body and Culture*, *12*(4), 447–468.			
Environmentally friendly (adv.)	*Natural (adj.)*	*Vintage (adj.)*	

Notes. Lexical class was written behind the terms in the following manner: (n.) = noun, (v.) = verb, (adj.) = adjective, (adv.) = adverb.

The 5R of sustainability

There are different ways to approach how the fashion industry could reach sustainability, today the circularity approach is one of the main on chosen by the biggest retail brands (Johansson & Stubb, 2021; Niinimäki & Karell, 2020). Specific strategies have been identified to achieve circularity, usually called R-strategies or activities, with "the intention of decreasing resource and material consumption in supply chains as well as making the economy more circular" (Johansson & Stubb, 2021, p. 8). The Rs chosen and used vary, but ultimately, they all have the same goals and purposes. Through a thorough literature review, Johansson & Stubb (2021) created a 5R Framework, englobing five circular strategies: Reuse, Repair, Re-design, Repurpose and Recycle. **Figure 8** below displays the 5R in "priority order from top to bottom based on the strategies' level of circularity, where extending product lifespan (R1–R4) is preferred over material recycling (R5), in terms of environmental impact" (Johansson & Stubb, 2021, p. 9).

***Figure 8**. Johansson & Stubb's (2021) 5R Framework*



As some of the 5R identified by Johansson & Stubb (2021) are present in the previously presented eco-fashion lexicon, I will use the 5R framework to complete my analysis, regrouping the terms relating to the 5R from the eco-fashion lexicon in a separate table. **Table 2** below shows which terms from the eco-fashion lexicon which go with the 5R strategies.

***Table 2.** Completed 5R Framework*

5R Framework	Similar terms identified in the updated eco-fashion lexicon
R1 : Reuse	Reusable (adj.)
R2 : Repair	Repairable (adj.)
R3 : Re-design	Design for disassembly
R4 : Repurpose	Remake (v.)
R5 : Recycle	Recyclable (adj.), Recycled material (n.)

Besides, the terms “circularity”, “circular” and “closing the loop” are also directly linked to this 5R approach towards sustainability as circular economy represents the global strategy.

Fibers’ lexicon

Moreover, as the fibers used by the fashion industry are central to the circularity approach towards sustainability and play an important role the industry’s environmental footprint, I will also look at the presence of the main fibers used by the industry in their discourse. There are three types of fibers, natural, artificial and synthetic, which all have a different sourcing and ecological impact (Weltrowski, 2010). The principal natural fibers produced by nature are cotton, wool, linen, hemp, and silk. The main artificial fibers produced by humans with natural products are rayon, and wood fibers such as viscose. Finally, the primary synthetic fibers made of synthetized petroleum or coal are polyester, polyamide, acryl, PVC and polyolefin (Weltrowski, 2010). There are a lot more others, but to simplify the terms searched and follow a more general approach to fibers, I will focus on the main ones present in the various statistics about fiber use (see **Table 3** below) (Textile Exchange, n.d.).

Table 3. *Fibers’ lexicon*

Types of fibers						
Natural	*Organic*	Cotton	Linen	Hemp	Wool*	Silk*
Artificial		Cellulosic			Microfiber (can be made of artificial and/or synthetic fibers)	
Synthetic		Polyester	Polyamide (nylon)			

Note. * = animal fibers.

Research question

Since Sue Thomas’ 2008 article “From “Green Blur” to Ecofashion: Fashioning an eco-lexicon” where they map the various terms emerging and changing throughout the fashion industry’s discourse about sustainability and environmental issues, there has not been a real

update of their eco-lexicon (S. Thomas, 2008). Scholars have resumed and usually highlighted the non-exhaustiveness of the list with suggestions of additional terms without doing in-depth research about the new emerging terms (Evans & Peirson-Smith, 2018; Peirson-Smith & Evans, 2017; K. Thomas, 2020). This suggests a gap in the literature regarding fashion's evolutive discourse on sustainability during the last ten years, which this research will try to fill in by highlighting terms orbiting around sustainability in brands' annual reports. The global discourse about climate change and need for action has changed in the last ten years, with growing public attention and media coverage, especially with the 2019 climate strike movement (Lobo et al., 2021; McIlroy, 2019). Therefore, building on Stibbe's ecological approach to critical discourse analysis and an updated eco-lexicon inspired by Sue Thomas, I aim at highlighting evolutions in retail brands' discourse about sustainability in their reports throughout the past ten years. Thus, I will try to answer the following question using textual data analysis method:

How has the discourse of leading retail brands about sustainability evolved throughout the past ten years (2010-2020) and to what extent does their discourse align with the principles of sustainability?

Further studies could focus on other aspects of sustainability such as waste and water management. As working labor and human rights have received a lot of attention from scholars in the past twenty years, it will not be the focus of this study.

Sub-questions

Each level of analysis of Fairclough's three-dimensional framework will allow me to answer the following sub-questions, which will help me answer my research question in a second step. Text analysis in the description part (micro level) will allow me to see: what is the evolution and use of the terms identified in eco-fashion lexicon, the 5Rs and the mains fibers between 2010 and 2020. The analysis of the discourse production, consumption and distribution in the interpretation part (meso level) will look at: who produces this discourse? For whom?

For what purposes? How is it perceived by the receptors? Finally, contextualization in the explanation part (macro level) will look at how the fashion industry discourse about sustainability fits in the global context of the fashion industry activities between 2010 and 2020.

Hypotheses

H1: There is an increasing focus on sustainability in corporate fashion companies' discourse in their public reports during the last decade (Evans & Peirson-Smith, 2018; Henninger et al., 2016; Peirson-Smith & Evans, 2017; K. Thomas, 2020; S. Thomas, 2008).
H2: The urgency stressed by scientists about the environmental crisis and their call for action is not met in the fashion industry discourse about sustainability (Dahl & Fløttum, 2019).
H3: The brands' discourse about the environment and sustainability is an ambivalent discourse (while the fashion industry discourse present sustainability, they still have a negative environmental, economic and social impact) (Stibbe, 2017).

Methodology

This chapter will present my methodology and research design. To begin with, I will briefly describe the type of methodology I used in this research and how it was conducted. Then, I will introduce my data sample, how it was chosen, gathered and coded. Finally, I will present how the data was analyzed statistically using textual data analysis methods and then interpretated using a three-dimensional analytical framework and ecolinguistics.

Research design

To answer my research question, I chose to focus on some of today leading fashion brands, as they are important stakeholders and leaders of change in the fashion industry. Information regarding these brands is rather opaque, interviews are seldom given, especially to master's students. Adding to this the COVID-19 pandemic, I had to turn to their annual and sustainability reports for their availability and their representativeness of these companies' worldviews today (or at least the way they want to be perceived) (Jaworska, 2020). This research was conducted in a rather inductive method, first looking at fashion's general discourses about sustainability (in big and smaller brands), to understand the trends. Then, a focus was made on a couple of global fashion groups, as they have a massive impact on the fashion industry actions because of their size, as well as an extensive role in economic, environmental, and social issues in the various countries they are involved, especially developing countries. This is a longitudinal study as I selected reports from 2010 to 2020 to get enough data to run textual data statistics and see a potential evolution of the discourse throughout the years. I chose to mix qualitative and quantitative analysis by using the software *IRaMuTeQ* to analysis textual data in a quantitative way, as well as using critical discourse analysis (CDA) and ecolinguistics. More precisely, Fairclough's CDA three-dimensional analytical framework was used to structure my analysis of the results in three mains parts

(Fairclough, 1995), which are then confronted to the ecosophy of Stibbe's wider ecolinguistics approach (Stibbe, 2015, 2017).

Sampling strategy

I decided to exclude luxury brands from this research and to only keep the more affordable multinational retail companies. While luxury brands do have important value and revenue, only the wealthiest can afford to buy their products and therefore it does not represent the biggest part of the fashion market (i.e., in terms of volume of production and volume of sales). It seems more accurate to focus on retail brands which are bought by a majority, rather than a minority of people. Building on Forbes' annual classification of *The world's most valuable brands* (all company types), the following fashion brands were listed for fiscal year 2019 in **Table 4** below (Forbes, 2020).

Table 4. *Selected brands (numbers for 2019) summary*

Fashion groups (with the brands it englobes)	Legal form	HQ	Stores and employees	Value (bn)	Revenue (bn)
Nike group (including Nike; Converse; Hurley; Jordan)	Public company	USA (Beaverton)	1'048 stores (Tighe, 2021d) 73'300 employees (Tighe, 2021a)	39.1	39.3
Inditex group (including Zara; Pull&Bear; Massimo Dutti; Bershka; Stradivarius; Oysho; Zara Home; Uterqüe)	Sociedad Anónima (SA)	Spain (Arteixo)	6'829 stores (Statista Research Department, 2021e) 144'116 employees (Statista Research Department, 2021c)	14.7	21.9
Adidas group (including Adidas; Reebok; TaylorMade; Runtastic)	Aktien-gesellschaft (AG)	Germany (Herzogenaurach)	2'527 stores (Tighe, 2021c) 62'285 employees (Tighe, 2021b)	12.9	24.5
H&M group (including H&M and H&M Home; COS; & Other Stories; Monki; Weekday; ARKET; Afound)	Aktiebolag (AB)	Sweden (Stockholm)	5'018 stores (Statista Research Department, 2021d) 110'325 employees (Statista Research Department, 2021a)	10.4	24.6
Fast retailing group (including Uniqlo; Comptoir des Cotonniers; Helmut Lang; GU; J Brand; Princesse Tam-Tam; Theory)	Kabushiki gaisha (KK)	Japan (Yamaguchi)	3'630 stores (Diep, 2021b) 57'700 employees (Diep, 2021a)	9.2	17.2

Notes. HQ stands for headquarters; (bn) under Value and Revenue stands for billions. All companies' legal forms are named differently because they are based in different countries.

However, the five legal corporation forms in the table essentially refer to a kind of S.A. (i.e. abbreviation of the Spanish "Sociedad Anónima", French "Société Anonyme", etc.), a form of public company where ownership of the corporation is distributed among public shareholders, shares are traded on stock exchanges and shareholders have a claim to part of the company's asset and profits. Value and revenue numbers were taken from Forbes world's most valuable brands' 2019 classification summary (Forbes, 2020).

As it shows in **Table 4** above, the five selected retail "brands" are actually five retail "groups", englobing 31 brands in total. Among these five retail groups, Nike is ranked the highest by Forbes' classification of *The world's most valuable brands* (all company types), ranking 13th. Inditex is 41st, Adidas 51st, H&M 76th and Fast Retailing 84th. These five fashion groups have been leaders in the fast fashion industry for decades (biggest in terms of revenue, sales, worldwide presence). Besides, as mature international corporations, they have been positioning themselves as responsible stakeholders in the climate change crisis since the 2000s and have adopted the sustainability discourse in their public and intern communication (Boillot-Grenon et al., 2017). These fashion groups leading position, the availability of public reports, and their elaborate discourse about sustainability makes them salient subjects to highlight the worldwide trend in fashion sustainability (Johansson & Stubb, 2021).

Data collection method

84 reports were selected to create this study's corpus (see Annexes). While some brands publish distinguished 'annual' and 'sustainability' reports (i.e. Adidas, H&M and Fast Retailing), others do not (i.e. Nike and Inditex). Besides, I included Fast Retailing 'CSR' reports as they used to name their 'sustainability' report CSR reports until 2015. Moreover, the names and number of reports published each year changed throughout the selected period (2010-2020). For instance, until 2018 Nike used to only publish one global report every two years; while Adidas used to publish two reports each year (annual + sustainability) until 2016, they decided

to merge the two in one since 2017. Finally, H&M is the only brand to publish an additional report specifically on working conditions since 2018, the "Modern slavery statement". As it regards a social issue which can be linked to global sustainability, these reports were also added to the corpus.

I originally wanted to compare fast fashion retail brands like the ones I present in this study with one of the leading fashion brands in terms of sustainability: Patagonia. Unfortunately, unlike the other brands which are all forms of SA (société anonyme), Patagonia is a Private Benefit Corporation and is not required to consistently publish annual reports. Therefore, as they do not publish an annual report every year, nor their revenues or any balance sheet, it was not comparable to the other selected groups. I tried to obtain more detailed reports and information from Patagonia by contacting their social siege in Europe, however, they responded a couple of months later that I should contact their US HQ as they did not have the requested information. I decided then to not include them in the study.

Finally, although the five selected groups are not native English corporations, they all use English as an international language throughout their company and their reports and for this reason the analysis will be in English.

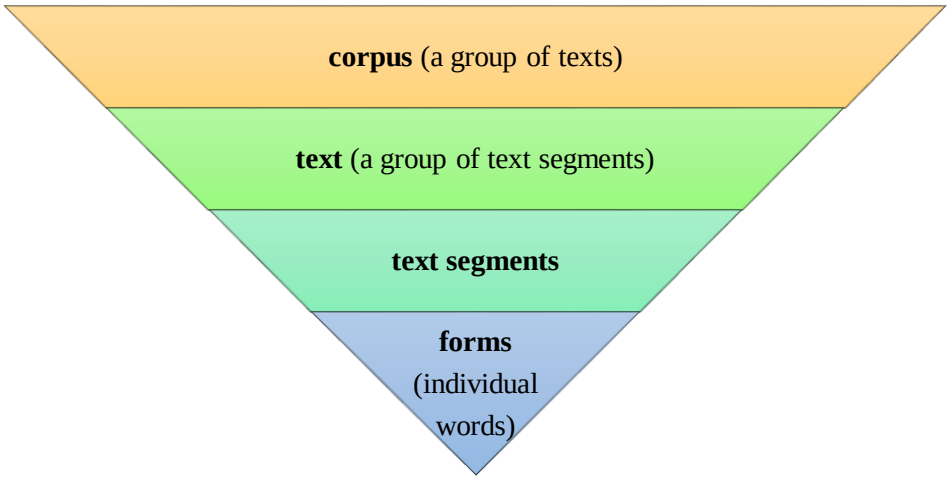
Material: IRaMuTeQ

First, the annual reports are public documents, so they were downloaded on the respective websites of the selected retail groups and the data were first compiled and edited using *Atom.io*, a free open-source text editor. Then, the data were analyzed using the free open-source software *IRaMuTeQ* (version 0.7 alpha 2), which means "R interface for multidimensional analysis of texts and questionnaires". It is based on R software and python language. For the similarity analysis graphs, I used another software: *Gephi*, which is an open-source network analysis and visualization software package written in Java on the NetBeans

platform. It enabled me to get more flexible, customizable, and esthetically pleasing network graphs.

This section briefly presents the basis of textual data analysis. In textual data analysis, a corpus is the "set of units to be analyzed", constructed and contextualized by the researcher, usually with a contrasting/comparative aim (Née, 2017; Vizeu Camargo et al., 2016, p. 5). As **Figure 9** below displays, a corpus is made of texts, which are made of text segments, which are made by forms or individual words.

Figure 9. *Corpus, text and text segments (inspired by Vizeu Camargo et al., 2016)*



More precisely, in *IRaMuTeQ* a corpus is made of a "set of text units", each text unit is separated from one another by the researcher by asterisk lines (****) (Vizeu Camargo et al., 2016, p. 5). Besides, in *IRaMuTeQ* text segments give "the words context" and are "automatically done in a standard analysis", as shown in **Figure 10** below (Vizeu Camargo et al., 2016, p. 6).

Figure 10. *Example of text segments*

****** *Brand_H&M *Year_2014 *Document_AnnualReport2014**

anti corruption h m has a zero tolerance approach to all forms of corruption and this is strongly linked to h m s **values** it is also in line with the company s commitment to human rights and sustainable development

****** *Brand_Nike *Year_2010**

and where information is specific to the nike brand data contained in our reporting is based on the best information available to us from various sources across our **value** chain including primary data as well as secondary data from contract factories and estimates and extrapolations based on sampling or design specifications

A graphic form is "the chosen basic unit" in textual data analysis, it is a "series of non-delimiting characters" (Lebart et al., 1991, p. 49). When preparing the database, it is important

to take this into account that graphic forms do not equal words. A word can generate different graphical forms (e.g., « us » is a different graphic form than « Us ») and words separated by an apostrophe are also two different graphic forms (e.g. in the sentence "I'm happy", "I'" and "m" are two different forms because of contractions which are common in the English language) (Née, 2017). However, in this research as annual reports are formal documents, it is unlikely that many contractions will be found (which would bias the results), as words are lemmatized in *IRaMuTeQ*. Lemmatization is the act of transformation of a text by grouping every substantives, adjectives, verbs and elided forms under their canonical form (e.g. "loving", "loved", "lovely", "lovin'" will be classed under "love"), so a lemme is the canonical form of a word (Née, 2017). Another unit which can be used in textual data analysis is the repeated segments. Repeated segments are larger units than graphic forms or words, they are "sequences of simple forms", non-separated by punctuation, with a frequency equal or greater than twice in a corpus (e.g. "sustainable development", "corporate social responsibility", "annual report", etc.) (Lebart et al., 1991, p. 49). Repeated segments are useful to "enhances the information provided by forms and helps to eliminate ambiguities from their interpretation by introducing the context of these forms in a natural way" (Lebart et al., 1991, p. 49). For instance, this type of unit was originally used to analyze political discourses in order to identify repetitive text segments, frozen speech and discursive routine. (Née, 2017).

> The usual techniques of multivariate descriptive analysis of qualitative variables (simple and multiple correspondence analysis, classification algorithms) provide visualizations of similarities between *profiles of frequencies of graphical forms,* i.e., vectors whose components are the frequencies of each of the forms occurring in portions of the text. These profiles contain a wealth of information. It is also indispensable to take into account the ordering of these units, at least for the most frequent sequences appearing in the text. This contextual aspect consists of analysing the previously defined composite statistical forms called *repeated segments* (Lebart et al., 1991, p. 49).

Finally, co-occurrences are words, groups of words, lemmas or categories which attract (i.e., tendency to appear together in the same context) or repel each other (i.e., tendency to appear elsewhere than the chosen center form) (Née, 2017).

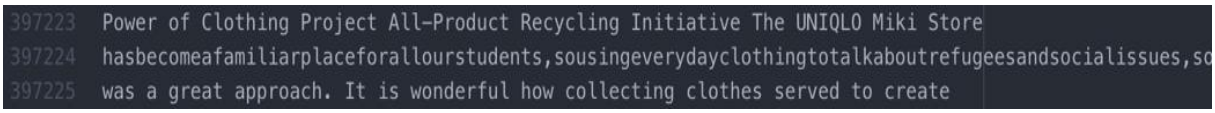
Data analysis methods

In this section I explain the different manipulations I did to prepare the corpus (digitalization, cleaning, and coding) and the different modifications I made in *IRaMuTeQ*'s dictionaries.

Corpus digitalization and cleaning.

To work on IRaMuTeQ, the corpus must be edited in a text editor, here I used Atom.io, a free open-source text editor. In order to clean the corpus, I replaced every "*" and "_" by a space. I also used "reflow selection" to make it more readable and identify sections of the texts which were words were "glued" together and needed to be manually separated (see **Figure 11**) or paragraphs needed to be remade together because of errors due to the copy/paste from PDF documents.

Figure 11. *Extract of "glued" data in Atom.io*



Moreover, because there are various spellings of the same word in the English language (e.g., labour (GB) – labor (US); organise (GB) – organize (US)), I had to clean my corpus accordingly in order to avoid duplicate entries. I merged the spelling choosing to change every British spelling into the American spelling, using a comprehensive list of American and British spelling differences (Jensen, n.d.).

Variables.

Every text must be separated by "****" and variables can be added as we can see in **Figure 12** below.

Figure 12. *Standard coding of textual data in Atom.io*

```
**** *var1_1 *var2_1
text text text text text text text text text text text text text text text text
```

For this research, I decided to code my corpus as **Figure 13** below shows, with the following illustrative variables: *Brand_ to distinguish brands, *Year_, *Document_ to illustrates the different reports.

Figure 13. *Extract of the coded data sample in Atom.io, with variables*

```
1  **** *Brand_Nike *Year_2010
2  *Document_FY10/11SustainableBusinessPerformanceSummary
```

IRaMuTeQ dictionaries' modifications.

IRaMuTeQ dictionaries are usually not exhaustive, varying according to the language used. Its English dictionaries had to be completed because when running the first tests on *IRaMuTeQ*, words like "sustainable" and "sustainability" or "environment" and "environmental" did not lemmatized correctly because they were actually missing from the dictionary (see **Figure 14** and Annexes).

Figure 14. *Example of "environmental" missing from IRaMuTeQ dictionary*

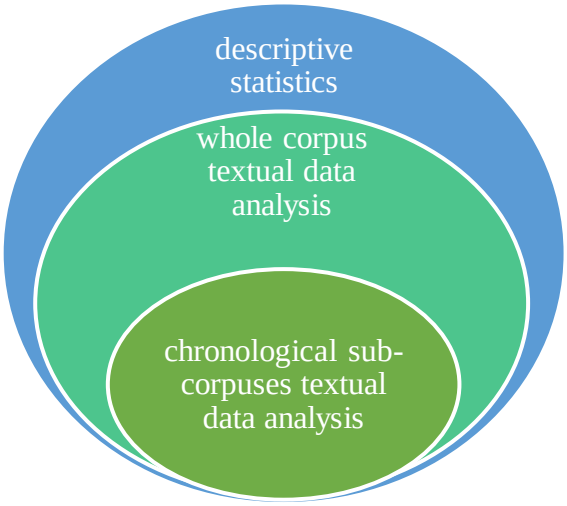
I also had to add a certain number of recurring repeated segments in *IRaMuTeQ*'s 'Expressions' dictionary. For instance, as "annual report" is heavily used in the reports, it was replaced by "annual_report" to be one word in the later analysis (see Annexes). Moreover, as explained below in *Limits and bias*, the distinction between nouns, verbs and adjectives is blurred in English and I had to modify several false word classifications in the dictionary (e.g., adj to noun, adj to verb, etc.) (see Annexes).

The final collected and compiled corpus of this research is made of 84 texts and 441'844 lines (in Atom.io) in total.

Data analysis structure

Results are presented following a funnel-like structure, from general statistics regarding the reports (descriptive statistics, whole corpus analysis) to more detailed analysis (creation and analysis of a sub-corpus, return to text), as **Figure 15** below synthetizes.

Figure 15. *Textual data analysis structure of this research*



Analytical framework: CDA, Ecolinguistics and Fairclough's three-dimensional framework

Discourse definition

In the literature, there are multiple and contradictory definitions of what is (and what is not) a "discourse". It depends on the field of research and even in one, authors have different interpretations. In this research and in the sake of clarity, I will use Arran Stibbe's definition of *discourses* as "standardized ways that particular groups in society use language, images and other forms of representation" (Stibbe, 2015, p. 22). According to them, "members of groups . . . have characteristic ways of speaking, writing or designing visual materials that are common to the group . . . which define the group" (Stibbe, 2015, p. 22).

Ecolinguistics

Ecolinguistics was at first the study of the "interactions between any given language and its environment" (Fill, 2006, p. 43). Today, there are two main approaches to ecolinguistics:

understanding ecology as a metaphor transferred to languages in a given environment; or ecology (in the biological sense) as "the role of language in the development and aggravation of environmental (and other societal) problems" (Fill, 2006, p. 43). It combines linguistic approaches and knowledge from environmental and ecological sciences, like a "ecologically sensitive CDA" (Stibbe, 2017, p. 498), focused on "discourse rather than the language system" (Stibbe, 2017, p. 499).

This paper will focus on Arran Stibbe' ecolinguistics approach, an analysis of linguistic features which will reveal the underlying story of a discourse. This story will then be confronted to an "ecosophy" (i.e., ecological philosophy, which will be represented by the discourse analysis of various identified sustainaibility issues), then ranked on a spectrum between positive, ambivalent, and negative discourses, depending on their alignment with the chosen ecosophy (Stibbe, 2014). According to ecological thinkers, "stories and myths which grew out of the Enlightenment have taken on new powerful forms within neoliberalism and transnational capitalism, to the extent that they are making the Earth less hospitable for human life" (Stibbe, 2017, p. 499). That is why it is necessary to deconstruct these stories by looking at how they are "produced, reproduced and come to structure how we think about the world" (Stibbe, 2017, p. 499).

I will follow Stibbe's ecosophy conceptualization and stories: an *ambivalent* story "is seen as having mixed benefits and drawbacks in encouraging people to protect the ecosystems that life depends on". A *beneficial* story is a story which "is seen as encouraging people to protect the ecosystems that life depends on", while a *negative* one is "seen as encouraging people to destroy the ecosystems that life depends on" (Stibbe, n.d.).

As Stibbe's ecolinguistics approach (Stibbe, 2014) is rather broad and open to any analytical framework, I chose to use Fairclough's three-dimensional framework to structure my analysis (Fairclough, 1995).

Critical discourse analysis (CDA)

Critical discourse analysis (which will be referred to as CDA from now on) has emerged in the 1980s in distinction from the descriptive discourse analysis, with linguists like Norman Fairclough, Teun van Dijk and Ruth Wodak (Reisigl, 2018). CDA joins systematic analysis of texts and transdisciplinarity (Fairclough, 1995).. Moreover, it is a pluridisciplinary and multimethodical approach, combining "critique of discourse and explanation of how discourse figures in existing social reality as a basis for action to change reality" (Wodak & Meyer, 2009, p. 13). In critical discourse studies, there are a multitudes of theories often borrowed from other disciplines such as "theories on society and power in Michel Foucault's tradition, theories of social cognition, and theories of functional grammar" (Wodak & Meyer, 2009, p. 13). Fairclough and van Dijk' initial approach was focused on "the political meaning of social critique", meaning "to judge the status quo, e.g., a specific discourse or (dis)order of discourse, against the background of an alternative (ideal) state and preferred values, norms, standards or criteria with respect to shortcomings or contradictions" (Reisigl, 2018, p. 50). CDA is essentially a pluridisciplinary and multimethodical approach, combining "critique of discourse and explanation of how discourse figures in existing social reality as a basis for action to change reality" (Wodak & Meyer, 2009, p. 13).

Some critics of critical approaches argue that researchers are "being politically, emotionally and ideologically driven at the expense of objective, empirical inquiry", however, according to Stibbe the "two aspects of compassion and rigour should not . . . be seen as mutually exclusive" (Stibbe, 2015, pp. 191–192). By combining systematic analysis of texts and transdisciplinarity, CDA is not only a descriptive approach, it is also a normative in the sense that it "addresses social wrongs in their discursive aspects and possible ways of righting or mitigating them" (Fairclough, 1995, p. 33).

The difference between CDA and ecolinguistics is a wider form of critical discourse analysis. CDA studies how "a powerful group uses language in characteristic ways that convey a story (an ideology) that causes suffering and oppression to other groups", while ecolinguistics widens the range of oppressed groups, "including animals, current generations of humans who are suffering from pollution and resource depletion, and future generations of humans who will find it harder to meet their needs, and considers the impact of discourses on the wider systems that support life" (Stibbe, 2017, p. 500).

Fairclough's three-dimensional framework

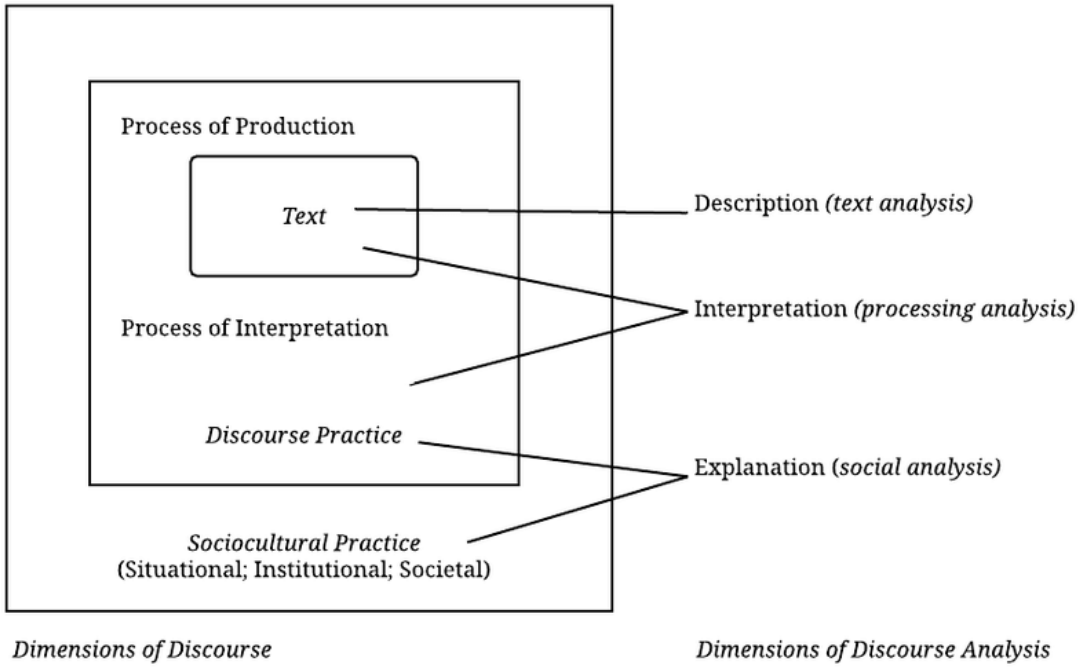
In his book *Critical Discourse Analysis: The Critical Study of Language*, Norman Fairclough (1995) explains that discourse cannot be understood only as a separate object from the reality in which it is created. CDA is a relational form of research as its focus in on social relations rather than individuals, as discourses are always linked to "objects in the physical world, persons, power relations and institutions, which are interconnected elements in social activity or praxis" (Fairclough, 1995, p. 19). Moreover, these relations are dialectical in the way that they are "not fully separate" and thus, CDA looks at the "relations between discourse and other objects, elements or moments, as well as analysis of the 'internal relations' of discourse" (Fairclough, 1995, p. 20). Fairclough gives this example about power in the management of a modern state discourse:

> power is partly discourse, and discourse is partly power – they are different but not discrete, they 'flow into' each other; discourse can be 'internalised' in power and vice-versa; the complex realities of power relations are 'condensed' and simplified in discourses (Fairclough, 1995, p. 20).

Fairclough's three-dimensional conception of discourse focus on the links between social practice and language, or more precisely, "the systematic investigation of connections between the nature of social processes and properties of language texts" (Fairclough, 1995, p.

190). Here (see *Dimensions of Discourse* in **Figure 16** below), discourse is simultaneously: a text (spoken or written), a discourse practice (text production, distribution and interpretation), and a "sociocultural practice" (Fairclough, 1995, p. 191).

Figure 16. *Fairclough three-dimensional framework (Fairclough, 1995, p. 193)*



This framework "connects texts to discourses, locating them in a historical and social context, by which we refer to the particular actors, relationships, and practices that characterize the situation under study" by focusing on three levels/dimensions of analysis (Hardy & Phillips, 2002, p. 4). These three dimensions are not fixated and thus tend to overlap, as Zhang and Miller (2017) explain:

> discourse is carried out through discursive practices, which are manifested in linguistic forms, such as spoken and written text, images, or any other semiotic forms; and the discursive practices in turn construct social practices" (Zhang & Müller, 2017, p. 7).

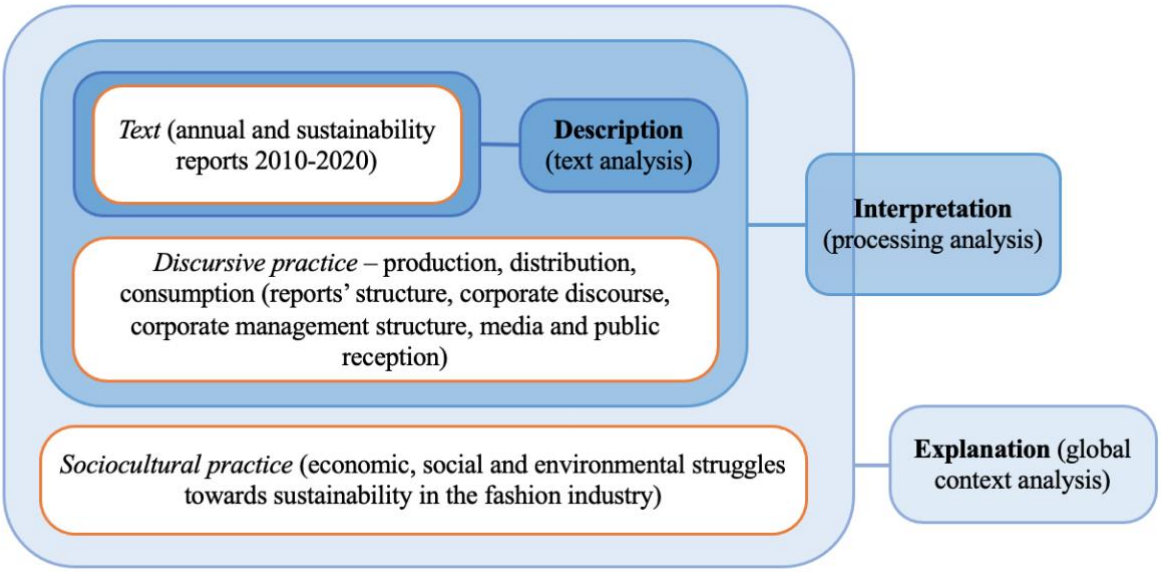
The *description part* (text analysis – micro level) regards the "linguistics description of the language text in terms of linguistic devices and concepts" (Qiu, 2013, p. 1879). It is a "form-and-meaning analysis" where we may look at the generic forms, the dialogic organization (if

the text is a dialogue), grammar and vocabulary (Fairclough, 1995, p. 138). The use of a textual data analysis software is particularly suitable for this part of the analysis as it will highlight lexical worlds, vocabulary frequencies and cooccurrences.

The *interpretation part* (processing analysis – meso level) refers to the analysis of the production of a text (how it is produced), its distribution and its reception (how it is received and interpreted). It is the "interpretation of the relationship between the productive and interpretative discursive processes and the text, with attention paid to the situational contexts in which text production, distribution and consumption occur" (Qiu, 2013, p. 1879).

The *explanation part* (analysis of social practice – macro level) focuses on the relationship between the discursive and social processes, the "context of situation, the institutional context, and the wider societal context" (Fairclough, 1995, p. 138). It aims at replacing the discourse in the wider sociocultural context and/or "identify the social determination and social effects of the discourse" (Qiu, 2013, p. 1879). **Figure 17** below display the three-dimensional framework applied to this research.

Figure 17. *Three-dimensional framework of discourse, applied to fashion sustainability*



Due to the limited size of this master thesis, I had to focus the analysis on specific aspects and could not be exhaustive. The results of the analysis enable me to identify emerging themes and focuses on sustainability in the fashion discourse and analyze them following Fairclough's three dimensions of discourse analysis (description, interpretation and explanation) (Fairclough, 1995) in the discussion. The three levels should allow me to reveal how the fashion groups' discourse about sustainability in their reports display a certain worldview, reinforced, reshaped, or negotiated through their discourses. First, in this research, the discursive practices of fashion sustainability are presented through the production, distribution and consumption of the selected reports and completed with various newspapers articles. Then, the textual and context analysis are presented together for each topic. Finally, I try to trace back the socioeconomical context within which the discursive practice about fashion sustainability was generated. At the end of the discussion, the overview of these three dimensions will permit me to confront these discourses and show if they align (or not) with the ecosophy.

As textual analysis is only one part of Fairclough's three-dimensional framework, I had to call on various media publications (e.g., advertisements, interviews, etc.), public information, the fashion groups' websites and other fashion stakeholders (i.e., Fashion Revolution) for the explanation (discourse context analysis) and the interpretation (discourse production, distribution and reception analysis) parts, in order to root the discourse in the more global context.

Limits and bias

Annual reports are never even, some have more than 200 pages (i.e., 2020: Inditex 602 pages annual report vs. Fast Retailing 78 pages annual report). Besides, they do not display the same information, nor are they structured the same way. Reports' structure changes throughout the years within a same brand and each brand display information in a slightly different structure. For instance, from 2000 until 2016, the Adidas group used to publish annual reports

and sustainability reports separately. Since 2017, they decided to merge their annual sustainability report in their global annual report, as they explain on their website:

> Since full year 2000, adidas has published an annual sustainability report, highlighting the progress made toward targets set. As of full year 2017 reporting, for the first time, adidas presents its financial and non-financial information in one combined publication, the Annual Report. In addition, we continue to keep you informed about relevant updates on our work on our corporate website (Adidas, 2016).

Therefore, it is also important to keep in mind that annual reports do not display the whole of brands/corporations' discourse, as they use various platforms nowadays to communicate on their activities and future actions plan (e.g., website, journal articles, social media, conferences, etc.). For this reason, I will complete my discourse analysis by occasionally referring to other sources materials such as the fashion groups' website, newspapers and other media working with the fashion industry, in a non-exhaustive way.

Moreover, *IRaMuTeQ* is at first a French software, which raised some practical issues like the distinction between nouns, verbs and adjectives being kind of blurred in English. For instance, in **Figure 18**, 'number' was classified under 'numb' as an adjective in *IRaMuTeQ*'s dictionary, instead of under 'number' and noun. Therefore, several false dictionary entries were modified, the type of word classification was changed (e.g., adj to noun, adj to ver, etc.).

Figure 18. *IRaMuTeQ frequency table for the adjectives of the corpus*

Forme	Freq.	Types
new	10391	adj
base	6811	adj
numb	5793	adj
full	5501	adj
high	4793	adj

Besides, *IRaMuTeQ* English 'Expressions' dictionary was almost empty (compared to the French version). As there are thousands of English idioms and open compound words, it

was not possible to get an exhaustive list. However, scanning through the frequency results, I manually added the most frequent ones (see annexes).

Findings

Descriptive statistics

To begin with, the following table (**Table 5**) displays the means (*M*) and standard deviations (*SD*) of the number of pages published by the sample of this study, for annual reports only (*n* = 47) and all reports sampled (*n* = 84). Unfortunately, it was not possible to present a group of 'sustainability reports only' because of its intricacy with the annual reports over the years (for instance, as mentioned previously, Nike called their annual reports *Sustainable Business Performance Summary* between 2010 and 2017). The average number of pages published by the sample (all years combined) is higher when all the reports of the sample are considered (*M* = 233.84) than for annual reports only (*M* = 190.04). This indicates a slight increase of information published in the other reports of the sample (i.e., the "sustainability progress", "impact" or "conscious actions" reports; see Annexes). The high standard deviations (*SD* = 127.49 for annual reports only; *SD* = 135.93 for all reports combined) also indicate high variation in terms of repartition of the number of pages published throughout 2010 and 2020.

Table 5. *Means and Standard Deviations on the Number of Pages of the Sampled Reports, Annual Reports Only and All Reports Combined, All Years Combined*

		Number of pages	
Reports sample	*n*	*M*	*SD*
Annual reports only	47	190,04	127,49
All reports sampled	84	233,84	135,93

As **Figure 19** shows, the number of reports (*n* = 84) released each year by the five groups is rather stable between 2010 and 2020 (*M* = 1.53; *SD* = 0.69). There is a slight increase since 2018, with H&M publishing an additional of report since then: a *Modern Slavery*

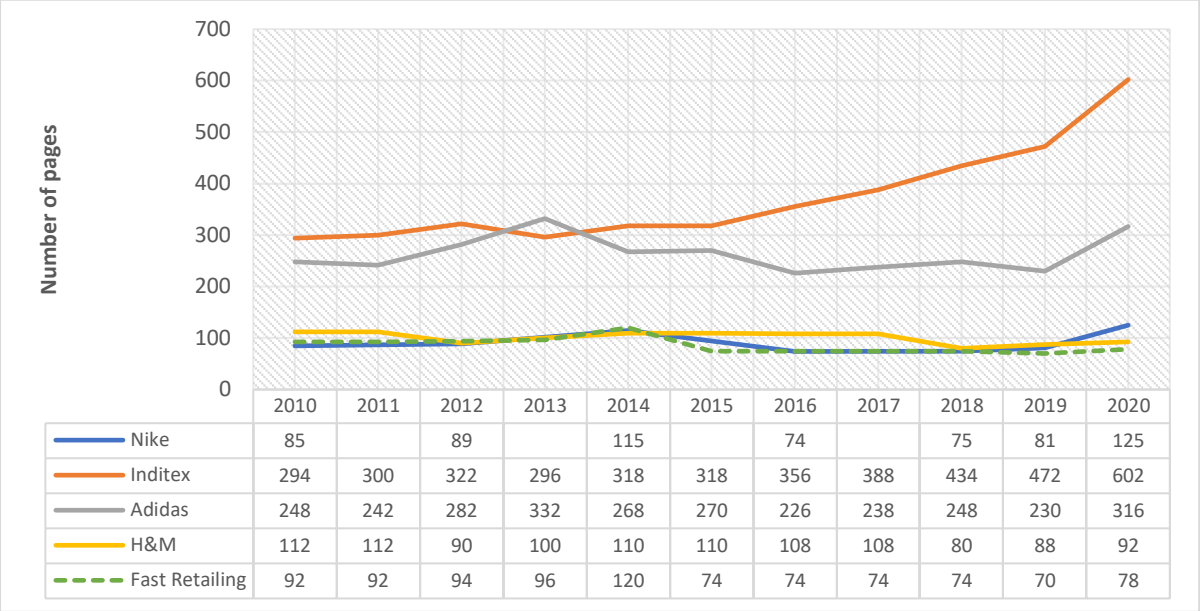
Statement, which is worth noting as it is the only brand in the group to publish such report on this issue. It balances Adidas which merged its *Sustainability Progress Reports* with its annual reports since 2017 and Nike which started to publish one *Impact Report* per year instead of its usual *Sustainable Business Report* every two years (see Annexes).

Figure 19. *Number of Reports Released per Fashion Group Between 2010 and 2020*

Note. *n* = 84. As Nike published only one report every two years covering between 2010 and 2017, it was reflected as half a report per year (0.5) for the corresponding years.

Regarding the number of pages of the reports, **Figure 20** gives a visualization of the evolution of the number of pages published over the ten years period for annual reports only, while **Figure 21** shows it for all the sampled reports. Except for Inditex, there is a rather stable number of pages over the ten years analyzed for the annual reports (**Figure 20**), as well as for all reports compiled (**Figure 21**). As illustrated in **Figure 20**, in decreasing order, Inditex presents the most pages in average in its annual reports all years combined (*M* = 372.73; *SD* = 96.24) and a considerable increase over the ten years studied. It is followed by Adidas (*M* = 263.64; *SD* = 34.60), H&M (*M* = 100.91; *SD* = 11.47), Nike (*M* = 92; *SD* = 20.04) and finally Fast Retailing with the smallest mean (*M* = 85.27; *SD* = 15,11).

Figure 20. *Number of Pages per Annual Reports Only, per Fashion Group, Between 2010 and 2020*

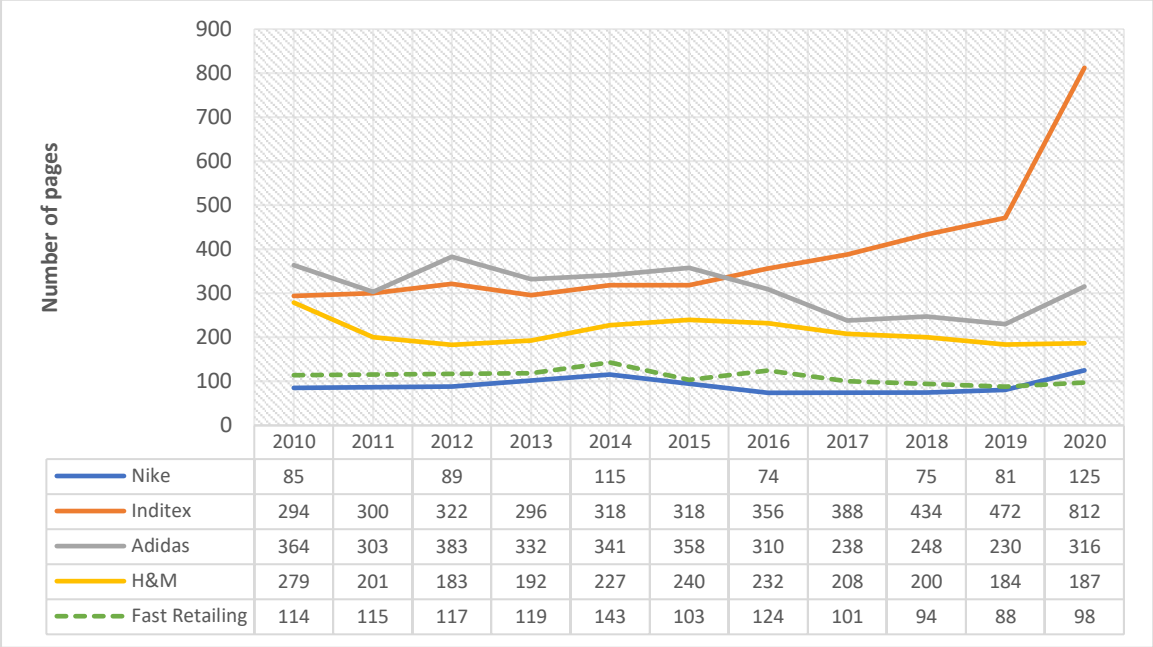


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Nike	85		89		115		74		75	81	125
Inditex	294	300	322	296	318	318	356	388	434	472	602
Adidas	248	242	282	332	268	270	226	238	248	230	316
H&M	112	112	90	100	110	110	108	108	80	88	92
Fast Retailing	92	92	94	96	120	74	74	74	74	70	78

Notes. n = 84. For the sake of readability, Fast Retailing's line was differentiated from the other lines with a dotted line as it was overlapping with Nike and H&M's lines.

There is a slight increase between 2019 and 2020 for all brands, which was predictable as the 2020 reports all include additional information about the COVID-19 pandemic. All years combined (**Figure 21**), Inditex is the brand which published the most in terms of number of pages, with an average of 391,82 pages published. It is also the brand with the biggest increase in number of pages published over the years, from 294 in 2010 to 812 in 2020, which reflects its standard deviation of 151,33. It is followed by Adidas which published 311,18 pages on average (s = 52,43) and H&M with 212,09 (s = 29,71). Finally, Fast Retailing is the steadiest over the years with a standard deviation of 15,71 and a mean of 110,55 pages; and Nike is the smallest publishing brand with 92 pages (s = 20,04).

Figure 21. *Number of Pages, All Reports Compiled, per Fashion Group Between 2010 and 2020*



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Nike	85		89		115		74		75	81	125
Inditex	294	300	322	296	318	318	356	388	434	472	812
Adidas	364	303	383	332	341	358	310	238	248	230	316
H&M	279	201	183	192	227	240	232	208	200	184	187
Fast Retailing	114	115	117	119	143	103	124	101	94	88	98

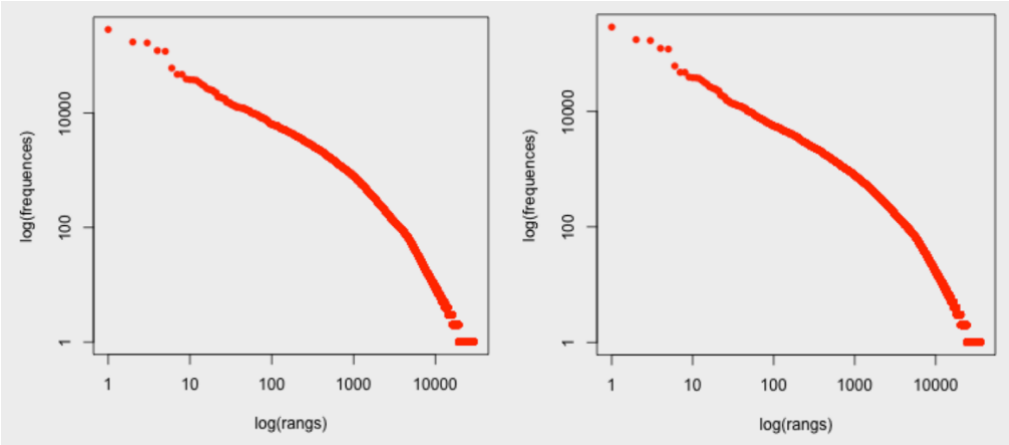
Note. n = 84.

Textual data analysis: whole corpus

Frequencies

The following statistics have done with the software *IRaMuTeQ* on the whole corpus. To begin with, a Zipf's law figure (**Figure 22**) and frequencies statistics (**Table 7**) have been created. The Zipf diagram features the word frequency in the corpus, with in abscissa (X axis) the ranks logarithms and in ordinate (Y axis) the frequency logarithms. The most frequent words are the ones with at the highest rank (frequency > 1000), while the hapaxes (1 frequency) have identical ranks which is reflected by the horizontal line (several ranks with the same 1 frequency). The curve is often downward as Zipf's law argues that the rank*frequency result is usually constant (Lebart & Salem, 1988).

Figure 22. *Zipf's Law, With Lemmatization on the Right; Without Lemmatization on the Left, Whole Corpus*



Note. n = 84.

In the entire sample of 84 texts, there is a total of 5'104'596 occurrences (**Table 6**). As lemmatization groups the inflected forms of words together in a single item, the number of forms is predictably smaller when running the tests 'with' lemmatization (29'487) compared to 'without' it (35'739). There is a normal number of hapaxes, which indicates that the corpus is well balanced grammatically and that there is a small number of disturbing forms.

Table 6. *Characteristics of the Whole Corpus*

	Lemmatization	
	With	*Without*
Occurrences	5'104'596	
Forms	29'487	35'739
Hapaxes	10'171 (0.20% of occurrences – 34.49% of forms)	11'550 (0.23% of occurrences – 32.32% of forms)
Mean of occurrences by text	60'769	

Note. n = 84.

The following table (**Table 7**) displays an extract of the 25 most frequent forms of the frequency table for the whole corpus, sorted by lexical category according to the dictionary of reduced forms, all years combined. The left column shows the frequency forms with lemmatization, and the right column the forms without lemmatization. The frequencies were divided in the following major lexical categories: nouns, adjectives, verbs and non-recognized forms.

Table 7. *Frequency Results Extract of the 25 first occurrences by Lexical Category (Whole Corpus)*

	Lemmatization			
	With		*Without*	
Lexical category	Form	Frequency	Form	Frequency
Nouns	company	18031	group	24500
	year	15290	management	14985
	management	14988	company	13995
	sustainability	13949	report	13166
	store	12576	business	11433
	business	12484	year	11348
	product	11969	board	11096
	sale	11062	sales	9681
	supplier	10885	information	9034
	share	9960	sustainability	8927
	director	9638	suppliers	8460
	employee	9423	total	8346
	asset	9297	assets	8201
	million	9166	performance	8017
	information	9034	committee	7372
	brand	8966	directors	7360
	audit	8399	employees	7138
	environment	8354	stores	7063
	committee	8217	million	6937
	performance	8033	risk	6845
	factory	8013	products	6451
	well	7605	work	6338
	material	7477	annual	6218
	base	6642	compliance	5863
	executive	6422	executive	5749
Adjectives	new	10110	full	5449

	full 5461 high 4575 responsible 3558 good 3180 long 3075 fair 2244 great 2231 close 1976 main 1957 strong 1954 gross 1739 positive 1521 large 1485 short 1483 less 1449 chief 1168 raw 1094 renewable 969 central 960 ethical 949 wide 925 real 899 clear 897 green 838	responsible 3327 long 2638 high 2580 fair 2184 main 1957 gross 1739 strong 1730 good 1672 direct 1630 positive 1520 forward 1436 human 1400 short 1380 higher 1278 chief 1168 greater 1117 raw 1094 open 1000 renewable 968 central 960 low 921 great 915 real 899 ethical 888
Verbs	group 25427 report 18916 risk 12289 work 11685 board 11266 include 11165 market 10369 total 8760 increase 8369 account 8060 impact 6932 consolidate 6585 operate 6447 control 6357 relate 5840 retail 5770 end 5159 value 5111 issue 5049 cost 4935 continue 4873 note 4752 provide 4709 develop 4680	consolidated 6445 based 5895 operating 5153 training 4504 including 4104 working 4090 related 4005 ensure 2919 cost 2819 reporting 2775 manufacturing 2668 held 2612 increased 2504 include 2444 includes 2405 recognized 2363 set 2337 included 2212 improve 2188 provide 2163 accounting 2131 develop 2124 continue 2003 meeting 1999 reduce 1987

	ensure 4338
Non-recognized forms	financial 11707 global 8107 annual_report 5056 supply_chain 4531 corporate 3545 supervisory_board 2910 financial_statements 2854 fair_value 2545 general_meeting 2544 additional 2540 corporate_governance 2538 online 2419 spain 2415 strategic 2342 code_of_conduct 2306 gri 2253 ceo 2139 economic 2126 directly 2095 human_rightss 2059 relevant 1955 germany 1841 conscious 1817 financial_year 1795 foreign 1781

Note. The frequencies are the same with/without lemmatization for the non-recognized forms.

To being with, for the whole corpus (all years combined), regarding the nouns' frequencies, *sustainability* is the fourth most frequent noun, appearing 13'949 times with lemmatization and 8'927 times without. The only words appearing more in the reports are *company* (18'031 frequency with lemmatization and 13'995 without), *year* (15'290 with lemmatization), *management* (14'988 with lemmatization and 14'985 without), *group* (24'500 with lemmatization and 25'427 without) and *report* (18'916 with lemmatization), which is not surprising as the data are initially financial reports. Then, *environment* is also in the 25 most frequent nouns used in the reports with a 8'354 frequency with lemmatization.

Regarding the adjectives, *responsible* is one of the most frequent ones with a 3'558 frequency with lemmatization and 3'327 times without. *Fair* is also fairly present in the whole

corpus reports (2'244 with lemmatization, 2'184 without), as well as *renewable* (969 with lemmatization, 968 without), "*ethical*" (949 with lemmatization, 888 without) and "*green*" (838 with lemmatization).

Then, regarding the verbs, except for "*reduce*", which is not directly one of the 5Rs but represents a will to change business practices towards more sustainability (e.g., reduce is mostly present with "carbon emissions", "carbon footprint" or "emissions" in the reports discourse), none of the 5Rs appear in the 25 most frequent words of the whole corpus. However, as this is a first step, mixing all years together, finer analysis by chronological clusters will enable me to get a finer analysis.

Discourse organization: similarity analysis

While frequency analysis shows the predominance of certain words in the corpus, the similarity analysis offers a better overview of the discourse structure. Similarity analysis enables us to get a comprehensive visual overview of our data, a 'network' of different sub-groups with their interactions, which concepts are the most influential, what are their opposites, etc. Here, each (selected) word is a node; nodes are "more or less stable entities" and the links/edges represent the relations between them, which occurs at a certain frequency (Nodus Labs, 2021). In this study edges represent the co-occurrence as a connectivity basis. Clusters are the "constellations of nodes that are more densely connected together than with the rest of the nodes in the "network", which can be divided into smaller subgroups and subcategories (Nodus Labs, 2021).

For the sake of clarity and readability of the graph, I selected occurrences bigger and/or equal to a 3000 frequency (so the first 169 forms). As *IRaMuTeQ* similarity graphs are not much customizable and lack of readability, I used the software 'Gephi' to better visualize the similarity analysis results, following the steps of Gephi's *Quick Start Tutorial* (Gephi, 2010).

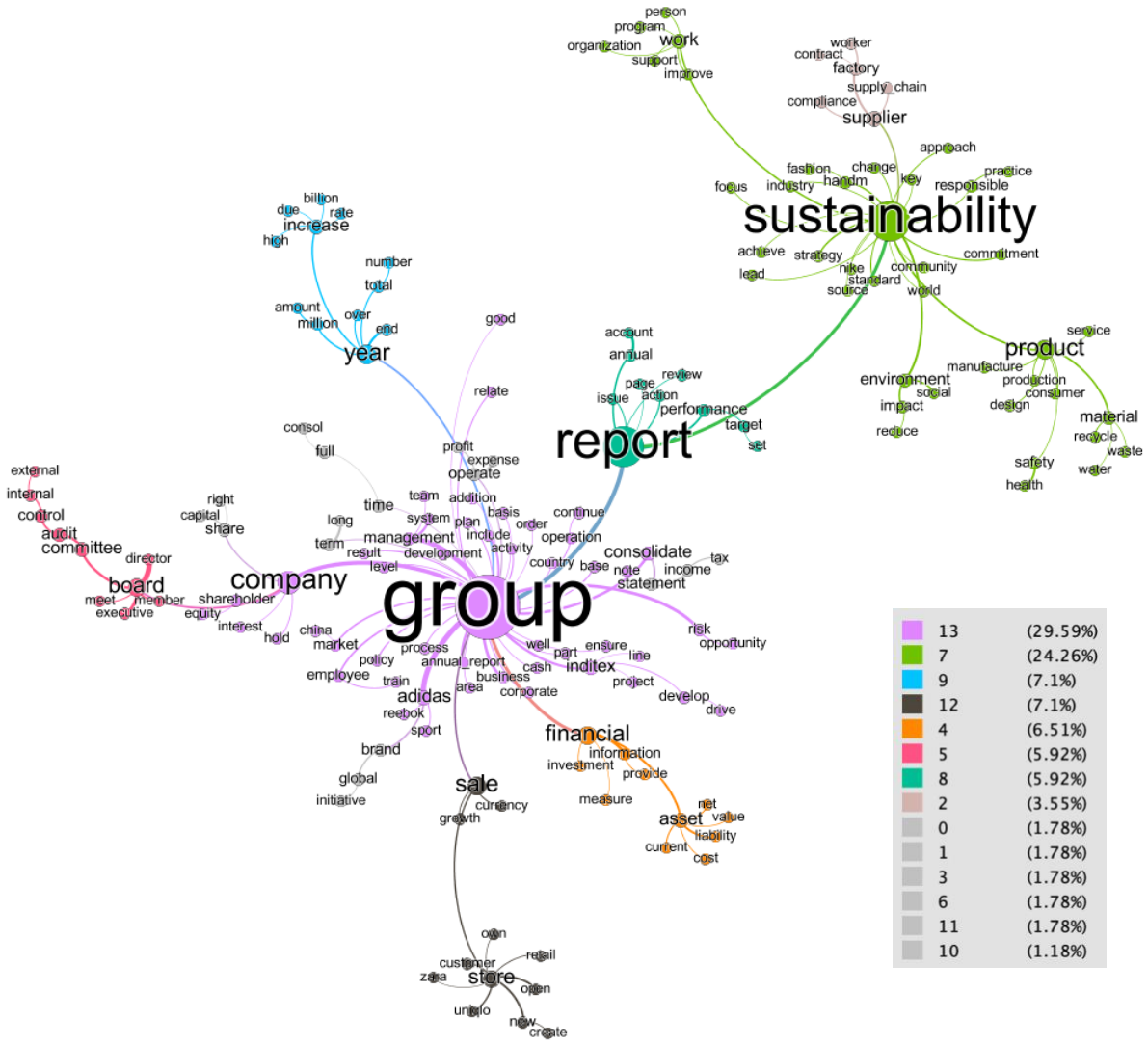
Here, all similarity graphs display a 'Force Atlas' layout algorithm, where linked nodes attract each other, and non-linked nodes are pushed apart.

An 'Average Path Length" algorithm has been run to create the following new values: 'Betweeness Centrality', 'Closeness Centrality' and 'Eccentricity'. Then, nodes' size has been set to 'Betweenness Centrality metric', which "indicated influential nodes for highest value" (Gephi, 2010, p. 15). Betweenness centrality indicates "how often the node appears on the shortest path between any two randomly chosen nodes in a network", which gives a better measure of influence as it considers the whole network and not only the local connectivity of nodes. Labels' size was set to be proportional to the nodes' size.

Nodes' color has been configured using Gephi's 'Statistics' panel, a 'Modularity Class' partition list was created to detect and study distinct communities within the network. This iterative algorithm "identifies the nodes that are more densely connected to each other than to the rest of the nodes in the network" (Nodus Labs, 2021). This community detection algorithm created a modularity class value for each node, which are colored randomly (see the grey box in **Figure 23**), "the higher this measure is, the more distinct those communities of densely connected nodes are" (Gephi, 2010; Nodus Labs, 2021).

Finally, it is also important to consider the gaps or blank spaces between the clusters in the network. These "structural gaps" are to be seen as "creativity and potential . . . hidden withing the network" (Nodus Labs, 2021).

***Figure 23**. Similarity analysis, >=3000 frequency, cooccurrence index, 'Modularity Class' partition list labels (Whole Corpus)*



For the whole corpus, the similarity analysis identified 169 nodes. The 'Modularity Class' partition list identified 14 communities. The first two nodes represent together 53,85% of the text segments: "group" (29.59%) and "sustainability" (24.26%). The following nodes are significantly smaller: "year" and "sale" (both 7.1%), "financial" (6.51%), "board" and "report" (both 5.92%), "supplier" (3.55%).

Creation of three chronological sub-corpuses

In order to highlight differences or evolution during the selected time period (i.e., 2010-2020), I created three sub-corpuses from the metadata, separating them as follows: 2010-2013, 2014-2017, 2018-2020 (see **Table 8** below). Unfortunately, at the time I did the analysis the reports for 2021 were not published yet, therefore the periodization is a bit uneven, the first two periods (2010-2013 and 2014-2017) representing 4 years and the last one (2018-2020) only 3 years.

Table 8. *Characteristics of the Three Chronological Sub-Corpuses*

	2010-2013	2014-2017	2018-2020	*t*
Number of texts	30	29	25	84
Number of occurrences	175'797	175'240	159'421	-

Note. No total is presented for the number of occurrences as it is not relevant, most of the same forms appear in the three corpuses, thus it overlaps.

Frequencies

Then, I searched the *IRaMuTeQ* active forms' frequency tables for the previously pre-determined eco-fashion lexicon and created a table (see **Table 9** below). The infinitive form of the verbs is presented in the table, but with the lemmatization process, it includes all their conjugated forms (e.g., to "repair" includes all "repairs", "repaired" and "repairing"). I also merged the frequency results for "ethical" and "ethically", "organic" and "organically". I did not do this for "environmental" and "environmentally" as they do not always have the same connotation in the texts. For instance, "environmentally friendly", which is the most repeated segment for the adverb "environmentally", have a considerably different meaning than "environmental impact" or "environmental footprint", which are the most repeated segments for the adjective "environmental".

Table 9. *Eco-fashion lexicon frequencies, with % change between 2010 and 2020*

Identified terms	Frequencies by time period		
	2010-2013	2014-2017	2018-2020
Bio- (prefix)	3	4 (+33.33%)	12 (+200%)
Bio-based (adj.)	3	5 (+66.67%)	13 (+160%)
Circular (adj.)	32	606 (+1793.75%)	730 (+20.46%)
Circular economy (n.)	6	64 (+966.67%)	158 (+146.88%)
Circularity (n.)	0	68 (+68)	288 (+323.53%)
Closing the loop	6	62 (+933.33%)	66 (+6.45%)
Compost (v.)	12	14 (+16.67%)	18 (+28.57%)
Compostable (adj.)	0	0 (=)	16 (+16)
Disassembly (design for) (n.)	0	2 (+2)	4 (+100%)
Downcycle (v.)	2	1 (-50%)	8 (+700%)
Durability (n.)	14	19 (+35.71%)	32 (+68.42%)
Durable (adj.)	7	9 (+28.57%)	20 (+122.22%)
Eco- (prefix)	191	169 (-11.52%)	142 (-16.57%)
Ecofashion (n.)	0	0	0
Ecological (adj.)	16	11 (-46.67%)	12 (+37.50%)
Ecology (n.)	4	0 (-4)	0
Environmental (adj.)	2049	1711 (-16.50%)	1578 (-7.77%)
Environmentally (friendly) (adv.)	168	126 (-25%)	80 (-36.51%)
Ethical (adj.) (inc. adv. ethically)	269	321 (+19.33%)	359 (+11.84%)
Fair (adj.)	459	989 (+106.04%)	736 (-25.58%)
Green (adj.)	398	259 (-36.43%)	181 (-29.25%)
Hazardous (substances) (adj.)	180	198 (+10%)	190 (-4.04%)
Local (adj.)	681	800 (+17.58%)	763 (-4.27%))

Microfibres (n.)	3	10 (+133.33%)	85 (+485.71%)
Natural (adj.)	415	336 (-19.04%)	349 (+3.87%)
Non-toxic (adj.)	1	1 (=)	4 (+300%)
Organic (adj.) (inc. adv. organically)	341	249 (-26.98%)	204 (-18.07%)
Pure (adj.)	27	7 (-74.07%)	7 (=)
Recyclable (adj.)	7	11 (+57.14%)	50 (+336.36%))
Recycle (v.)	763	1086 (+42.33%)	1380 (+27.07%)
Redeploy (v.)	0	0 (=)	1 (+1)
Reduce (v.)	1295	1199 (-7.41%)	1081 (-9.84%)
Regenerative (production practices) (adj.)	0	5 (+5)	9 (+80%)
Remake (v.)	1	2 (+100%)	18 (+800%)
Renewable (adj.)	38	599 (+1476.32%)	332 (-44.74%)
Repair (v.)	13	24 (+84.62%)	70 (+191.67%)
Repairable (adj.)	0	0 (=)	1 (+1)
Responsible (adj.)	842	1170 (+38.95%)	1315 (+12.39%)
Reusable (adj.)	18	9 (-50%)	52 (+477.78%)
Reuse (v.)	173	228 (+31.79%)	320 (+40.35%)
Secondhand (adj., adv.)	7	23 (+228.57%)	39 (+69.57%)
Sustainability (n.)	2776	3040 (+9.51%)	3111 (+2.34%)
Sustainable (adj.)	1547	1738 (+12.35%)	1737 (-0.06%)
Sustainably (adv.)	27	102 (+277.78%)	80 (-21.57%)
Traceability (n.)	57	292 (+412.28%)	271 (-7.19%)
Transparency (n.)	271	460 (+69.74%)	486 (+5.65%)
Upcycle (v.)	3	23 (+666.67%)	22 (-4.35%)
Vintage (adj.)	6	0 (-100%)	9 (+9)
Waste (n.)	811	949 (+17.02%)	1214 (+27.02%))

Notes. (adj.) = adjectives, (adv.) = adverbs, (n.) = nouns, (v.) = verbs. For the 0-frequencies it was not possible to calculate a percentage increase/decrease, thus, either a = or +/- the frequency number was put in brackets instead of the percentage to express change between time periods.

The percentage of frequency change between the three time periods has been calculated and added to the frequency results. These percentages can be very high sometimes, for example, when a term appears only 3 times (e.g., *Upcycle*) in the 2010-2013 period, and then 23 times in the second period (2014-2017), the percentage skyrockets to +666.67%. This does not mean that the term is an important topic as it still appears a few times compared to other terms, thus they must be understood with precaution.

Some terms have a rather continuously increasing frequency (e.g., *Circular*, *Recycle*, *Responsible*, *Sustainability*, *Waste*), while others display a continuous decrease in frequency over the three time periods (e.g., *Eco-*, *Environmental*, *Green*, *Organic*, *Reduce*). Other terms (e.g., *Local*, *Renewable*) present an increasing frequency during the second time period (2014-2017), compared to the first period (2010-2013), and a decreasing frequency during the last period (2018-2020). Finally, some terms appear at a rather stable frequency over the three time periods (e.g., *Compost*, *Hazardous*).

The following table (**Table 10**) displays the results for the 5R framework (Johansson & Stubb, 2021) between 2010 and 2020. I integrated the terms from the eco-fashion lexicon related to the 5R, indented below the corresponding R (e.g., *Reusable* with *Reuse*).

Table 10. *5R frequencies, with % change between 2010 and 2020*

	Frequencies by time period		
5R	2010-2013	2014-2017	2018-2020
R1: Reuse (v.)	173	228 (+31.8%)	320 (+40.35%)
Reusable (adj.)	18	9 (-50%)	52 (+477.8%)
R2: Repair (v.)	13	24 (+84.6%)	70 (+191.6%)
Repairable (adj.)	0	0 (=)	1 (+1)
R3: Re-design (v.)	11	15 (+36.4%)	15 (=)
Design for disassembly	0	2 (+2)	4 (+100%)
R4: Repurpose (v.)	7	2 (-71.43%)	2 (=)
Remake (v.)	1	2 (+100%)	18 (+800%)
R5: Recycle (v.)	736	1086 (+47.55%)	1380 (+27.1%)
Recyclable (adj.)	7	11 (+57.15%)	50 (+354.55%)

Note. The infinitive form of the verbs is presented in the table, but it includes, with the lemmatization process, all their conjugated forms (e.g., *Repair* includes repairs, repaired and repairing). For the 0-frequencies it was not possible to calculate a percentage increase/decrease, thus, either a = or +/- the frequency number was put in brackets instead of the percentage to express change between time periods.

It is clear here that the main focus of the fashion discourse is on *R5*, the recycle process, with distinct higher frequency than the other Rs. The second main talked strategy is *R1*, the reuse process, however it appears at a much lower frequency than *R5* (i.e., *R1*: 173, 228 and 320 frequencies, compared to *R5*: 736, 1086 and 1380). *R4* (Repurpose process) and *R3* (Re-design process) are the less present strategies in the fashion groups' discourse, and their presence have not change much over the ten years period. *R2* (Repair) is starting to be more present in the last time period (2018-2020), with a 70-frequency compared to the first time period (2010-2013) with a 13 frequency. However, it is still anecdotal evidence of its

importance in the fashion industry when compared to *R5* and *R1*. Besides, *R2* added term "Repairable" is present only one time over the whole years, which means that creating repairable garments is clearly not the priority of the fashion industry at the moment.

Regarding fibers, **Table 11** below shows the results for the three time periods. *Cotton*, a *natural* fiber, is clearly the most present fiber in the current fashion discourse, nonetheless with a decreasing frequency, starting at 972 times in 2010-2013 and ending at 736 in 2018-2020. *Natural* is the second most frequent fiber referential in the reports, with a rather stable frequency over the three time periods (*M* = 366,66). *Organic*, which refers to the natural fibers' agricultural process presents a decreasing frequency over the three time periods, going from a 341-frequency in the 2010-2013 period, to a 204-frequency in 2018-2020. The other natural fibers, *Linen*, *Hemp, Silk* have a rather steady and low frequency presence in the reports, while *Wool* shows an increasing focus in the second time period (2014-2017) with a 109-frequency compared to the first time period, and it decreases again in the last time period (2018-2020). However increasing over the three time period, *Artificial* fibers (i.e., *Cellulosic*) are not much present in the reports. Finally, *Synthetic* fibers and *Microfibers* show an increasing focus over the years for all the types of synthetic fibers (Polyester, Polyamide, Nylon), however much lower than cotton.

Table 11. *Main fibers' frequencies, with % change between 2010 and 2020*

Fibers	Frequencies by time periods		
	2010-2013	2014-2017	2018-2020
Natural	415	336 (-19%)	349 (+3.86%)
Organic	341	249 (-26.98%)	204 (-18.07%)
Cotton	972	875 (-9.97%)	736 (-15.89%)
Linen	21	15 (-28.57%)	20 (+33.33%)
Hemp	14	1 (-92.88%)	- (-1)
Wool*	35	109 (+211.43%)	60 (-44.95%)
Silk*	13	12 (-7.7%)	2 (-83.3%)
Artificial	3	9 (+200%)	34 (+277.77%)
Cellulosic	-	23 (+23)	23 (=)
Synthetic	31	34 (+9.67%)	67 (+97%)
Polyester	108	149 (+37.96%)	207 (+38.93%)
Polyamide (Nylon)	4 (2)	5 (10) (+150%)	14 (16) (+100%)
Microfiber	3	10 (+233.33%)	85 (+750%)

Notes. *Wool and silk are animal fibers, compared to the other natural fibers which are plant based. Nylon is in brackets with polyamide as it is a sort of polyamide. Microfiber is a blend of fibers, which can be artificial and/or synthetic. For the 0-frequencies it was not possible to calculate a percentage increase/decrease, thus, either a = or +/- the frequency number was put in brackets instead of the percentage to express change between time periods.

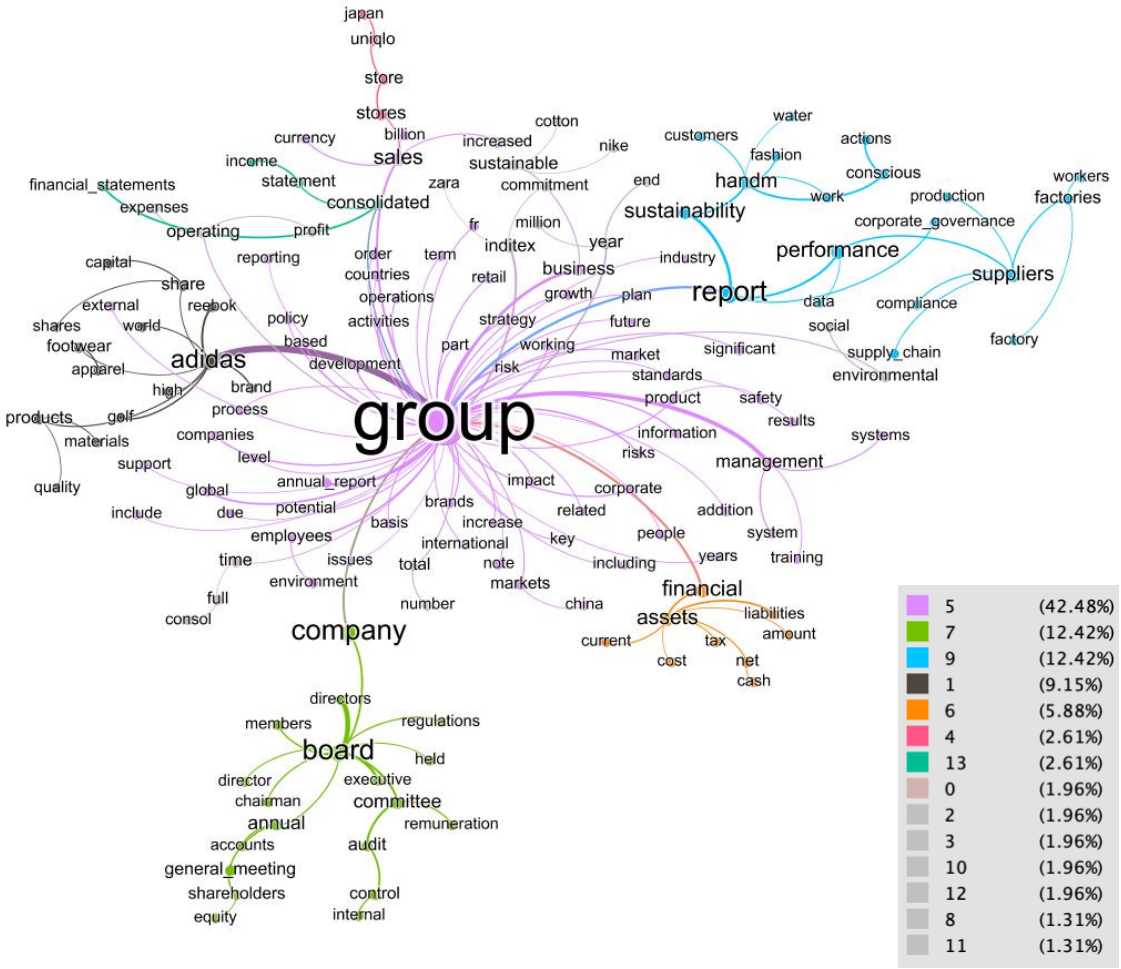
Discourse organization: similarity analysis

In order to get a graphical visualization of the three time periods I created three different similarity analysis networks, first on *Iramuteq* and then visually adjusted on *Gephi*.

2010-2013.

Figure 24 below shows that, in the 2010-2013 reports, the terms *sustainable* and *sustainability* are separated and not linked together. While *Sustainability* is linked to *handmade*, *conscious*, *work* and *water*, thus not much environmental considerations are shown here; sustainable is only linked to *Nike* and *cotton*. *Environmental* is alone, only linked to *group*, while *environment* is linked to *employees*, hinting towards considerations about the working environment and not the natural environment.

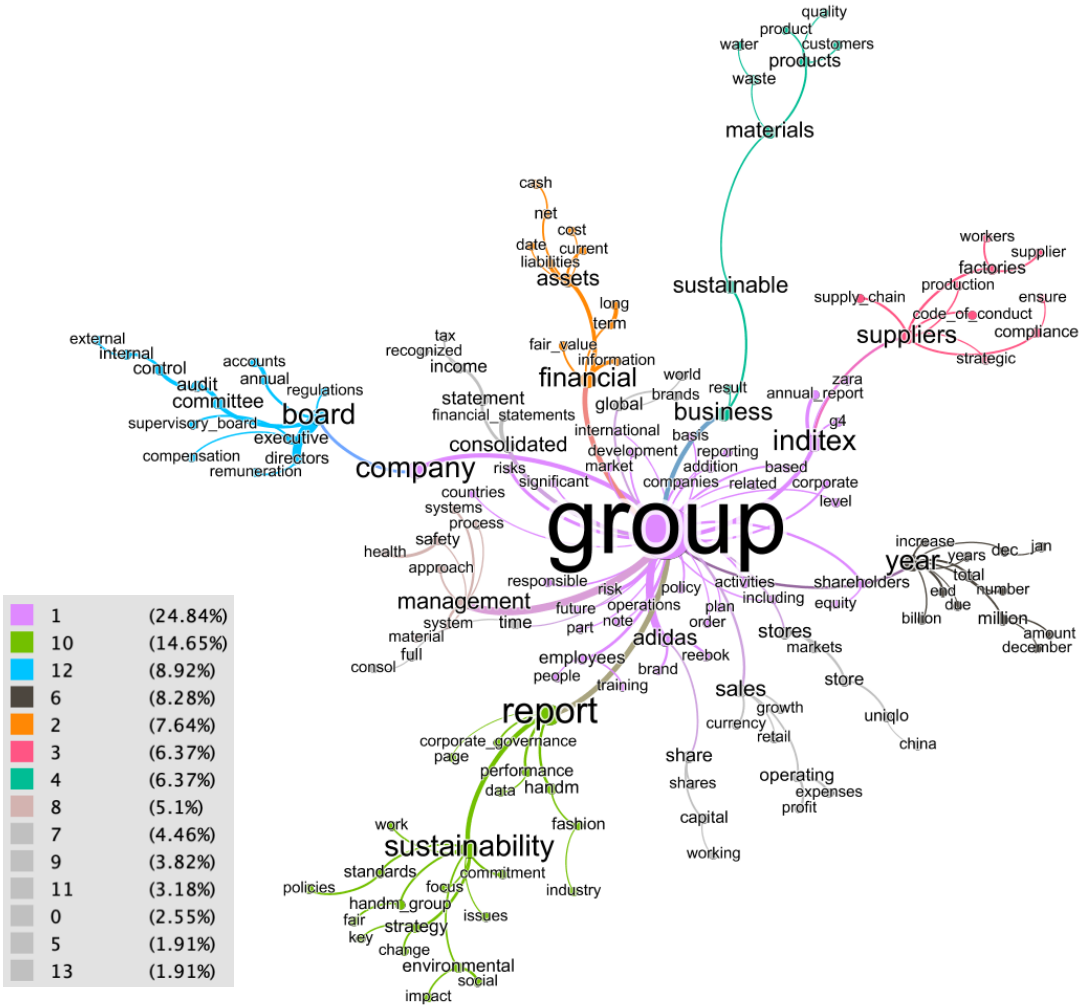
Figure 24. *Similarity analysis, >=900 frequency, cooccurrence index, 'Modularity Class' partition list labels (2010-2013)*



2014-2017.

For the 2014-2017 period, **Figure 25** below displays that *sustainable* is linked to *materials*, *consumers*, *waste* and *quality*. This shows a first change in the discourse towards sustainability, compared to 2010-2013. Besides, here *sustainability* is linked to *environment*, *commitment*, *change* and *social* and *environmental impact*. It shows an improvement in terms of acknowledgement of the environmental and social dimension of sustainability and the fashion groups' need for change.

Figure 25. *Similarity analysis, >=900 frequency, cooccurrence index, 'Modularity Class' partition list labels (2014-2017)*



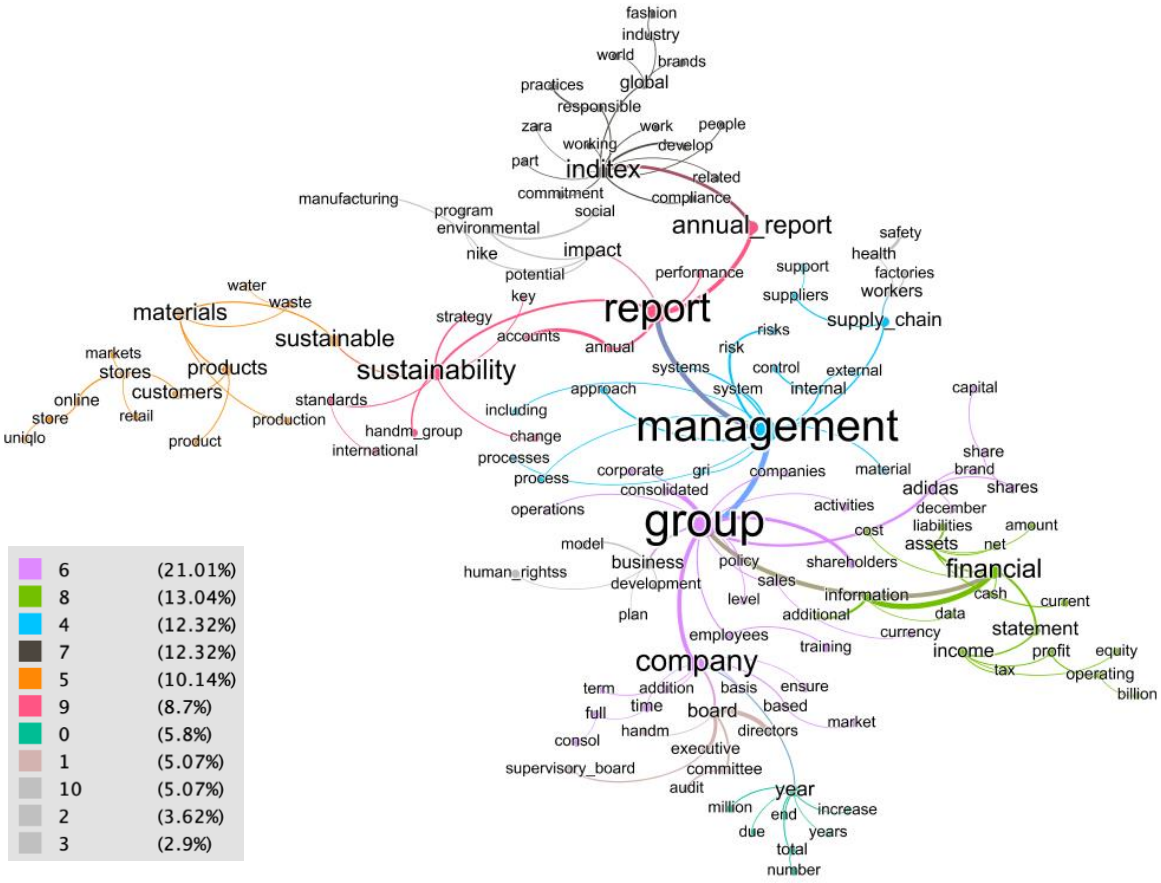
2018-2020.

For the 2018-2020 period, **Figure 26** displays for the first-time *sustainability* and *sustainable* directly linked to each other. *Sustainability* seems to be more linked to policies and actions strategies, while *sustainable* is still linked to *materials*, *waste* and *consumers*. The *environmental* aspect has lost its linked to the two words here, as it is now directly linked to *impact* and *social*.

In the first two time periods (2010-2013 and 2014-2017), information seems to be more condensed in the modularity classes (especially the first one, with the first class englobing more than 40% of the corpus). The way sustainability is presented in last time-period seems to indicate that it has been well integrated in the corporate discourse strategy, however, it parts with the environmental and social issues linked to it.

Another interesting point is that in the 2017-2020 period, *stores* are now linked to *sustainable*, it now englobes more than the products, but also the sales locations.

Figure 26. *Similarity analysis, >=900 frequency, cooccurrence index, 'Modularity Class' partition list labels (2018-2020)*



Limits and bias

Because some nouns/verbs have the same orthography in English (e.g., to change/a change), the frequency tables are presented 'with' and 'without' lemmatization and lexical categories must be analyzed with precaution by double-crossing the frequency results and concordance tables.

Discussion

Findings summary

The previous *Findings* section showed that the number of reports has only slightly increased over the years, while the number of pages published each year increased more remarkably between 2010 and 2020. The first results for the whole corpus (all years combined) showed a global overview of the discourse with frequency results displaying the most frequent forms and a similarity analysis of the entire corpus. Then, to show the chronological evolution of the discourse, three sub-corpuses have been created representing three time periods: 2010-2013, 2014-2017 and 2018-2020. Frequencies' tables for the updated eco-fashion lexicon, the 5R strategies and the main fibers displayed the changes in the fashion industry discourse about sustainability and similarity analysis gave a good view of the links between the main topics of the reports.

Due to the high number of results and to get a concise analysis I will not be able to discuss every term one by one, thus, I will focus on some of the most relevant ones regarding the previously presented issues. While I focus more on environmental issues with the main fibers' analysis, I include social issues in the interpretation part with an analysis of consumers' behavior, responsibility blaming, and some social inequalities raised by some of the studied fashion groups. Regarding the economic dimension of sustainability, it appears more transversally throughout the whole discussion. Besides, most of the examples focus on the H&M group as it is the one making the most statements about their responsibility in the environmental crisis and the most involved in changing its practices. It does not mean that the other four fashion groups are not taking actions, however, missing information means that it cannot be thoroughly commented.

As mentioned in the *Method* section, this analytical framework is particular and does not fit perfectly in the common structure of a research paper. For instance, the first part of the

discussion, the interpretation part of the production, distribution and reception of the discourse does not refer much to the main data presented in the *Findings* section. It is a part where I refer to mediatic, historical, financial, advertising references to complete and add to the textual analysis. I also call on corporate discourse studies to present the main goals of corporate discourse. While the textual analysis part it the part where I refer to the textual data findings, the explanation part also calls on various other data in order to triangulate the textual data findings and contextualize the discourse in the more global situation.

I begin the *Discussion* by analyzing the descriptive practice of the discourses (i.e., discourse production, distribution, and consumption), answering the following questions: who produced the discourse? To whom? For which purposes? Then, as the three levels of Fairclough three-dimensional framework (1995) are often interrelated, the different parts of the analysis connect with each other. I present the description and explanation parts together, starting by text analysis and moving to contextualization of each identified lexicon: the updated eco-fashion lexicon, the 5R and the main fibers used by the fashion industry. This will enable me to answer the first sub-question: what is the evolution and use of the terms identified in eco-fashion lexicon? Finally, I will conclude by a more global contextualization and look at how the fashion discourse about sustainability fits in the global context of the industry activities between 2010 and 2020. This will enable me to answer my research question and my hypothesis.

Interpretation – discursive practice analysis

The interpretation part (processing analysis – meso level) refers to the analysis of the production of a text (how it is produced and for which purposes), its distribution (to whom is it addressed) and its reception (how it is received and interpreted). It is the "interpretation of the relationship between the productive and interpretative discursive processes and the text, with attention paid to the situational contexts in which text production, distribution and consumption occur" (Qiu, 2013, p. 1879).

Reports' structure

Corporate discourse goal.

Although companies produce various types of documents to convey information to the different groups of stakeholders, the annual report is the main medium of communication with investors and shareholders. Originally, limited companies are only required by law to publish annual reports with hard financial data to inform their shareholders about outcomes/losses so they can make informed decisions about their investments (Jaworska, 2020). Yet, annual reports have progressively evolved into a showcase of corporate good practices, a sort of "promotional tool" (Breeze, 2013, as cited in Jaworska, 2020).

Around the world, every companies' corporate public discourse (through documents, websites, magazines, etc.) has "one dominant theme" in common: communicating "a positive self-image" to their audience (Jaworska, 2020, p. 672). Companies' audience is composed of internal stakeholders, the ones "directly involved in business operations" (i.e., investors, employees, customers, suppliers, shareholders); and external stakeholders, composed of communities, governments and the general public (Jaworska, 2020, p. 674). Moreover, companies invest "a great deal of time and resources" in public relations activities, whose main goal is "to create and communicate a positive self-understanding and reinforce the message that whatever activities a company engages with, the goals are desirable and pertain to "do" some social good" (Jaworska, 2020, p. 672). In management studies, this creation of a positive self-image is called organizational legitimacy. Legitimacy is "a key aspect of corporate reputation, which, in turn, can ensure competitive advantage and enhance organizational credibility and trustworthiness", contrariwise, poor legitimacy can make companies "vulnerable to scrutiny" and directly threaten the company success and even existence (if it leads to bankruptcy) (Jaworska, 2020, p. 672).

Corporate identity is defined as "a set of values and beliefs that define the self-understanding of a corporation, that is, how the corporation perceives itself and how it wants to be perceived by its stakeholders and the wider world" (Jaworska, 2020, p. 673). According to Anderson, this corporate identity can "create a sense of cohesion and belonging" similar to "the ways in which national identity fosters an imagining of a larger community" (Anderson, 1991, as cited in Jaworska, 2020). However, it differs in the sense that a corporation is "purposefully created and managed by a few who are on top of the organizational hierarchy", which is reflected by a rather top-down discursive process "controlled, negotiated, and strictly supervised by the top management", usually excluding the lower ranks from the decision-making process of the company (Breeze, 2013, as cited in Jaworska, 2020).

Corporate image is different than corporate identity, it is "the representation of the company disseminated to its internal and external audiences", a "creation of perceptions about a company's products, services and strategies that a company desires to impress on its audiences" which is essentially *branding* (Jaworska, 2020, p. 673). Branding englobes a "complex ensemble of semiotic and symbolic practices directed at the creation of a unique and easily recognized brand, as a set of associations to engage consumers, influence their tastes and preferences and increase their loyalty" (Jaworska, 2020, p. 673). Moreover, these past years, it increasingly insists on the symbolic dimensions of products and services, with a switch towards "the management of emotions, images and ideas" (Lischinsky, 2018, as cited in Jaworska, 2020).

Corporate social responsibility.

Since the 1970s, there has been an increasing media exposure and focus of the public on damaging business practices regarding human and animal rights, environmental impacts, and sustainability (K. Thomas, 2020). Stakeholders have been requesting more transparency and ethical standards, which resulted in the institutionalization of corporate social responsibility

(CSR) and the creation of CSR reports. CSR was, at first, incorporated in annual reports in the form of a short narratives, it then developed into "standalone reports" in the mid-1990s (Jaworska, 2020, p. 675), and fashion companies are increasingly encouraged to include in their business model nowadays (Li et al., 2014). CSR reporting is voluntary and was originally focused only on environmental issues, but it gradually included an increasing variety of issues such as organizational governance, human rights, fair trade practices, community involvement, etc. (Jaworska, 2020). It represents "the most dynamic practice of current corporate communications and an important means by which corporations attempt to influence public discourse and perceptions" (Jaworska, 2020, p. 675). It is a particular approach taken on voluntarily by companies (mainly transnational ones) which aims at good practices following a certain ethic and values, comprising five dimensions: environmental, social, economic, stakeholder, and voluntariness (Li et al., 2014; Martin-Chenut & de Quenaudon, 2016). Legal responsibility (civil, criminal, administrative) excepts accountability, which implies the existence of a rule of law, which, in case of non-compliance implies a penalty or an indemnity (Martin-Chenut & de Quenaudon, 2016). International law has a lot of limits: the speed, intensity and effectiveness of the internationalization of the law varies following if it regards economy of human rights (Martin-Chenut & de Quenaudon, 2016). For example, the internationalization of the law in the field of economics is faster and more efficient in terms of control mechanisms than in the field of human rights (Martin-Chenut & de Quenaudon, 2016). Because of recurrent exposure to the polluting and unfair practices of famous fashion brands and their firms, these companies "begun to recognize that the CSR performance of their partners, e.g., suppliers and manufacturers, directly affects their reputation and benefits" (Li et al., 2014, p. 825).

Thus, CSR reporting have been widely criticized as it usually only informs on the CSR activities planned by the company but not on the actual impacts, which represents a form of

disengagement with the issues raised by the reporting. According to Li et al. (2014), big fashion companies such as H&M, Zara (Inditex group), Gap and Uniqlo (Fast Retailing group) have been using "green marketing to affect consumers' selections to lead suppliers into strategic alliances" (Li et al., 2014, p. 823). Therefore, CSR has progressively became an "indispensable element of globalization brand strategy through SCG [supply chain governance] in the fast fashion industry" and appeared to be beneficial for companies as it improves their competitiveness and reputation (Li et al., 2014, p. 825). However, Fast Retailing had been publishing CSR reports along its annual reports until 2014, and they renamed them *Sustainability* reports since 2015 (see Annexes). CSR has been progressively abandoned by the fashion industry and it is not clear why. In the studied corpus it appears 555 times in 2010-2013, 274 in 2014-2017 and only 15 times in 2018-2020; and it is mostly present in Fast Retailing discourse compared to the other four groups. One of the reasons might be that many countries have passed laws, or are currently legislating on the subject, which would require fashion businesses referring to CSR in their reports to comply to practical laws (Pesqueux, 2020).

Reports' number and size

The number of reports published per year, and their length (number of pages) might also give some information about the corporate discourse.

To begin with, regarding the number and size of the reports, it is rather stable over the ten years studied (2010-2020). There is a slight increase in the number of reports (see **Figure 1**) and pages (see **Figure 2Figure 3**) in 2020, but mentioned in the results, it was predictably imputed to the COVID-19 pandemic, including more health and safety information in the 2020 reports. Inditex is the one group which distinguishes itself with a rather exponential increase in the number of pages published (see **Figure 2Figure 3**). It is also the group which seem to keep publishing more pages each year since 2016, while the other groups have remained rather steady, even decreasing for Fast Retailing (see **Figure 2Figure 3**). According to a study from Beattie,

Dhanani and Jones, there has been a significant increase in the number of pages of annual reports in the past forty years, with voluntary material (visual and narrative material) increasing faster than mandatory content (financial data). The biggest increase noticed was in the narrative information, which increased by 625% from 1965 to 2004 in large companies' annual reports (Beattie et al., 2008). According to them, because larger companies have been increasingly in the public spotlight, they are "likely to be in the vanguard of financial reporting and under special pressures to be accountable" (Beattie et al., 2008, p. 195). Annual reports have evolved today into public relations materials, displaying various linguistic and semiotic components, including "linguistic and visual metaphors, prevalent representations of people and human faces, magazine-like designs, highlighting of key information using various fonts and colors, visual displays of financial data and inclusion of photographs of board members" (Jaworska, 2020, p. 674). It seems here that between 2010 and 2020 fashion groups have found a certain regularity in terms of number of reports and pages published each year (except for Inditex). However, this might be explained by the fact that brands are now communicating increasingly more through social media. A study compiling and comparing these fashion groups social media contents would shed light on this issue.

Corporate management structure

Corporate discourse does not create itself, it is constructed, prepared, words and sentences are cautiously selected, by real people. In this section, I briefly present the five groups' founders, main shareholders, and board members. Depending on the legal form of the group and its management style, the main shareholders have a certain amount of power in the decision-making process of the corporation. According to Jaworska, corporate identity "is purposefully created and managed by a few who are on top of the organizational hierarchy", and it is mainly a "top-down discursive process controlled, negotiated and strictly supervised by the top management" (Jaworska, 2020, p. 673). Moreover, it is a one-way discourse enhancing

"organizational credibility and trustworthiness", thus creating a "positive self-image"; while "those in lower ranks are seldom invited to participate in decision-making processes and to contribute to the formulation of corporate identity or image" (Jaworska, 2020, pp. 672–673).

Some of these big groups are actually "family businesses" involving two generations (i.e., H&M, Inditex, Fast Retailing), while others are divided in many small shares owned by a lot of other companies (i.e., Adidas and Nike). First, Inditex, which was founded in 1985 by Amancio Ortega (85 years old), who is still the main shareholder of Inditex group today, with 59,3% of the company (*INDITEX : Actionnaires Dirigeants et Profil Société | ITX | ES0148396007 | Zone Bourse*, n.d.). His daughter, Mera Sandra Ortega is the second main shareholder with only 5,05% of the company. H&M was founded in 1947 by Erling Persson and is now mainly owned by his children: Stefan Persson with 43,7% of the shares and Helga Liselott Tham with 6,07% (*HENNES & MAURITZ AB : Actionnaires Dirigeants et Profil Société | HM B | SE0000106270 | Zone Bourse*, n.d.). Together, they own 50,4% of the company, therefore have a significant governance power. Regarding Fast Retailing, it was founded in 1963 by Tadashi Yanai, who still owns the biggest share of the company: 25,8% (*Bloomberg Billionaires Index - Tadashi Yanai*, n.d.). Other than some asset management companies (Nomura Asset Management with 10,9%; Nikko Asset Mangement with 5,47%, Daiwa with 5,01%), the following biggest individual shareholders are his sons: Kazumi Yanai (with 8.99%) and Koji Yanai (7,91%), and his wife, Teruyo Yanai with 2,19% of the shares (*FAST RETAILING CO., LTD. : Actionnaires Dirigeants et Profil Société | 9983 | JP3802300008 | Zone Bourse*, n.d.). Together as a family, they own 44,89% of the Fast Retailing, over two generations. Moreover, as Adidas was founded in 1949 and Nike in 1964, all the studied groups have been influential in the fashion industry for decades now, making them well-established companies and major stakeholders of the industry.

While most of these executives are millionaires, when not billionaires, information about the creation and familial management of these groups is not easily found and there is only a few public information in the media about these families. This supports Jaworska's claim that, like the CEO letter at the beginning of the reports, even when a text is written from a personal perspective, it is "carefully composed to strengthen the collective ethos and positive self-representation" (Jaworska, 2020, p. 679). As they own the majority of the groups, the corporate discourse creates a distorted reality, "including around social and environmental issues" and which reflects "practices and ideologies established in the corporate world working to serve the needs of that world" (Jaworska, 2020, p. 679). However, compared to Nike and Adidas, H&M, Inditex and Fast Retailing's familial business management enables them to take more actions and changes regarding their companies' activities.

Regarding, Adidas and Nike shareholders' structure, they do not have major shareholders, their actions are scattered around a multitude of other companies which only own a couple of percent of the shares. This means that they have another type of pression regarding the dividend's distribution, while H&M, Inditex and Fast Retailing groups are more flexible regarding major decisions for their companies (e.g., taking financially unprofitable decisions towards a more sustainable business).

Media and public reception

Regarding the fashion groups' discourse public reception, there are thousands of newspaper articles about various scandals concerning them, as well as numerous callouts in social media.

For example, Nike has been repeatedly called out in the press and social media for issues with the companies' way of dealing with social and environmental issues. In 2019, Nike has been publicly criticized by women athletes Allyson Felix, Kara Goucher and Alysia Montaño, for "financially penalizing female athletes" by not providing pregnancy protection in their

contracts (Hambleton, 2021). Nike responded by announcing a "new pregnancy policy that protects female athletes from pay reductions for 18 months surrounding pregnancy" (Hambleton, 2021) and published an ad called "To every mother, everywhere: you are the toughest athlete" (Nike Inc., 2021).

Regarding factories working conditions, in 2020 the five groups of this study have been called out for working with factories "using Uyghur labor transferred from Xinjiang since 2017", along with 78 other brands (*83 Companies Linked to Uighur Forced Labor - Save Uighur*, 2020). For instance, in 2020, The Washington Post has revealed that "members of the Uighur Muslim minority in China working for Nike were subjected to coerced working conditions and ethno-religious discrimination" (Dean, n.d.). To which Nike responded with a statement saying that while they are "concerned about reports of forced labor, Nike does not source products from the XUAR [Xinjiang Uyghur Autonomous Region]" (Dean, n.d.).

Concerning the issue of modern slavery, H&M has been publishing an annual *Modern Slavery Statement* since 2018. Their main statement regards the difficulty to completely avoid human slavery all along the supply chain, as they explain:

> the risk of modern slavery exists, in various ways, in all countries and sectors and across value chains, and forced labour has been identified as a one of the H&M group's salient human rights issues and informs the focus of our work (H&M, 2020, p. 3).

They acknowledge that this issue usually affects the most "vulnerable groups, that run a higher risk of exploitation include migrant workers, agency workers, temporary workers and self-employed" (H&M, 2020, p. 3). However, while they mention several times child labor in their *Modern Slavery Statements* (2018, 2019 and 2020), they fail to address *women* as a vulnerable group, which is odd as the majority of garment workers in developing countries is composed of young and undereducated women and children (Turker & Altuntas, 2014). Moreover, gender-based violence and sexual harassment is never mentioned, while it has been found that,

in developing countries, “workplace harassment and domestic violence constitute a substantial threat to [garments] workers’ well-being” (Węziak-Białowolska et al., 2020, pp. 6–7).

Another aspect of public reception of the fashion industry discourse is that today consumers have increasingly integrated some responsibility towards their consuming choices, as the fashion industry has tried to blame consumers for environmental destructions (Hristova, 2019; Peirson-Smith & Evans, 2017). For instance, to incite consumers to choose more sustainable products, H&M gives “Conscious Points” to consumers every time they buy a so-called “conscious” product in their stores, while still making a great deal of “un-conscious” products (H&M Group, 2021a).

The five groups studied here have been following a clear neoliberal business strategy by always aiming at producing and selling more each year. However, as Julien (2010) recalls, over-consumption (or hyper-consumption), is partly responsible for a persistent dissatisfaction which “encourage au changement perpétuel” (Julien, 2010, p. 52). Adding to that, women are the victim of this hyper-consumption as they represent 80% of the purchasing decisions in the household (Julien, 2010). Besides, contemporary women-oriented fashion “supporte avant tout une logique démocratique” (Julien, 2010, p. 47). In this sense, it is clearly possible that, with a determined leadership, fashion groups can take a major shift towards a more degrowth-oriented sustainability and move away from the capitalist economic frame. However, while “démocratisation a rendu l’homme soucieux d’une égalité toujours plus grande”, one difficulty will be to overcome a global consumeristic individualism, fed by decades of capitalism (Julien, 2010, p. 50).

Another example of consumers’ blaming and de-responsibilization of the fashion industry is that, in 2021, H&M started a global initiative to “support today’s role models - kids” and published a 6 minutes launch film, addressed to “find and empower role models making progress on social equality, sustainability, education and more” (H&M group, 2021b). In the

film, several children of different ages are presented talking about what they think are the world biggest issues, in natural settings such as forests, beaches, big plains. On H&M's website, the following statements are written under the video:

> The ones we've been waiting for are already here. They can't drive, vote or tweet. But they will change the planet. Or even find new ones. We're shining a spotlight on the people making the world a better place: the kids. These are the Role Models. In this film, you'll meet a few of them, helping us rethink who we look to for hope. Meet the new Role Models. Age doesn't make a role model. You're never too little to dream big and change the world. It's time to get inspired. (H&M group, 2021a).

This poses several ethical issues first regarding the use of children as "role models" and their image to promote a brand which is an important part of the problems they raised. For instance, they present a young 11 years old American child who started to recycle waste on beaches at 3 years old and who now "runs his own recycling business" (H&M group, 2021a). Here, there is a focus on individual responsibility to make better consuming choices and non-accountability form the brands themselves for their destructive past and present actions. I strongly argue that children should not be the ones who must "change the world" left destructed by adults' irresponsible decisions and actions. In the video, they also talk about social inequalities as they present a 9 years old South African who "raises funds for underprivileged children in South Africa" (H&M group, 2021a). This portraying of children as the future savers of humanity regarding ecological and social issues clashes with H&M's concern with modern slavery. Using children's personal work, as some of what children "do that makes them a role model" has nothing to do with H&M activities (i.e., the girl who gives breakfast to police officers), to promote a questionable sustainable brand image raises some ethical questions (H&M group, 2021a). Moreover, they conclude their statement with the following sentences, where they portray themselves as social inequalities breakers:

> Embracing diversity and equality is part of the H&M brand DNA. We were the first to revolutionize the fashion industry by democratizing high-end garments, making them accessible and affordable to the public. Now, we're setting industry standards by making more sustainable fashion available to all, starting with those who will inherit the future. (H&M group, 2021a).

What is inconsistent is that they acknowledge the destructive impact of our economic model on the planet and its impact on the present and future generations: "those who will inherit the future", but fail to acknowledge their own responsibility in this problem (H&M group, 2021a). As H&M explains, in 2020 "100% of the cotton within our kids' range comes from more sustainable sources" (H&M group, 2021a). Initially, H&M's global sustainability manager, Pascal Brun, claimed that "as a company that stands for progress", they "feel a certain responsibility to use our size to create change today and for the future" throughout this initiative (Brun, 2021). However, after presenting the children "role models", they end up using these incredibly creative and committed young children to promote their corporate image as a "more equitable and sustainable" brand, as they start to cite their goals for a more sustainable future in the following table (**Table 12**).

Table 12. *H&M's "Goals for a more Sustainable Future"*

Target	Goals
2030	We are working hard on making all our package recyclable. (H&M group, 2021a).
2040	We are aiming towards using 100% material that are organic, recycled or sourced in a more sustainable way. Today we are at 83%. (H&M group, 2021a).
2050	We aim to become climate positive. That means reducing more greenhouse gas than we emit. All the way through the chain, from cotton farms to washing machines. (H&M group, 2021a).

As "the climate discourse of legislators and the business community does not always reflect the urgency to act stressed by climate scientists" (Dahl & Fløttum, 2019, p. 2), here H&M's discourse does not match this urgency regarding ecological issues, although this urgency is emphasized by the children talking in the video:

> At the rhythm we are going it's not looking too good.
> I thought people were better than this.
> The adults just throw trash on the ground like they don't care, adults are very careless.
> I think they [the adults] were more considerate with our future.
> I want my generation to enjoy the environment.
> We went to the United Nations and we demanded from world leaders climate action. (Buckley, 2021).

It is not clear what H&M's final goal is with this initiative as they want to use their power to promote children "role models", recruit new ones (at the end of their website page is the contact information for more children to apply), also promote more sustainable practices and social inclusion, while using these underage role models to raise awareness about various social and ecological issues. As the initiative was launched in 2021, the future will tell us what H&M's practical actions and the impact of the initiative on the children will be.

Textual (description) and context (explanation) analysis

To begin with, each sub-chapter will focus first on discourse description at the micro-level with text analysis, then on the more global context englobing the discourse. As a reminder, the explanation part (analysis of sociocultural practice – macro level) focuses on the relationship between the discursive process and the "context of situation, the institutional context, and the wider societal context" (Fairclough, 1995, p. 138). It aims at replacing the discourse in the wider sociocultural context and/or "identify the social determination and social effects of the discourse" (Qiu, 2013, p. 1879). It will be presented following the *Findings'*

structure: first the updated eco-fashion lexicon, then the 5R framework and finally the main fibers used.

Genre

First, the genre of this research data discourse is a hybrid between business and sustainability reporting, sub-genre: *fashion* financial and sustainability reporting. However, today annual reports have evolved into public relations materials, which makes them step out of the purely financial reporting and modify their discourse to include various components (Jaworska, 2020).

Eco-fashion lexicon

Regarding the vocabulary used in the reports, they are still financial reports in the sense that the dominant themes are finances, business management and development. However, sustainability is very present in all the reports analyzed, as the term *Sustainability* appears progressively 2776, 3040 and 3111 times over the three time periods, along with *Sustainable* (1547, 1738 and 1737 times) (see **Table 9** in

Findings).

More precisely, the fashion industry discourse about sustainability seems to be shifting from an ecological or environmental approach towards a circular economy approach. For instance, building on **Table 9** in

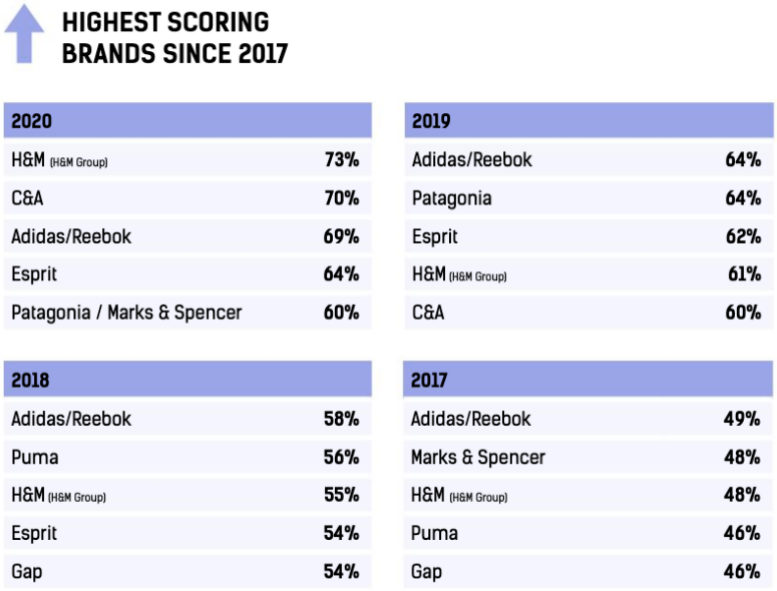
Findings, the terms *Eco-* (-11.52 and -16.57%), *Environmental* (-16.5 and -7.77%) and *Environmentally* (-25 and -36.51%) have been continuously decreasing since 2010. The term *Green* has also shown important decreasing presence in their discourse (-36.43% and -29.25%), which is probably linked to the companies' wish to dissociate their discourse from greenwashing, which they have been repeatedly accused in the past (Braga Junior et al., 2019; S. Thomas, 2008). *Environmental* is an umbrella term which "emerged as a reference to design in the 1990s, and the word *green* fell into disuse" (S. Thomas, 2008, p. 531). It refers widely to habitat, the earth and generally the scientific, it essentially define "what is deemed suitable for the environment changes according to research, opinion, and cultural significance" (S. Thomas, 2008, p. 533). On the other hand, the exponential increase in use of *Circular*, *Circular economy*, *Circularity*, *Closing the loop*, in the last two time periods (2014-2017 and 2018-2020) compared to 2010-2013, proves a change in the fashion industry goals towards sustainability.

There has also been an important increase in the terms *Responsible* and *Transparency*, displaying an interest in a form of accountability. These growing concerns might arise from the various scandals the fashion industry has been involved in raised by the media and consumers. Besides, *Transparency* rise is reflected in the biggest fashion brands' new public exposure made by the *Fashion Transparency Index* developed by the research collective Fashion Revolution to measure the level of transparency of fashion companies to promote accountability (Fashion Revolution, 2019).

Today, there seems to be a gap between "the pursuit of maximizing the economic benefits and the social responsibility" of international companies, however, several tools to evaluate the sustainability and accountability of a fashion company exist (Li et al., 2014, p. 824). In the *Fashion Transparency Index*, transparency is understood as disclosing sourcing relationships, social and environmental policies and practices, goals, governance, performance and progress of the brand, from raw material to the final product sold in stores or online (Fashion Revolution,

2019). **Figure 27** below shows that, in 2020 H&M is the highest scorer with 73% and has been in the top 5 every year since 2017, while Adidas has been first in 2017 (49%), 2018 (58%) and 2019 (64%), and third in 2020 (69%). Still in 2020, Nike is the tenth highest scorer with 55%, while Inditex and Uniqlo are a little behind with respectively 40% and 44%.

Figure 27. *Fashion Transparency Index Ranking 2020 (Fashion Revolution, 2020, p. 3)*



HIGHEST SCORING BRANDS SINCE 2017

2020	
H&M (H&M Group)	73%
C&A	70%
Adidas/Reebok	69%
Esprit	64%
Patagonia / Marks & Spencer	60%

2019	
Adidas/Reebok	64%
Patagonia	64%
Esprit	62%
H&M (H&M Group)	61%
C&A	60%

2018	
Adidas/Reebok	58%
Puma	56%
H&M (H&M Group)	55%
Esprit	54%
Gap	54%

2017	
Adidas/Reebok	49%
Marks & Spencer	48%
H&M (H&M Group)	48%
Puma	46%
Gap	46%

Moreover, since its recent creation in 2014, Fashion Revolution has been publishing the Fashion Transparency Index since 2017 and every year present an important rise in transparency as the highest ranking brand scored only 49% in 2017 (Fashion Revolution, 2021), while in 2020 it has grown up to 73%. While transparency does not mean sustainability, "without transparency, achieving a sustainable, accountable, and fair fashion industry will be impossible" (Fashion Revolution, 2021). For this reason, this rapidly increasing brands' interest in transparency is hopeful regarding the fashion industry openness towards change. Besides, the facts that H&M made its first "Transparency Pledge" in 2017 (H&M Group, n.d.) the same year as the first *Fashion Transparency Index*, and, has put disclosures about their first place in the ranking on their website (H&M Group, 2020), show how much of an impact this index has been having on the fashion industry in such a short time period. However, the other four fashion

groups of this study have not comment on this transparency index and their ranking. It is worth noting that, to be ranked in this index brands have to voluntary respond to a thorough questionnaire, thus they still comply to disclose the asked information.

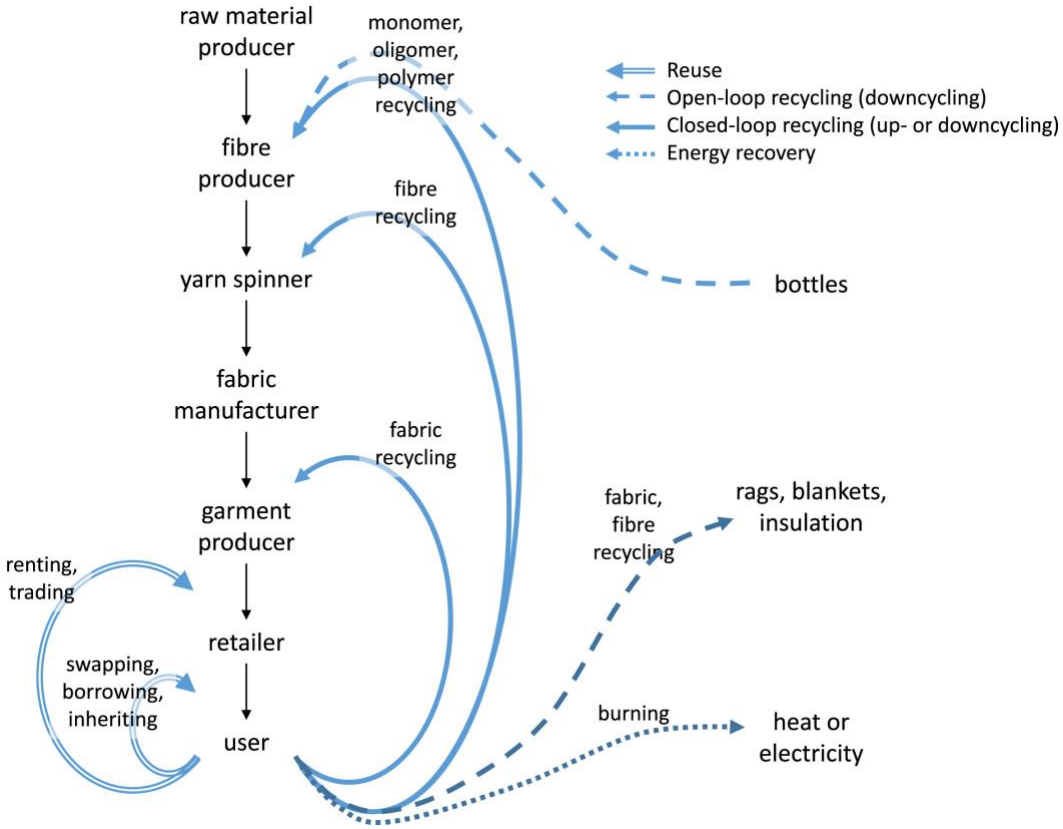
The 5Rs

There is an extensive use of some of the 5R strategies in the discourse, especially, *R5 Recycle* (*M* = 1067.33; +47.55 and +27.1%), *R1 Reuse* (*M* = 240.33; +31.8 and +40.35%) and to some minimal extent *R2 Repair* (appearing only 13 times in 2010-2013 and 70 times in 2018-2020), while *R3 Re-design* (*M* = 13.6) and *R4 Repurpose* (*M* = 3.66), although increasing, are very much less present (see **Table 10** in

Findings). Therefore, this new interest in the circular economy approach partially translates in their discourse, but omitting some of key aspects, as it is necessary to implement all 5R strategies at all the levels of a company to attain full circularity and the fashion industry own circularity goals (Ellen MacArthur Foundation, 2020b, 2020a; Johansson & Stubb, 2021). For now the focus is clearly on R5 in the studied corpus, which focuses on effective utilization of materials, while the other 4R strategies should extend lifespan of the products (Johansson & Stubb, 2021). This also clashes a bit with Kibbey et al. (2018) study where they identified that the most polluting stages of the apparel and footwear industry are dyeing and finishing, yarn preparation and fiber production, rather than distribution and disposal (see **Figure 3** in **Introduction** (literature review, research question and hypothesis)).

Regarding the 5R framework of circular economy, the fashion discourse focuses mainly on the recycle part, which is the lowest R strategy in terms of priority (Johansson & Stubb, 2021). As **Figure 28** below shows, *Recycling* in the fashion industry exist in various forms: open-loops if garments are used for other types of products (e.g., rags, insulation), close-loops if garments are recycled to become garments again at various stages of the production chain.

Figure 28. *A Classification of Textile Reuse and Recycling Routes (Sandin & Peters, 2018, p. 356)*



For example, H&M has been collecting old clothes in their stores for years now to either *Rewear*, *Reuse* or *Recycle* purposes (H&M Group, 2021b). While *Rewear* refers to the *R1 Reuse*, which is a close-loop recycling, H&M incites consumers to return their clothes for free (in exchange for a small discount in their stores), while the group shamelessly states that some of these donated clothes "that can be worn again will be sold as second-hand clothes" (H&M Group, 2021b). Historically, secondhand/vintage clothing shops have been managed by religious or charity organizations such as the Salvation Army, Oxfam (UK), Good Will (USA) (S. Thomas, 2008), and more recently exported mainly to developing countries where it created many jobs but also generated dramatic quantities of landfill waste (Hristova, 2019; Lewis et al., 2016). It is not clear where H&M is selling these second-hand products, however, depending

on its management it might rise second-hand goods prices and deflect developing countries, second-hand goods economy.

Moreover, in this initiative *Reuse* refers more to *R4 Repurpose* as "old clothes and textiles will be turned into other products, such as cleaning cloths", which is more an open-loop recycling (H&M Group, 2021b). Finally, the *Recycle* part actually correctly refers to the corresponding R (R5), as it describes "everything else [is] turned into textile fibres and used for things like insulation" (H&M Group, 2021b). Besides, they claim that, in 2021, "29'005 tonnes of textiles for reuse and recycling" (H&M Group, 2021b). However, it is not mentioned how much of it goes into each step of the initiative. For a leading fashion group which is highly implicated in transitioning towards a circular economy, the group seems to give some confusing information to its consumers regarding their 5R strategies, confusing R1 and R4. *Reuse* is a much closer loop and is best represented by the second-hand fashion domain.

Fibers

As explained in the *Introduction*, there are three types of fibers: *natural* (plant-based and animal), *artificial* and *synthetic*, although some present animal fibers as a separate type (Weltrowski, 2010). Fibers' material can be renewable or not, produced on-site or imported, which also influences its ecological footprint. Culture and animal farming also has its impact regarding required space, water consumption and chemicals usage (insecticides, pesticides, etc.), soil degradation (Weltrowski, 2010). The mechanical transformation process only has a small carbon footprint, however, it is the chemical finishing (color dying, fabric pre-softening, etc.) which is more heavily polluting (Weltrowski, 2010). Finally, clothing care (e.g. dry-cleaning uses toxic and polluting solvents) and waste disposal (i.e., repurposed, recycled, thrown away in landfills or incinerated) also vary the ecological impact of clothing (Weltrowski, 2010).

Although the fashion industry claim that they need to change their fiber consumption and production, moving from primary sources to more recycled materials and towards more sustainable fibers (e.g., hemp and linen), *Cotton,* a natural fiber, is still the central fiber in their discourses, appearing 972, 875 and 736 times over the three time periods, however showing a slow decrease in presence over the years (-15.89% in 2018-2020) (see **Table 11** in

Findings). *Natural* is the second term appearing the most regarding fibers (415, 336 and 349 times over the three time periods); it is followed by *Organic*, which shows a significant decrease in us over the three time periods (-26.98% in 2014-2017 and -18.07% in 2018-2020). *Organic* and *Natural* are often used incorrectly as interchangeable terms "relate[d] mainly to fibers" (S. Thomas, 2008, p. 534). Although *Natural* implies the natural origin of the material, it does not necessarily mean that "no chemicals . . . were used in their propagation and growth (S. Thomas, 2008, p. 534). On the other hand, *Organic* correctly relates to fibers and fabrics,

> specifically referring to the organic standard of Soil Association Certification Limited (OSA) that was established in 1973 in the United Kingdom. The standard means that the subject (cotton, for example) or fiber process has received their accreditation (S. Thomas, 2008, p. 534).

In the fashion industry, *organic* was categorized as a "recent" term by S. Thomas back in 2008, coming from farming and the food industry. However recent in 2008, it seems today that the industry is moving away from this aspect of fibers' production.

Regarding *Cotton*, it is the leading market fiber as it "accounted for the largest revenue share of more than 39.0% in 2020", with China, India and the US as "the major producers of cotton and cotton-based products in the world" (Grand View Research, 2021). Because of its cheaper labor and production costs, 90% of the transformation process of cotton from fiber to fabric and clothing is done by developing countries (Weltrowski, 2010). This delocalization also relocates the serious environmental issues raised by the production process of clothing making. Ethical and/or organic cotton production and usage has been strongly increasing these past years. The popularity of ethical cotton is not really about its ecological value but more about the thousands jobs it provides in developing countries, while organic cotton is less pollutant than regular cotton, but still comprises major environmental issues (Weltrowski, 2010). In 2006, cotton was the first exported product of the following countries Tuvalu, Benin,

Mali, Burkina Faso, Uzbekistan, Togo and Kirghizstan ; for the first four countries, it has a negative impact as their economic system is weakened by the dependence on one source of currency (Weltrowski, 2010). 25% of worldwide-used pesticides and 10% of artificial fertilizers are used in cotton farming, which creates great soil, water and air pollution (e.g., in the 80s, Aral sea in Uzbekistan was completely dried out because of over-pumping water from the two upstream rivers for cotton faming irrigation needs) (Weltrowski, 2010).

While *Linen* and *Hemp* have a much lower ecological impact than cotton, they are almost absent from the analyzed discourse. They are also still ones of the less used fibers, as **Figure 29** and **Figure 30** show. While linen culture needs a very specific climate which few countries have, hemp is a very efficient fiber as it is much stronger and less polluting than cotton, requires significantly less water, no fertilizers and pesticides. Hemp gives a great fabric fiber, however its culture is regulated in many countries because of the narcotic properties of the cannabis plant (Weltrowski, 2010). In the corpus, while cotton is the most mentioned fibers; hemp and linen are only mentioned a couple of times: *Hemp* 14 times in 2010-2013, once in 2014-2017 and non in 2018-2020; *Linen* 21, 15 and 20 times over the three time periods. *Hemp* is only mentioned in H&M reports, mainly in 2011 (7x), but also in 2012 (3x), 2013 (1x) and 2016 (1x). In 2011, H&M was planning to increase its use of hemp fabrics as they claim: “H&M is always looking for new ways of bringing our customers more sustainable fashion”, and that hemp is “the latest addition to H&M constantly growing range of conscious materials organically grown” (H&M group, 2012). They also claimed that they wanted to “strengthen the market for these materials and encourage further innovation”, while asserting the clear benefits of hemp compared to other fibers (H&M group, 2013b). *Linen* is more problematic as the word linen not only means the fiber, but also sheets or tablecloth (*LINEN | Meaning in the Cambridge English Dictionary*, n.d.). It is actually mostly mention of linen as sheets: “sustainable linen” (Inditex, 2021a, 2021b), “cotton linen” (Inditex, 2013, 2020), “bed linen” (H&M group, 2013a,

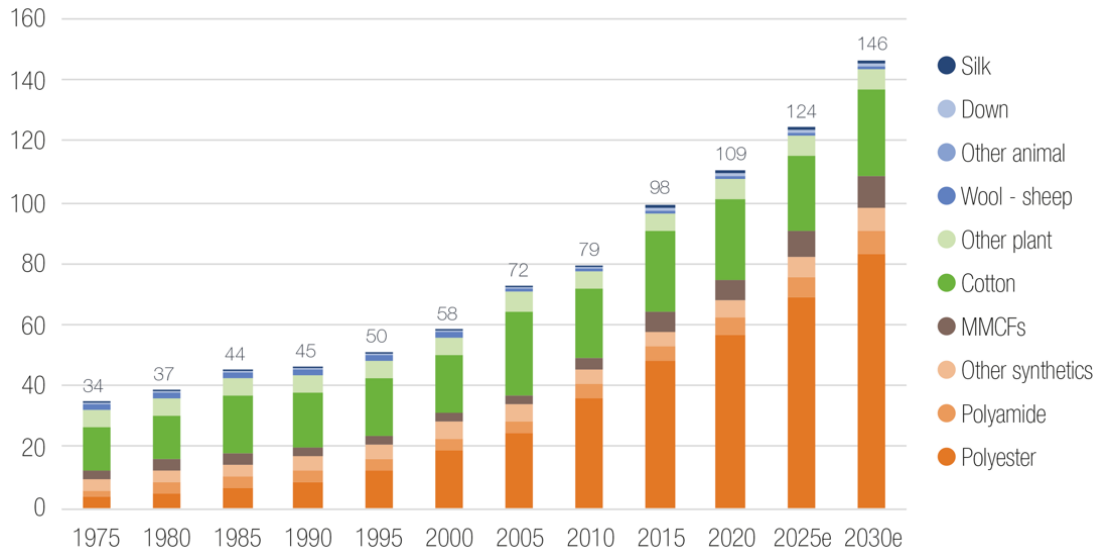
2015; Inditex, 2021a). When referred to as a fiber it is often alongside hemp, as "organic linen and organic hemp" (H&M group, 2013b), and for instance, H&M claim: "we use a wide range of sustainably sourced materials including organic materials such as cotton, linen, hemp, jute and silk, tencel, lyocell and third party certified down rubber" (H&M group, 2017). There are also wool and silk which are natural fibers of animal origin, however as their sustainability and production raise ethical issues, it will not be discussed here.

While they represent most of the fibers produced and used today and since approximately 2007 (see **Figure 31** below), *Synthetic* fibers, and more precisely *Polyester*, are mentioned much less in the studied fashion discourse than *Organic*, *Natural* and *Cotton*. *Synthetic* only appears 31, 34 and 67 times over the three time periods, however with an increasing presence (+ 9.67% in 2014-2017 and +97% in 2018-2020) (see **Table 11** in

Findings). *Polyester* is more present, appearing 108, 149 and 207 times, with an increase of 37.96% in 2014-2017 and 38.93% in 2018-2020. *Microfiber*, which is a blend of synthetic of artificial fibers, was almost absent in the 2010-2013 discourse (3 times), while showing more presence in 2018-2020, appearing 85 times.

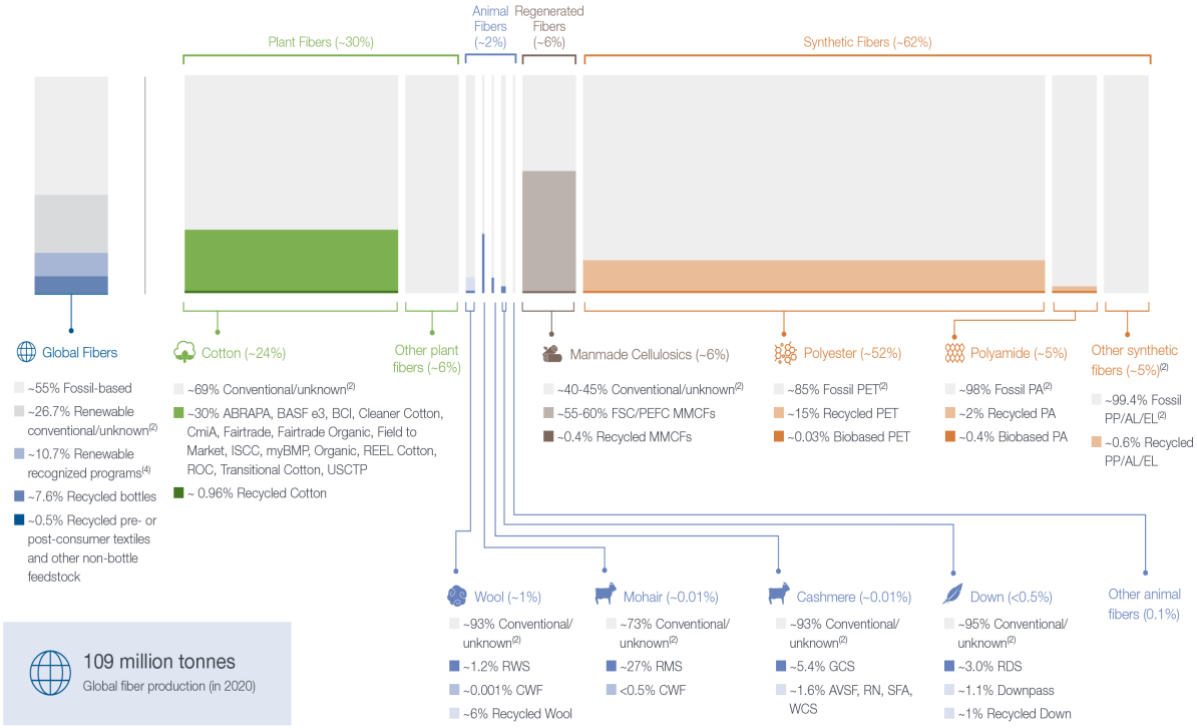
Here the fashion industry discourse, mainly focused on natural fibers, clashes with the vast majority of today's fiber consumption and production which is dominated by synthetic fibers. The fashion industry still seems to focus on one natural fiber in their discourse: *cotton*. Thus, the focus of their discourse does not match the clear tendency of the industry towards synthetic fibers, as cotton production – even organic – has been pretty stagnating the since 1985, even decreasing a little to synthetic fibers (see **Figure 29** and **Figure 31**).

Figure 29. *Global fiber production (in million tons) 1975-2030 (Textile Exchange, n.d.)*



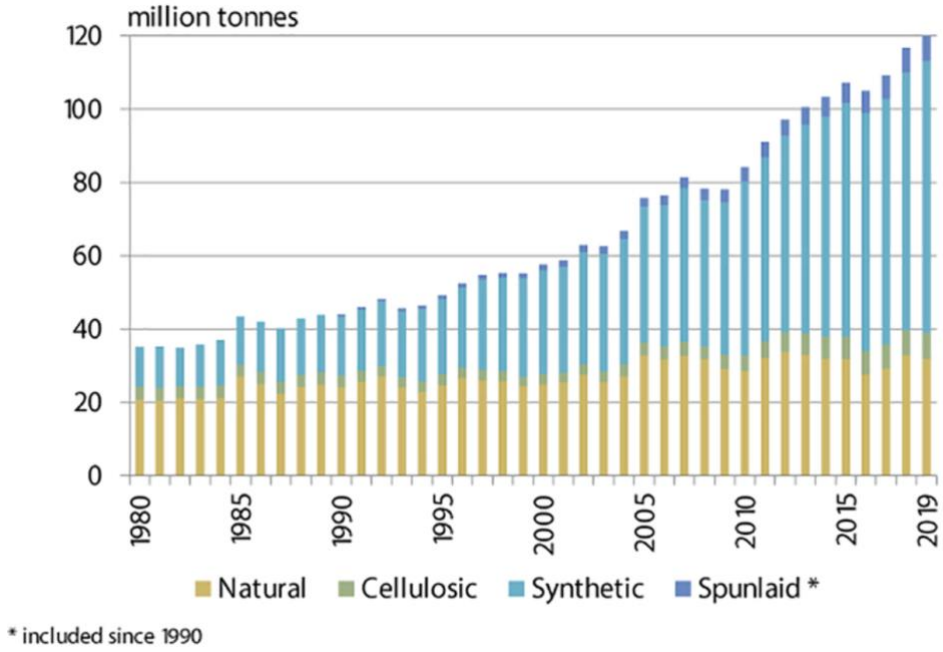
On the other hand, since 1985, synthetic fibers production and consumption have been increasing exponentially until today, when it represents around 62% of the global fiber market (see **Figure 29** above and **Figure 30** below). According to different sources, in 2020, chemical-based textiles (i.e., synthetic fibers) represented between 80'900 (Fernández, 2021) and 98'052.6 kilotons (Grand View Research, 2021).

Figure 30. *Global fiber market 2020 (Textile Exchange, n.d.)*



Only a very small number of fashion brands publish their annual production and waste volumes, for instance, only 9% of the 250 reviewed brands by Fashion Revolution in 2020 disclose this information (Fashion Revolution, 2020, p. 6). In the five groups of this study, these numbers are only known for Inditex, which produced over 1.6 billion items in 2019 (Fashion Revolution, 2020, p. 6). Without this information, it is not clear how much of each fiber they use in their products.

Figure 31. *World fibers supply (Engelhardt, 2020)*

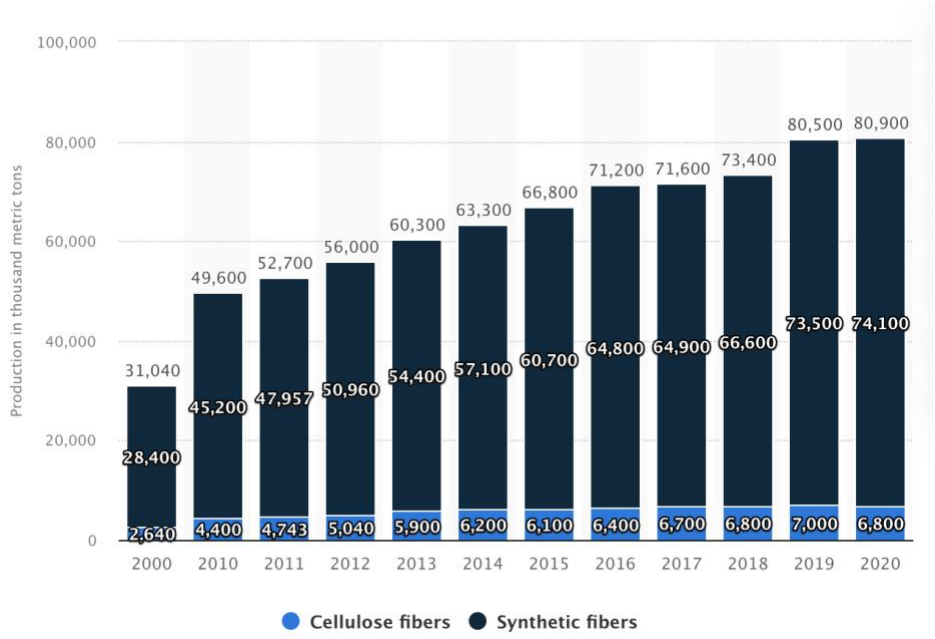


Regarding the debate concerning natural vs. synthetic fibers, Weltrowski (2010) supports that a complete return to only natural (and maybe artificial?) fibers is not the best decision. According to him, there would not be enough physical space throughout the world for producing as much as we do today (Weltrowski, 2010). Synthetic fibers production has the advantage to use much less space, nonetheless, I argue that conventional synthetic fibers are not un-removable from the fashion industry. While conventional synthetic fibers, newly produced by the transformation of oil or coal, are never going to be completely sustainable, recycled synthetic fibers, in pairs with organically grown hemp, linen and other more sustainable fibers, might be a good alternative. What is certain is that the fashion industry has to move away from its high reliance on cotton as their main (almost only) natural fiber resource. While cotton is the world's most important natural fiber because of "its superior properties such as high strength, absorption, and color retention", it is also one of the most polluting one (Grand View Research, 2021). It has too dramatic environmental impacts because of its high needs in water and soil pollution (Weltrowski, 2010), which rises "significant issue[s] given the scarcity

of clean water in some parts of the world" (Thorisdottir & Johannsdottir, 2019, p. 2); as well as having important economic and social impacts (e.g., the 60,000 Indian farmers suicides between 1980 and 2013 because of Monsanto Bt cotton) (Plewis, 2018). Moreover, the issue of waste disposal raised by synthetic fibers should not be forgotten, as they are still unrecyclable into fabrics (but recycled into other products such as rags, insulation, etc.), and polluting if not disposed of specifically (i.e., burned in an incineration plan) (Sandin & Peters, 2018).

Artificial fibers, such as *Cellulosic* are almost absent from the studied discourse, as they actually only represent a tiny part of the chemical fiber production in the last two decades (see **Figure 32** below) and around 6% of the global fiber market (see **Figure 31** above).

Figure 32. *Global chemical fiber production from 2000 to 2020, by fiber type (in 1000 metric tons)* (Fernández, 2021)



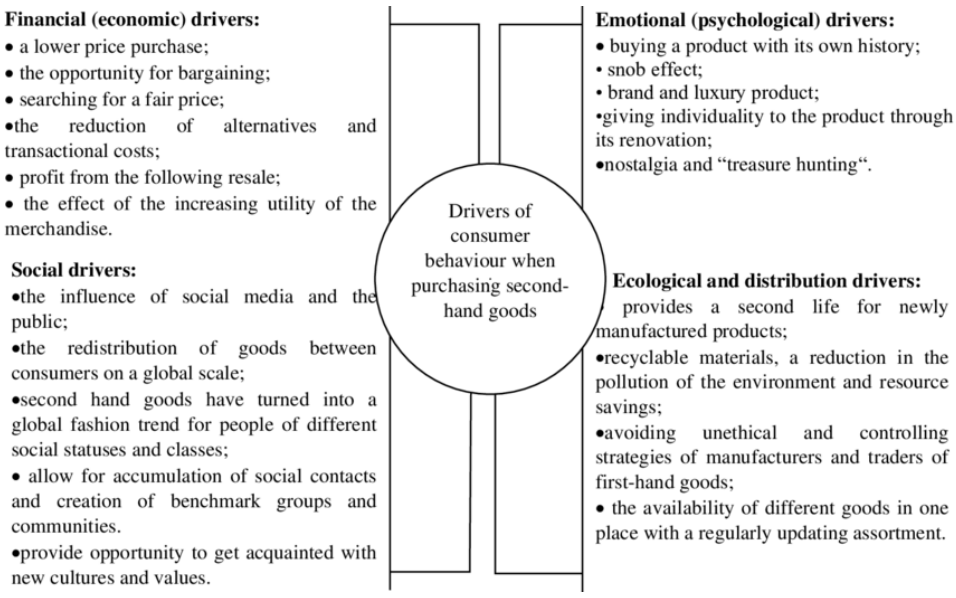
A growing interest in second-hand fashion, towards a more sustainable future?

Secondhand is not a significantly used term by the studied fashion groups, appearing only 7 times between 2010 and 2013, and then 23 in 2014-2017 and 39 times in 2018-2020. However, during the last forty years, the purchase of second-hand goods as a worldwide phenomenon has been growing fast (Hristova, 2019). The global revenue of the second-hand

apparel is expected to increase up to 15% in 2019-2023, compared to 2017-2018 (Hristova, 2019). The recent urge for second-hand clothes and other goods comes from the generations X, Y and Z, the "active digital generations", for instance, 33% of second-hand apparel consumers are millennials (Hristova, 2019, p. 64). These generations have "changed the face of modern retailing by stimulating . . . the growth of the second-hand goods market" (Hristova, 2019, p. 64). They are "more flexible in their choice" but they "keep changing wardrobes" and "make impulsive purchases", while still preferring "to buy from vendors that are eco-friendly" and "save money" (Hristova, 2019, p. 64). Moreover, they are "not loyal to any brand and would rather choose merchandise with the best uses at a minimal cost" (Hristova, 2019, p. 64).

In the following figure (**Figure 33**), Hristova identified four groups of "drivers of consumer behavior when purchasing second-hand goods" (Hristova, 2019, p. 66). The four groups align with the three pillars of sustainability: social, economic, and environmental. Hristova added an emotional/psychological dimension, which is not the focus of this study but still is an interesting and legitimate take on consumer behavior.

Figure 33. *Drivers of consumer behavior when purchasing second-hand goods (Hristova, 2019, p. 66)*



This change in consumers' behavior has led to new challenges for second-hand sellers, as well as increasing the "competition between the manufacturers and traders of newly produced goods" (Hristova, 2019, pp. 64–65). Besides, while this change in behaviour has raised eco-consciousness in consumers and global strategies for environment preservation, second-hand clothes have become an "alternative which alongside recycling and renovating has become preferred", it "either reduce or change the manufacturing of new products" (Hristova, 2019, p. 65). This challenge raises some tension for the retail brands/groups with a high-consumerist model (e.g., the studied groups), which "reacts in a protective way towards the threat of being replaced by striving to win the competitive advantage" by trying to integrate used products or environmental protection policies (Hristova, 2019, p. 65). A shift towards second-hand clothing does not seem to be the center of attention of the five studied groups, as while "recycle" appears 3229 (in the whole corpus) and 531 times (in the sub-corpus), "second-hand" only appears 69 times in the whole corpus and 16 times in the sustainability sub-corpus. As a matter of fact,

> this challenge is expressed by various retailers in employing policies for stimulation of green initiatives (H&M for instance collect old clothes from their customers which go either on re-sale as second-hand wares, or to be redesigned, or to be recycled) (Hristova, 2019, p. 65).

Finally, the global rise of the second-hand market and consumers' increase in eco-consciousness and ethical considerations, added to its influence on the new products market to make more sustainable good is an interesting and hopeful change for a more sustainable fashion industry. As Hristova explains, the second-hand market "plays a vital role in prolonging the use of a certain product through its re-sale, redistribution, recycling, renovating, new uses, which leads to the so-called circular economy and sustainable development when the needs of consumers of different groups and social classes have been met" (Hristova, 2019, p. 65).

Inspired by Maslow's hierarchy of needs pyramid, Lazarovic and Rivetto (2015) designed a "buyerarchy of needs" to raise awareness in consumers' choice regarding clothing purchases (see **Figure 34** below).

Figure 34. *Buyerarchy of Needs* (Lazarovic & Rivetto, 2015)

While the fashion industry discourse studied here focuses on future changes in their production model, the fact is that buying new clothing is still the less sustainable choice for consumers, as using the already possessed goods, borrowing from and swapping with a friend, buying second-hand and making its own clothes, are still better sustainable fashion purchases (Braga Junior et al., 2019; Brooks et al., 2018; Fletcher, 2012; Hristova, 2019; Lazarovic & Rivetto, 2015).

Conclusion

The sustainability fashion discourse confronted to the ecosophy

Regarding the research question: *How has the discourse of leading retail fashion groups about sustainability evolved throughout the past ten years (2010-2020) and to what extent does their discourse align with the principles of sustainability?*, the fashion groups' discourse have clearly evolved over the years, moving from a rather vague approach towards sustainability in the 2010-2013 period (see **Figure 24**), to more of an acknowledgment of the environmental and social dimension of sustainability and a need for change in the 2014-2017 period (see **Figure 25**), towards a new focus on circular economy and the 5Rs in the 2018-2020 period (see **Figure 26**). However, confronted to the previously defined ecosophy (the principles of sustainability), the five studied groups' discourse about sustainability can be classified as ambivalent as their discourse only partially align with the ecosophy. The fashion groups mirror the latest trends in sustainability (here the focus on circular economy, acknowledgment of the climate crisis and their environmental footprint), however when contextualized, their discourse does not match the reality of today's fashion industry. According to Kibbey et al., if the fashion industry wants to lower its carbon emissions it has to focus on renewable energies rather than circular economy, as,

> setting an industry-wide renewable energy target at 60% by 2030 would yield encouraging results in terms of climate change (39% reduction), and also freshwater consumption (16.9% reduction) and human health (11.5% reduction), which shows the value of a multi-indicator approach (Kibbey et al., 2018, p. 38);

and

> setting the circular economy target at 40%, data highlights the potential in terms of impacts. A shift of this magnitude could lead the apparel industry to decrease its impacts on climate change by around 6% and freshwater consumption by 4%, while also reducing its negative influence on human health by 3% (Kibbey et al., 2018, p. 40).

However, it is important to take into account the fact that "the feasibility of making a renewables switch is highly dependent on geography" (Kibbey et al., 2018, p. 37).

Regarding the environmental pillar of sustainability, until today the global fiber market is still largely dominated by synthetic fibers, which derive from oil and/or coal. The predominant natural fiber used by the fashion industry (including the five studied groups) is cotton, which has been pointed out for its high environmental impact regarding water needs, soil and water pollution. Little, to no improvement has been made by the studied groups in the last ten years regarding using more sustainable fibers, as cotton and synthetics, even when presented as un-ecological by the groups, are still the most used fibers in their industry.

Regarding the economic pillar of sustainability, it seems to be the main focus of the fashion industry discourse today, as it emerged spectacularly in the past three years reports and groups' actions (adhesion to the Ellen MacArthur Foundation Vision for Circular Economy). However, when looking at the 5R strategies in their discourse, only 2 of the 5R are really present, the main present one being the less impactful in terms of alleviating natural resources and environmental pressure (Johansson & Stubb, 2021). Extending the lifespan of their products (represented by R1, R2, R3 and R4) does not transcribe in the studied discourse.

Regarding the social pillar of sustainability, despite decades of work towards social equalities in the fashion industry (Brooks et al., 2018; K. Thomas, 2020), the recent press coverage of various social injustices (e.g., Uighurs' slave labor) directly linked to the five studied groups shows that there is still a long way to go for the fashion industry towards social justice.

H1 is confirmed by the increasing frequency of the terms identified in the ecofashion lexicon and the 5Rs over the years (see **Table 9** Table **10**), and by the development of a sharper understanding of sustainability (see **Figure 24**, **25** and **26**).

H2 is also confirmed, as already discussed, while the fashion industry has well integrated the vocabulary of sustainability, their past actions and future plans miss the urgency for action raised by scientists. The future goals for sustainability of H&M proves that they do not really get how much change is needed and how quickly. Moreover, focusing almost exclusively on the least effective R, *Recycle* (see **Table 10**), or on the future generations (see H&M's "today's role models – kids" in the *Discussion* section), or on consumers' good behavior will not be enough to move from an unsustainable business model without questioning the perpetual growth and never-ending production of new collections of the fast fashion model, as well as still relying heavily on fossil fuel-based fibers.

H3, which essentially recalls the research question, is also confirmed. The fashion groups' discourse about sustainability is an ambivalent discourse, while it acknowledges the groups' implication in the environmental crisis and their responsibility to change their business model, however, their actions are still having negative environmental, economic and social impacts.

Therefore, while the studied fashion corporate discourse between 2010 and 2020 demonstrate great improvement in its acknowledgments of their massive negative impacts on environmental and social issues, a wish for change (i.e., in their business models, supply chains, working conditions, etc.), and better reporting; it does not transcribe in their actions during the past ten years, nor does it hold them accountable for the impact they have been having for decades. Only time and thorough reporting on the reaching of their changing goals and statements will tell if their discourse really align with the basic principles of sustainability.

Weaknesses and limitations of this research

Corporate discourse stays a "niche in discourse analysis", mainly because of the difficulties regarding private sector investigation, "practical, epistemological and ethical issues" (Jaworska, 2020, p. 678). Besides, even when investigation is granted, companies put "strict

legal requirements in place to control that access and restrict the ways in which data can be used and presented" (Jaworska, 2020, p. 678). Thus, research results are often instrumentalized by companies, as they are usually "only willing to engage in research . . . if it is likely to foster [their] needs and enhance their corporate credibility" (Jaworska, 2020, p. 678). The aim of critical discourse analysis being the uncovering of "discourse practices that are grounded in unequal power relations and are persuasive and manipulative", companies are usually reticent to share information and grant access (Jaworska, 2020, p. 678). That is why researchers often turn to accessible public documents like CSR reports, annual reports, advertisements, etc. However, it is important to take into account that these are "carefully composed, controlled and polished text types written to boost the collective corporate identity and a positive self- image" (Jaworska, 2020, p. 679). Therefore, as

> studying corporate "reality constructions" can shed light on the ideologies underpinning corporate attitudes toward critical societal and environmental matters with the possibility of generating some accountability researchers have a certain responsibility doing linguistic research on corporate discourse and be careful not to give "tools that could contribute to the perpetuation of problematic business-as-usual practices and be implicitly involved in their legitimization" (Jaworska, 2020, p. 679).

Future research

Due to the transversality and transdisciplinary of this research, it opens the way to a multitude of future research on various issues or unanswered questions. Besides, because of the large size of the sample studied here, a lot more could be said on the textual data, it could actually been used to study completely different issues/subjects regarding these groups' discourse and practices. Some studies could focus more on the syntaxis of the reports, some more on the tenses used.

A more legal analysis on the various international laws regulating these groups' action and their presence/absence in the reports could also be interesting, as well as a thorough study

of CSR reporting and why it has disappeared from the fashion industry discourse. Moreover, a study on the labels and projects mentioned by the groups would also shed light on their activities regarding social (empowerment, education, better working conditions projects, etc.), environmental (fibers production/dying/disposal/recycling, water waste management, lowering carbon emissions) and economic (circular economy) issues. Another study which could shed light on some issues would be to look at the leading fashion groups' sustainability goals for 2030, 2040 and 2050 and how/if they are implemented. Besides, as mentioned earlier, a thorough study about why CSR mention and use has stopped (or decreased) over the years is needed. Finally, textual data analysis, as used in this research, about the visual signs used in the reports and more generally in their advertisements could be interesting.

References

83 Companies Linked to Uighur Forced Labor - Save Uighur. (2020). Save Uighur. https://www.saveuighur.org/83-companies-linked-to-uighur-forced-labor/

Adidas. (2016). *Sustainability Reports*. https://www.adidas-group.com/en/sustainability/reporting/sustainability-reports/#/2015/2016/

Alexander, R. (2010). *Framing Discourse on the Environment: A Critical Discourse Approach*. https://www.routledge.com/Framing-Discourse-on-the-Environment-A-Critical-Discourse-Approach/Alexander/p/book/9780415888356

Beard, N. D. (2008). The branding of ethical fashion and the consumer: A luxury niche or mass-market reality? *Fashion Theory - Journal of Dress Body and Culture*, *12*(4), 447–468. https://doi.org/10.2752/175174108X346931

Beattie, V., Dhanani, A., & Jones, M. J. (2008). Investigating Presentational Change in U.K. Annual Reports: A Longitudinal Perspective. *Journal of Business Communication*, *45*(2), 181–222. https://doi.org/10.1177/0021943607313993

Belin-Munier, C., & Moncef, B. (2013). Les chaînes logistiques multi-acteurs internationales dans le textile : le point de vue des achats. *Logistique & Management*, *21*(4), 59–70. https://doi.org/10.1080/12507970.2013.11517035

Bick, R., Halsey, E., & Ekenga, C. C. (2018). The global environmental injustice of fast fashion. *Environmental Health: A Global Access Science Source*, *17*(1), 1–4. https://doi.org/10.1186/S12940-018-0433-7/PEER-REVIEW

Bloomberg Billionaires Index - Tadashi Yanai. (n.d.). Retrieved November 10, 2021, from https://www.bloomberg.com/billionaires/profiles/tadashi-yanai/

Boillot-Grenon, F., Marty, E., Ledouble, H., & Cadel, P. (2017). La communication environnementale et climatique, entre objectifs de réputation et d'information. *Le Discours et La Langue*, *N°82*. https://hal.archives-ouvertes.fr/hal-01668619

Braga Junior, S., Pagán Martínez, M., Miranda Correa, C., Cox Moura-Leite, R., & Da Silva, D. (2019). Greenwashing effect, attitudes, and beliefs in green consumption. *RAUSP Manag. J*, *54*(2), 226–241. https://doi.org/10.1108/RAUSP-08-2018-0070

Brewer, M. K. (2019). Slow Fashion in a Fast Fashion World: Promoting Sustainability and Responsibility. *Laws*, *8*(4), 1–9. https://doi.org/10.3390/laws8040024

Brooks, A., Fletcher, K., Francis, R. A., Rigby, E. D., Brooks, A., Fletcher, K., Francis, R. A., Dulcie, E., & Roberts, T. (2018). Fashion, Sustainability, and the Anthropocene Fashion, Sustainability, and the Anthropocene. *Utopian Studies*, *28*(3), 482–504.

Brun, P. (2021). For H&M, Today's Real Role Models Are Kids. *Muse by Clio*. https://musebycl.io/fashion-beauty/hm-todays-real-role-models-are-kids

Buckley, B. (2021). *Role Models x H&M*. https://www.youtube.com/watch?v=ELaBI8OTPKM

Cervellon, M.-C., & Carey, L. (2012). Consumers' perceptions of "green": Why and how consumers use eco-fashion and green beauty products. *Critical Studies in Fashion & Beauty*, *2*(1), 117–138. https://doi.org/10.1386/csfb.2.1-2.117_1

Chaudhary, A. (2011). Changing Structure of Indian Textiles Industry after MFA (Multi Fiber Agreement) Phase out: A Global Perspective. *Far East Journal of Psychology and Business*, *2*(1), 1–23.

Dahl, T., & Fløttum, K. (2019). Climate change from a corporate perspective: a case study of the linguistic representation of the energy transition by the fossil fuel companies Total and Equinor. *Cahiers de Praxématique*, *73*. https://doi.org/10.4000/praxematique.5959

Dean, M. (n.d.). *Nike Corporate Social Responsibility (CSR) and Sustainability*. Thomas. Retrieved November 10, 2021, from https://www.thomasnet.com/articles/other/nike-csr/

Diep, C. (2021a). *Number of employees working worldwide for Fast Retailing from fiscal year 2011 to 2020 (in 1,000s)**. https://www.statista.com/statistics/387889/number-of-employees-of-fast-retailing-worldwide/

Diep, C. (2021b). *Number of stores of Fast Retailing worldwide from fiscal year 2011 to 2020*. https://www.statista.com/statistics/387874/number-of-stores-of-fast-retailing-worldwide/

Ellen MacArthur Foundation. (2020a). *Circular business models: Rethinking business models for a thriving fashion industry*. https://ellenmacarthurfoundation.org/fashion-business-models/overview

Ellen MacArthur Foundation. (2020b). *Vision of a circular economy for fashion* . https://emf.thirdlight.com/link/nbwff6ugh01m-y15u3p/@/preview/1?o

Ellen MacArthur Foundation. (2021a). *About us: What we do*. Ellen MacArthur Foundation.

https://ellenmacarthurfoundation.org/about-us/what-we-do

Ellen MacArthur Foundation. (2021b). *H&M Group 2021 Global Commitment report on plastic packaging*. Ellen MacArthur Foundation. https://ellenmacarthurfoundation.org/global-commitment/signatory-reports/ppu/hm-group/#company-details

Ellen MacArthur Foundation. (2021c). *Inditex 2021 Global Commitment report on plastic packaging*. Ellen MacArthur Foundation. https://ellenmacarthurfoundation.org/global-commitment/signatory-reports/ppu/inditex

Engelhardt, A. W. (2020). *The Fiber Year 2020 – Deceleration along the textile chain*. International Fiber Journal. https://fiberjournal.com/the-fiber-year-2020-deceleration-along-the-textile-chain/

Evans, S., & Peirson-Smith, A. (2018). The sustainability word challenge: Exploring consumer interpretations of frequently used words to promote sustainable fashion brand behaviors and imagery. *Journal of Fashion Marketing and Management*, *22*(2), 252–269. https://doi.org/10.1108/JFMM-10-2017-0103

Fairclough, N. (1995). *Critical discourse analysis : the critical study of language*. 265.

Fashion Revolution. (2019). *Fashion Transparency Index: 2019 Edition*. https://issuu.com/fashionrevolution/docs/fashion_transparency_index_2019?e=25766662/69342298

Fashion Revolution. (2020). *Fashion Transparency Index 2020*. https://issuu.com/fashionrevolution/docs/fr_fashiontransparencyindex2020?fr=sNmI5NzYxMDk0OA

Fashion Revolution. (2021). *Fashion Transparency Index 2021*. https://www.fashionrevolution.org/about/transparency/

FAST RETAILING CO., LTD. : Actionnaires Dirigeants et Profil Société | 9983 | JP3802300008 | Zone bourse. (n.d.). Retrieved November 10, 2021, from https://www.zonebourse.com/cours/action/FAST-RETAILING-CO-LTD-6491478/societe/

Fernández, L. (2021). *Chemical fiber global production by type 2020*. https://www.statista.com/statistics/271651/global-production-of-the-chemical-fiber-

industry/

Fill, A. (2006). Ecolinguistics: State of the Art 1998. In *Ecolinguistics Reader: Language, Ecology and Environment* (Continuum). https://books.google.ch/books?hl=en&lr=&id=bGbUAwAAQBAJ&oi=fnd&pg=PP1&dq=The+Ecolinguistics+Reader:+Language,+Ecology+and+Environment+&ots=3_CyhlnX0A&sig=TVIfiiuafK-ws0O8moPJhQ_bv50&redir_esc=y#v=onepage&q=The Ecolinguistics Reader%3A Language%2C Ecology

Fletcher, K. (2012). Durability, Fashion, Sustainability: The Processes and Practices of Use. *Fashion Practice*, *4*(2), 221–238. https://doi.org/10.2752/175693812X13403765252389

Forbes. (2020). *The 2020 World's Most Valuable Brands*. Forbes Media LLC. https://www.forbes.com/the-worlds-most-valuable-brands/#5cf9657f119c%0Ahttps://www.forbes.com/the-worlds-most-valuable-brands/#5e099589119c

Gephi. (2010). *Tutorial Quick Start*. https://gephi.org/tutorials/gephi-tutorial-quick_start.pdf

Grand View Research. (2021). *Textile Market Size | Industry Analysis Report, 2021-2028*. https://www.grandviewresearch.com/industry-analysis/textile-market

H&M. (2020). *Modern slavery statement 2020*.

H&M group. (2012). *Conscious actions sustainability report 2011*.

H&M group. (2013a). *Annual Report 2012*. https://hmgroup.com/wp-content/uploads/2020/10/Annual-Report-2012_en.pdf

H&M group. (2013b). *Conscious actions sustainability report 2012*.

H&M group. (2015). *Annual report 2014*.

H&M group. (2017). *Sustainability report 2016*.

H&M group. (2021a). *Role Models x H&M* . https://www.hm.com/om/4022-role-models/

H&M group. (2021b, July 15). *H&M spotlights the new role models of today – kids*. https://about.hm.com/news/general-news-2021/h-m-spotlights-the-new-role-models-of-today---kids.html

H&M Group. (n.d.). *Transparency*. Retrieved December 12, 2021, from https://hmgroup.com/sustainability/leading-the-change/transparency/

H&M Group. (2020). *H&M Group leads the Fashion Transparency Index 2020* . https://hmgroup.com/news/hm-group-leads-the-fashion-transparency-index-2020/

H&M Group. (2021a). *Conscious Points* . https://sa.hm.com/en/conscious-points/

H&M Group. (2021b). *Reuse and recycling*. https://hmgroup.com/sustainability/circular-and-climate-positive/recycling/

Hambleton, B. (2021). *Athletes react to Nike pregnancy ad - Canadian Running Magazine*. Canadian Running Magazine. https://runningmagazine.ca/the-scene/athletes-react-to-nike-pregnancy-ad/

Hardy, C., & Phillips, N. (2002). *Discourse Analysis: Investigating Processes of Social Construction* (Sage Publi).

HENNES & MAURITZ AB : Actionnaires Dirigeants et Profil Société | HM B | SE0000106270 | Zone bourse. (n.d.). Retrieved November 10, 2021, from https://www.zonebourse.com/cours/action/HENNES-MAURITZ-AB-6491104/societe/

Henninger, C. E., Alevizou, P. J., & Oates, C. J. (2016). What is sustainable fashion? *Journal of Fashion Marketing and Management*, *20*(4), 400–416. https://doi.org/10.1108/JFMM-07-2015-0052

Horton, K., & Payne, A. (2018). Imagination Wove This Flesh Garment. Fashion, critique and capitalism. *Undesign*, 1–20. https://doi.org/10.4324/9781315526379-16

Hristova, Y. (2019). The Second-Hand Goods Market: Trends and Challenges. *Izvestia Journal of the Union of Scientists - Varna. Economic Sciences Series*, *8*(3), 62–71. https://doi.org/10.36997/IJUSV-ESS/2019.8.3.62

INDITEX : Actionnaires Dirigeants et Profil Société | ITX | ES0148396007 | Zone bourse. (n.d.). Retrieved November 9, 2021, from https://www.zonebourse.com/cours/action/INDITEX-16943135/societe/

Inditex. (2013). *Annual report 2012*.

Inditex. (2020). *Annual report 2019*.

Inditex. (2021a). *Annual Report 2020*.

Inditex. (2021b). *Inditex group statement on non-financial information 2020*.

Jaworska, S. (2020). Corporate Discourse. In A. De Fina & A. Georgakopoulou (Eds.), *The*

Cambridge Handbook of Discourse Studies (pp. 666–686). Cambridge University Press. https://doi.org/10.1017/9781108348195

Jensen, D. (n.d.). *UK vs US spelling list*. Retrieved October 26, 2021, from http://tysto.com/uk-us-spelling-list.html

Johansson, A., & Stubb, R. (2021). *Closing the Loop Integrating Circularity within the Fashion Industry's Post-Retail Activities*.

Jones, G. (2014). Firms and global capitalism. In L. Neal & J. G. Williamson (Eds.), *The Cambridge History of Capitalism: Volume II: The Spread of Capitalism: From 1848 to the Present* (Vol. 2, pp. 169–201). Cambridge University Press.

Julien, M. (2010). La quête d'authenticité : fondementéthique de la mode féminine. In M. Dion & M. Julien (Eds.), *Ethique de la mode féminine*. Presses Universitaires de France. https://www.cairn.info/feuilleter.php?ID_ARTICLE=PUF_DION_2010_01_0041

Kibbey, J., Johnson, D., McGill, M., & Pepper, L. R. (2018). Measuring Fashion: Insights from the Environmental Impact of the Global Apparel and Footwear Industries study. In *Quantis*. https://quantis-intl.com/measuring-fashion-report-2018/

Lazarovic, S., & Rivetto, L. (2015). Buyerarchy of Needs: Using what you have, borrowing and swapping. *Michigan State University*. https://www.canr.msu.edu/news/buyerarchy_of_needs_using_what_you_have_borrowing_and_swapping

Lebart, L., & Salem, A. (1988). *Analyse statistique des données textuelles : questions ouvertes et lexicométrie*. Dunod.

Lebart, L., Salem, A., & Berry, L. (1991). Recent developments in the statistical processing of textual data. *Applied Stochastic Models and Data Analysis*, *7*(1), 47–62. https://doi.org/10.1002/asm.3150070106

Lewis, T. L., Park, H., Netravali, A. N., & Trejo, H. X. (2016). Closing the loop: a scalable zero-waste model for apparel reuse and recycling. *International Journal of Fashion Design, Technology and Education* , *10*(3), 353–362. https://doi.org/10.1080/17543266.2016.1263364

Li, Y., Zhao, X., Shi, D., & Li, X. (2014). Governance of sustainable supply chains in the fast fashion industry. *European Management Journal*, *32*(5), 823–836.

https://doi.org/10.1016/j.emj.2014.03.001

LINEN | meaning in the Cambridge English Dictionary. (n.d.). Retrieved November 11, 2021, from https://dictionary.cambridge.org/dictionary/english/linen

Lobo, M., Bedford, L., Bellingham, R. A., Davies, K., Halafoff, A., Mayes, E., Sutton, B., Walsh, A. M., Stein, S., & Lucas, C. (2021). Earth unbound: Climate change, activism and justice. *Https://Doi.Org/10.1080/00131857.2020.1866541*, *53*(14), 1491–1508. https://doi.org/10.1080/00131857.2020.1866541

Martin-Chenut, K., & de Quenaudon, R. (2016). *La RSE saisie par le droit. Perspectives interne et internationale.* (A. Pedone).

McIlroy, J. (2019). Global climate strike: A tipping point for change. *Green Left Weekly*. https://search.informit.org/doi/abs/10.3316/informit.680034623855854

Morgan, A., & Ross, M. (2015). *The True Cost*.

Née, E. (2017). *Méthodes et outils informatiques pour l'analyse des discours*. Presses Universitaires de Rennes.

Niinimäki, K., & Karell, E. (2020). Closing the Loop: Intentional Fashion Design Defined by Recycling Technologies. *Technology-Driven Sustainability*, 7–25. https://doi.org/10.1007/978-3-030-15483-7_2

Nike Inc. (2021). *To every mother, everywhere: you are the toughest athlete.* Twitter. https://twitter.com/Nike/status/1371008303057174531?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1371335979471044610%7Ctwgr%5E%7Ctwcon%5Es3_&ref_url=https%3A%2F%2Frunningmagazine.ca%2Fthe-scene%2Fathletes-react-to-nike-pregnancy-ad%2F

Nodus Labs. (2021). *Network Visualization and Analysis with Gephi*. https://noduslabs.com/courses/network-visualization-and-analysis-with-gephi/units/section-1-quick-introduction-to-network-analysis/?try

OED. (2021). *Sustainability, n.* Oxford University Press. https://www.oed.com/view/Entry/299890?redirectedFrom=sustainability#eid

Peirson-Smith, A., & Evans, S. (2017). Fashioning Green Words and Eco Language: An Examination of the User Perception Gap for Fashion Brands Promoting Sustainable Practices. *Fashion Practice*, *9*(3), 373–397.

https://doi.org/10.1080/17569370.2017.1366688

Pesqueux, Y. (2020). *La responsabilité sociale de l'entreprise (RSE) après l'Accord de Paris de 2015 et la pandémie covid-19 de 2020*. https://halshs.archives-ouvertes.fr/halshs-02545949

Pisano, U. (2012). Resilience and Sustainable Development : Theory of resilience , systems thinking and adaptive governance. *European Sustainable Development Network (ESDN)*, *26*(September), 1–51.

Plank, L. (2018). Unmaking the Global Sweatshop: Health and Safety of the World's Garment Workers. *South Asia: Journal of South Asian Studies*, *41*(4), 929–931. https://doi.org/10.1080/00856401.2018.1553084

Plewis, I. (2018). Analyzing Indian farmer suicide rates. *Proceedings of the National Academy of Sciences*, *115*(2), E117–E117. https://doi.org/10.1073/PNAS.1714927115

Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: in search of conceptual origins. *Sustainability Science*, *14*(3), 681–695. https://doi.org/10.1007/S11625-018-0627-5

Qiu, J. (2013). *A Critical Study of English Eco-hotel Profiles-Based on Fairclough"s Three-dimensional Model*. https://doi.org/10.4304/tpls.3.10.1879-1886

Radner Linden, A. (2016). An Analysis of the Fast Fashion Industry. *The Division of Social Studies of Bard College*. https://pdfcoffee.com/an-analysis-of-the-fast-fashion-industry-pdf-free.html

Rauturier, S. (2021). *What Is Fast Fashion?* Good On You. https://goodonyou.eco/what-is-fast-fashion/

Reisigl, M. (2018). The Discourse-Historical Approach. In J. Flowerdew & J. E. Richardson (Eds.), *The Routledge Handbook of Critical Discourse Studies* (pp. 44–59). Routledge. https://doi.org/10.4324/9781315739342-4

Robertson, M. (2017). Sustainability Principles and Practice. In *Sustainability Principles and Practice* (2nd editio). https://doi.org/10.9774/gleaf.9781315625478

Sandin, G., & Peters, G. M. (2018). Environmental impact of textile reuse and recycling – A review. *Journal of Cleaner Production*, *184*, 353–365. https://doi.org/10.1016/J.JCLEPRO.2018.02.266

Sohn, J., Nielsen, K. S., Birkved, M., Joanes, T., & Gwozdz, W. (2021). The environmental impacts of clothing: Evidence from United States and three European countries. *Sustainable Production and Consumption*, *27*, 2153–2164. https://doi.org/10.1016/J.SPC.2021.05.013

Solér, C., Baeza, J., & Svärd, C. (2015). Construction of silence on issues of sustainability through branding in the fashion market. *Journal of Marketing Management*, *31*(1–2), 219–246. https://doi.org/10.1080/0267257X.2014.977331

Statista Research Department. (2021a). *Average number of employees at H&M worldwide from 2005 to 2020*. https://www.statista.com/statistics/267375/number-of-hundm-employees-worldwide/

Statista Research Department. (2021b). *Leading apparel importers by value worldwide 2020 (in billion U.S. dollars)*. https://www.statista.com/statistics/1198349/apparel-leading-importers-worldwide-by-value/

Statista Research Department. (2021c). *Number of employees of the Inditex Group worldwide from 2010 to 2020*. https://www.statista.com/statistics/456384/global-number-of-employees-of-the-inditex-group/

Statista Research Department. (2021d). *Number of stores of the H&M Group worldwide from 2006 to 2020*. https://www.statista.com/statistics/268520/number-of-stores-of-the-hundm-group/

Statista Research Department. (2021e). *Number of stores of the Inditex Group worldwide from 2011 to 2020**. https://www.statista.com/statistics/456409/global-number-of-stores-inditex-group/

Stibbe, A. (n.d.). *The Stories We Live By. Introduction part: Notes*. https://www.storiesweliveby.org.uk/part1

Stibbe, A. (2014). AN ECOLINGUISTIC APPROACH TO CRITICAL DISCOURSE STUDIES. *Critical Discourse Studies*, *11*(1), 117–128. https://doi.org/10.1080/17405904.2013.845789

Stibbe, A. (2015). *Ecolinguistics : language, ecology and the stories we live by*.

Stibbe, A. (2017). Critical discourse analysis and ecology. In J. Flowerdew & J. E. Richardson (Eds.), *The Routledge Handbook of Critical Discourse Studies* (pp. 497–

509). Routledge. https://doi.org/10.4324/9781315739342

Textile Exchange. (n.d.). *Preferred Fiber and Materials Market Report*. 2020. Retrieved December 6, 2021, from https://textileexchange.org/preferred-fiber-and-materials-market-report/

Thomas, K. (2020). Cultures of Sustainability in the Fashion Industry. *Fashion Theory - Journal of Dress Body and Culture*, *24*(5), 715–742. https://doi.org/10.1080/1362704X.2018.1532737

Thomas, S. (2008). From "green blur" to ecofashion: Fashioning an eco-lexicon. *Fashion Theory - Journal of Dress Body and Culture*, *12*(4), 525–540. https://doi.org/10.2752/175174108X346977

Thorisdottir, T. S., & Johannsdottir, L. (2019). Sustainability within Fashion Business Models: A Systematic Literature Review. *Sustainability*, *11*(8), 2233. https://doi.org/10.3390/su11082233

Tighe, D. (2021a). *Number of employees of Nike worldwide from 2009 to 2021*. https://www.statista.com/statistics/243199/number-of-employees-of-nike-worldwide/

Tighe, D. (2021b). *Number of employees of the adidas Group worldwide from 2000 to 2020*. https://www.statista.com/statistics/268427/number-of-employees-of-the-adidas-group-worldwide-since-2000/

Tighe, D. (2021c). *Number of retail stores of the adidas Group worldwide from 2008 to 2020, by store type*. https://www.statista.com/statistics/268442/number-of-retail-stores-of-the-adidas-group-worldwide-by-store-type/

Tighe, D. (2021d). *Total Nike retail stores worldwide from 2009 to 2021*. https://www.statista.com/statistics/250287/total-number-of-nike-retail-stores-worldwide/

Turker, D., & Altuntas, C. (2014). Sustainable supply chain management in the fast fashion industry: An analysis of corporate reports. *European Management Journal*, *32*(5), 837–849. https://doi.org/10.1016/j.emj.2014.02.001

Vizeu Camargo, B., Justo, A. M., & Forte, T. (2016). *IRAMUTEQ Tutorial*. http://iramuteq.org/documentation/fichiers/IRaMuTeQ Tutorial translated to English_17.03.2016.pdf

Weltrowski, M. (2010). L'écologie ; un critère à considerer lors de l'achat d'un vêtement. In

M. Dion & M. Julien (Eds.), *Ethique de la mode féminine* (pp. 67–80). Presses Universitaires de France.

Węziak-Białowolska, D., Białowolski, P., & McNeely, E. (2020). The impact of workplace harassment and domestic violence on work outcomes in the developing world. *World Development*, *126*, 104732. https://doi.org/10.1016/J.WORLDDEV.2019.104732

Wodak, R., & Meyer, M. (2009). Critical Discourse Analysis: History, Agenda, Theory, and Methodology. In R. Wodak & M. Meyer (Eds.), *Methods for Critical Discourse Analysis* (pp. 1–33). SAGE PublicationsSage UK: London, England. https://us.corwin.com/sites/default/files/upm-binaries/24615_01_Wodak_Ch_01.pdf

Zhang, J., & Müller, D. (2017). Tourism and the Sámi in transition: a discourse analysis of Swedish newspapers, 1982–2015. *Https://Doi.Org/10.1080/15022250.2017.1329663*, *18*(2), 163–182. https://doi.org/10.1080/15022250.2017.1329663

Annexes

Added terms to Iramuteq dictionnaries

Lexique

Biodiverse	biodiversity	nom
Bioenergy	bioenergy	nom
Biofabric	biofabric	nom
Biofabrics	biofabric	nom
Biowaste	biowaste	nom
Biofuel	biofuel	nom
Biofuels	biofuel	nom
Congolese	congo	nom
Environmental	environment	nom
Environmentally	environment	nom
Ethical	ethical	adj
Ethically	ethical	adj
Ecological	ecological	adj
Ecologically	ecological	adj
Organically	organic	nom
Resilient	resilience	nom
Greenwash	greenwash	nom
Greenwashing	greenwash	nom
Upcycle	upcycle	ver
Upcycled	upcycle	ver
Upcycling	upcycle	ver
Downcycle	downcycle	ver
Downcycled	downcycle	ver
Downcycling	downcycle	ver
Secondhand	secondhand	adj
Responsible	responsible	adj
Responsibly	responsible	adj
Renewable	renewable	adj
Renewably	renewable	adj
Renewables	renewables	nom
Conscientious	conscientious	adj
Conscientiously	conscientious	adj
Transparent	transparent	adj
Accountable	accountable	adj

Expressions

adidas ag	adidas
action plan	action_plan
action plans	action_plan
annual report	annual_report
annual reports	annual_report
balance sheet	balance_sheet

bio-based bio_based
bio based bio_based
bio-accumulative bio_accumulative
bio accumulative bio_accumulative
board member board_members
board members board_members
business partner business_partners
business partners business_partners
capital expenditure capital_expenditure
carbon dioxide carbon_dioxide
carbon emissions carbon_emissions
carbon emission carbon_emissions
carbon footprint carbon_footprint
carbon footprints carbon_footprint
carbon neutral carbon_neutrality
carbon neutrality carbon_neutrality
cash flow cash_flow
cash flows cash_flow
certified organic certified_organic
circular economy circular_economy
civil society civil_society
civil law civil_law
clean clothes clean_clothes
clean energy clean_energy
clean energies clean_energy
clean water clean_water
climate action climate_action
climate actions climate_action
climate change climate_change
climate changes climate_change
climate crisis climate_crisis
climate action climate_action
climate actions climate_action
climate risk climate_risk
climate risks climate_risk
climate impact climate_impact
climate impacts climate_impact
climate neutral climate_neutrality
climate neutrality climate_neutrality
climate policy climate_policy
climate policies climate_policy
climate positive climate_positive
christian sievert christian_sievert
child labor child_labor
children labor child_labor
child labor policy child_labor_policy
closing the loop closing_the_loop
code of conduct code_of_conduct
codes of conduct code_of_conduct
compliance committee compliance_committee

co2 emissions co2_emissions
corporate social responsability CSR
corporate governance corporate_governance
corporate identity corporate_identity
customer service customer_service
customer services customer_service
distribution center distribution_centers
distribution centers distribution_centers
ecological footprint ecological_footprint
eco-friendly eco_friendly
ecological footprint ecological_footprint
ecological footprints ecological_footprint
energy consumption energy_consumption
energy efficiency energy_efficiency
energy use energy_use
environmentally friendly environmentally_friendly
exchange rate exchange_rate
exchange rates exchange_rate
exchange loss exchange_loss
exchange losses exchange_loss
fair wage fair_wage
fair pages fair_wage
fair value fair_value
fast retailing fast_retailing
financial impact financial_impact
financial impacts financial_impact
financial review financial_review
financial reviews financial_review
financial statement financial_statement
financial year financial_year
financial report financial_report
financing policy financing_policy
financing policies financing_policy
financing activities financing_activities
finance leases finance_leases
finance lease finance_leases
full year full_year
gas emissions gas_emissions
general meeting general_meeting
general committee general_committee
ghg emissions ghg_emissions
global warming global_warming
greenhouse gas greenhouse_gas
handm group handm_group
human rights human_rights
human right human_rights
impairment loss impairment_losses
impairment losses impairment_losses
interest rate interest_rate
interest rates interest_rate

labor conditions labor_conditions
labor condition labor_conditions
labor right labor_rights
labor rights labor_rights
life cycle life_cycle
living conditions living_conditions
living condition living_conditions
logistics center logistics_centers
logistics centers logistics_centers
long term long_term
manufacturing partner manufacturing_partners
manufacturing partners manufacturing_partners
manufacturing process manufacturing_process
manufacturing processes manufacturing_process
net sale net_sales
net sales net_sales
net income net_income
non profit organization ngo
non profit organizations ngo
non toxic non_toxic
non-toxic non_toxic
pension benefits pension_benefits
pension benefit pension_benefits
pension plans pension_plans
pension plan pension_plans
pension obligations pension_obligations
pension obligation pension_obligations
product design product_design
products design product_design
public health public_health
renewable energy renewable_energy
renewable energies renewable_energy
short term short_term
social audits social_audit
social audit social_audit
social media social_media
social programs social_programs
social program social_programs
sporting goods sporting_goods
supply chain supply_chain
supply chains supply_chain
supervisory board supervisory_board
sustainably sourced sustainably_sourced
sustainable development sustainable_development
sustainable development goal sustainable_development_goals
sustainable development goals sustainable_development_goals
tax rate tax_rate
tax rates tax_rate
toxic waste toxic_waste
training program training_programs

training programs	training_programs
trade union	trade_unions
trade unions	trade_unions
value chain	value_chain
value chains	value_chain
voting right	voting_rights
voting rights	voting_rights
waste recycling	waste_recycling
water consumption	water_consumption
water resources	water_resources
water management	water_management
working conditions	working_conditions

Forbes world's most valuable brands' 2019 classification summary, fashion brands only (luxury brands left in white; selected retail brands highlighted in grey), with their ranking, annual value, and revenue

Brands/groups	Rank number	Value (in billions)	Revenue (in billions)
Louis Vuitton	9th	47.2	15
Nike	13th	39.1	39.3
Gucci	31st	22.6	10.8
Hermès	32nd	21.6	7.7
Zara (**Inditex**)	41st	14.7	21.9
Adidas	51st	12.9	24.5
Chanel	52nd	12.8	13.7
Cartier	56th	12.2	6.2
H&M	76th	10.4	24.6
Uniqlo (**Fast Retailing**)	84th	9.2	17.2

Note. Forbes' classification used the term "brand" while it actually classifies the value/revenue of the groups here (i.e., they mention Zara but it is the value/revenue of the group Inditex, which comprises Zara and other brands; same for Uniqlo).

Selected reports for the study

	Reports (annual and sustainability)				
Year	*Nike*	*Inditex*	*Adidas*	*H&M*	*Fast Retailing*
2010	FY10/11 Sustainable Business Performance Summary	Annual report 2010	Sustainability progress report 2010 Annual report 2010	Annual report 2010 Conscious actions sustainability report 2010	Annual report 2010 CSR report 2011
2011		Annual report 2011	Sustainability progress report 2011 Annual report 2011	Annual report 2011 Conscious actions sustainability report 2011	Annual report 2011 CSR report 2012
2012	FY12/13 Sustainable Business Performance Summary	Annual report 2012	Sustainability progress report 2012 Annual report 2012	Annual report 2012 Conscious actions sustainability report 2012	Annual report 2012 CSR report 2013
2013		Annual report 2013	Sustainability progress report 2013 Annual report 2013	Annual report 2013 Conscious actions sustainability report 2013	Annual report 2013 CSR report 2014
2014	FY14/15 Sustainable Business Report	Annual report 2014	Sustainability progress report 2014 Annual report 2014	Annual report 2014 Conscious actions sustainability report 2014	Annual report 2014 CSR report 2015
2015		Annual report 2015	Sustainability progress report 2015 Annual report 2015	Annual report 2015 Conscious actions sustainability report 2015	Annual report 2015 CSR report 2016
2016	FY16/17 Sustainable Business Report	Annual report 2016	Sustainability progress report 2016 Annual report 2016	Annual report 2016 Sustainability report 2016	Annual report 2016 Sustainability report 2017

2017		Annual report 2017	Annual report 2017	Annual report 2017 Sustainability report 2017	Annual report 2017 Sustainability report 2018
2018	FY18 NIKE, Inc. Impact Report	Annual report 2018	Annual report 2018	Annual report 2018 Sustainability report 2018 Modern slavery statement 2018	Annual report 2018 Sustainability report 2019
2019	FY19 NIKE, Inc. Impact Report	Annual report 2019	Annual report 2019	Annual report 2019 Sustainability performance report 2019 Modern slavery statement 2019	Annual report 2019 Sustainability report 2020
2020	FY20 NIKE, Inc. Impact Report	Annual report 2020 Inditex group statement on non-financial information 2020	Annual report 2020	Annual report 2020 Sustainability performance report 2020 Modern slavery statement 2020	Annual report 2020 Sustainability report 2021

Notes. n = 84. For years 2010 to 2017 Nike only has one entry per two years because it only published one annual/sustainability report every two years until 2018. While the year in the title of Fast Retailing's CSR and sustainability reports represents the year the reports are published, these reports are about the year before (i.e., Fast Retailing CSR report 2011 is about the year 2010; Sustainability report 2017 is about the year 2016).