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## **From reducing and minimizing the negative impact of the textile industry to closing the loop on textiles**



Name: Charlotte Katrine Jensen

Supervisor: Itziar Castelló

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## Summary

Denne afhandling undersøger, hvordan tekstilvirksomheder søger legitimitet gennem kommunikationen af ideer og principper, der stammer fra de miljømæssige teorier ”vugge til vugge” og den ”cirkulære økonomi”. At en virksomhed har legitimitet betyder at den har social accept til at drive forretning. Virksomheders legitimitet er blevet truet de senere år pga. globaliseringen, der gør det svært for virksomheder at kontrollere alle led af værdikæden. Mange virksomheder bliver holdt til regnskab for deres handlinger af interesseorganisationer og oplever dårlig omtale i medierne. Individualiseringen og pluraliseringen af værdier i verdens samfund gør det også svært at gøre alle interessenter tilfredse. Legitimitet er blevet undersøgt strategisk og som institutionelt fænomen. Den strategiske tilgang til legitimitet fokuserer på interessenters egeninteresse i driften af en virksomhed. Ifølge denne tilgang skal virksomheder kommunikere at de fungerer effektivt og håndterer deres miljømæssige ansvar på den mest effektive og pragmatiske måde. Den institutionelle tilgang undersøger legitimitet som baseret på tilgængeligheden af kulturelle modeller og kategorier, som kan forklare en virksomheds handlinger. En virksomhed skal derfor kommunikere at den tilhører CSR bevægelsen gennem at henvise til CSR bevægelsens kategorier og sociale konstruktioner.

Der er en tredje tilgang til legitimitet, som er baseret på politiseringen af virksomhedens rolle i samfundet. Virksomheder har i stigende grad overtaget politiske organisationers ansvar for at sikre eksempelvis at produkter ikke indeholder giftstoffer og at tekstilbranchens affald bliver håndteret korrekt. Ifølge denne tilgang skal virksomheder kommunikere at de er i dialog med interessenter og agerer moralsk korrekt. Afhandlingen bygger på disse tre tilgange til legitimitet og undersøger den retorik virksomheder bruger for at opnå legitimitet ved at referere til diskursen omkring den cirkulære økonomi.

Fem internationale tekstilvirksomheders kommunikation analyseres for at undersøge dette. Til analysen benyttes tematisk analyse for at kode den kvalitative data og derved systematisere analysen. Kodningen foregår på baggrund af den videnskabsteoretiske tilgang hermeneutik, hvor koderne dannes ved at gå fra tekstens dele til teorien for at skabe koderne. På baggrund af brugen af termer fra den cirkulære økonomi og brugen af retorik for at opnå legitimitet, dannes der en model. Modellen viser tre forskellige tilgange til at kommunikere den cirkulære økonomi. Den første tilgang kaldes ”begrænset integration af cirkulær økonomi termer”. Den anden kaldes ”dybere integration af den cirkulære økonomis affaldshierarki” og har to underkategorier: ”design som reducerer for at skabe en uendelig ressourcecyklus” og ”genanvendelse for at skabe en uendelig ressourcecyklus.” Den sidste tilgang kaldes ”officiel certificering og design skabt til genbrug”.

I forhold til legitimitet, gør politiseringen af virksomhedens rolle sig gældende ift. kommunikation af cirkulær økonomi produkter og innovation i de fleste virksomheder, men ikke ift. affaldshåndtering og genbrug. Virksomhederne, der har tilgangen ”begrænset integration af cirkulær økonomi termer” søger

primært strategisk legitimitet. Virksomheden med tilgangen ”officiel certificering og design skabt til genbrug” søger til gengæld moralsk legitimitet og pragmatisk legitimitet i forhold til både affaldshåndtering og genbrug, og produkter og innovation.

Denne forskel i legitimitetsstrategier forklares med at virksomhederne har mere kontrol med produkter og innovation og bedre kan påvirke denne del af værdikæden ved at indgå partnerskaber ,søge globale certificeringer og indgå i dialog med interessenter. Virksomheden med tilgangen ”officiel certificering og design skabt til genbrug” fokuserer til gengæld mere på at påvirke værdikæden der, hvor de største miljømæssige problemer er, for at sætte standarden for affaldshåndtering og genbrug inden det bliver en del af lovgivningen.

## Introduction

In recent years, many companies have been involved in scandals and conflicts with civil society and as a result their license to operate has been challenged. The financial crisis, human rights violations, environmental side-effects, pollution, collaboration with repressive regimes, and other problematic issues have not only threatened the reputation of the firms involved but have raised critical questions about the role of business in society (Palazzo & Scherer 2006, p.71). Corporations have been accused of ignoring oppressive working conditions and environmental problems at their suppliers in less developed countries. As a consequence the public is losing trust in corporate morality (Sethi, 2002). Another development affecting the situation is the emergence of public interest groups (nongovernmental organisations) that seek to hold corporations accountable for the negative impact activities might create. NGOs have used mass media, direct action, and governmental lobbying to pressure corporations to become more accountable in the fight for decent labour, environmental, and human rights standards around the world (Palazzo & Scherer 2006, p.71, Sethi 2002, p. 21-22). Corporations have been exposed and criticised in the media which has led to consumer boycotts and public campaigns to influence corporate actions. According to Sethi (2002) corporations cannot ignore this criticism because it reflects a growing gap between what civil society expects and actual corporate actions which may lead to an erosion of their legitimacy (Sethi 2002, p. 21). Consequently, legitimacy has become a very critical issue for corporations, and specifically global corporations (Palazzo & Scherer 2006, p.71).

The process of globalisation is changing the context of corporations from operating in national economies to operating in global economies. This means there are no broadly accepted legal or moral normative social standards to adhere to. What is accepted behaviour in one part of the world may be in conflict with normative standards elsewhere. Furthermore, the growing complexity of globalized networks is accompanied by an internal pluralisation of post-industrial societies (Castelló & Lozano, 2011). The once, more or less, homogenous cultural life-world background along with lifestyles, values, interests, and goals have become fragmented and heterogeneous because of individualization and migration (Castelló & Lozano 2011, p. 11; Palazzo et al. March 2013).

According to Rockström et al., (2009), as cited by Scherer et al. March 2013, the globalization process intensifies environmental problems such as global warming, chemical pollution, ocean acidification, water scarcity, and biodiversity loss. These problems appear as negative side effects of business activities occurring along globalized supply chains.

According to Porter and Kramer (2011), as cited by Palazzo et al. March 2013, this has had a great impact on company legitimacy as *“the legitimacy of business has fallen to levels not seen in recent history”*.

According to Castelló & Lozano (2011) the pressure of changing societal expectations is leading some corporations to start intensifying their Corporate Social Responsibility (CSR) engagement by introducing new initiatives and a new rhetoric in their stakeholder communication. The focus on new environmental

initiatives such as Circular Economy (CE) and Cradle to Cradle (C2C) seems to be part of this intensification of CSR engagement.

According to Matten & Crane (2005), corporations are seeking new forms of legitimacy, sometimes even interfering with domains that have traditionally belonged to the spheres of political responsibility of state actors. Matten & Crane (2005) also comment that in many cases, the state actors and the state system fail in dealing with transnational financial problems, social and environmental problems (e.g., pollution or deforestation), and providing public goods (e.g. education and public health) and therefore does not serve the public interest. Public institutions and agencies may lack the necessary resources, willingness or enforcement mechanisms to address these issues. Due to the globalisation of supply chains, products have been shifted to countries with incomplete legal systems, a lack of democratic control, or corrupt governments (Palazzo et al., December 2013).

Teegen et al. (2004) mention that as a result, civil society groups and private actors often step in to take responsibility for issues affecting civil society. According to Matten & Crane (2005), the increasing participation in the UN Global Compact shows that companies increasingly assume political responsibilities that once were regarded as belonging to the state. Palazzo et al. (December 2013) explain that these companies *“contribute to public health, education, social security, and the protection of human rights, or engage in self-regulation to fill the gaps in legal regulation and to promote societal peace and stabilit.”* (Palazzo et al. December 2013, p. 148).

## **Cradle 2 Cradle and the Textile Industry**

### **Environmental Challenges within the Textile Industry**

The focus of this thesis is the move towards circular economy (CE) and Cradle to Cradle (C2C) thinking in the fashion industry. Going from Cradle to Grave industrial thinking to a mindset influenced by CE is very important for the textile industry because of the environmental challenges the industry faces. Professor Michael Braungart, the inventor of the environmental theory of C2C, has found that C2C is particularly suitable for textiles and shoes because fashion usually has a very short life-span. According to Braungart, *“In a best case scenario, all materials can be used infinitely, protecting both people and the environment. There are many ways in which the production of man-made toxins can be avoided, particularly with regard to clothing.”* He also mentions that it is possible to produce clothing that is biodegradable and which nourishes the earth. (I:CO, 2010).

Today, most production of clothing happens in low wage countries such as China, Bangladesh and India, which have few or no legal requirements as to wastewater management and usage of chemicals. The textile industry made up 7% of world trade in 2006, when a report on the textile industry was published in 2006 (Allwood et al., 2006 p. 8). Textiles are created from either natural fibres, man-made fibres, synthetic fibres but often in a mix resulting in a what C2C calls a “monstrous hybrid”. The natural fibres come from plants and animals e.g. cotton, hemp, silk, and wool. Man-made fibres come from plants e.g. viscose. The synthetic fibres come from using oil to create polymers which are used to make polyester, acrylic, and nylon fabrics. Demand for synthetic fibres and especially polyester is growing while the demand for natural fibres is constant (Allwood et al. 2006, p. 15).

Synthetic fibres are often seen as being the most environmentally harmful fibres because they are made from oil. But a lifecycle analysis shows that cotton garments use the most energy in their lifecycle. Cotton garments also use the most energy in the use phase (Allwood et al. 2006, pp. 26-28).

The greatest sources of environmental impact resulting from the lifecycle of textiles come from the following:

1. The energy and water used in producing and washing especially man-made fibres, and in producing yarn from of natural fibres. According to the WWF, cotton is the crop that requires most water to grow (Rent Tøj 2014).
2. The toxic and potentially hazardous chemicals which are used can harm human health and the environment during production and usage. Toxic chemicals are used in cotton production, wet pre-treatment, and dyeing. Cotton uses 15-25 pct. of the world’s pesticides even though the production only takes up 2.5% of the world’s agricultural areas (Rent Tøj 2014). Greenpeace recently did a

study in 2012 where they found toxins in clothes from 20 global brands including Bestseller, H&M, and Levi's (Greenpeace 2012).

3. The release of chemicals in waste water resulting from dyeing and washing. This may damage water resource quality and harm water based life.
4. The solid waste arising from yarn manufacturing of natural fibres and the disposal of the clothes at the end of the garments life cycle (Allwood et al. 2006, p. 16).

The report by Allwood et al. 2006, includes a life cycle analysis of three different textiles. This form of analysis has especially been developed in Denmark, where the Cradle to Cradle principle is now gaining attention. But only a very little amount of garments stay in a closed-loop production to become new items of clothing because it is difficult to take the fibres apart. In the article it is stated that an average English consumer produces 35 kilos of textile waste every year that could have been reused (Allwood et al. 2006, p. 16).

The clothing industry is based on fast cycles of fashion and increasing clothing consumption. In Finland it was estimated that consumption of clothing and footwear would increase by 23 pct. between the years 2006-2010. This, along with low quality clothing and short-term use has increased textile waste. A British study shows that clothing and textile waste is the fastest growing waste stream between the years 2005 and 2010. In landfills this waste causes methane emissions to the air and pollution to groundwater through toxic chemicals (Hassi & Niinimäki, 2011). Consumers are not the only ones producing waste. The fashion company H&M was involved in a scandal in 2010 when their practise of shredding and disposing of unsold pieces of clothing from their stores became big news in the media (Dwyer 2010).

To counter these environmental challenges some clothing companies have taken steps towards a more circular economy and closed loop way of doing business through recycling initiatives. These initiatives will be explained in the section "Presentation of C2C and closed-loop initiatives in the case companies."

## **Problem Statement**

This leads to the objective of this thesis. The objective is exploring how companies within the textile industry are searching for legitimacy through references to the discourse of circular economy and Cradle to Cradle. To help achieve this objective, the following sub questions will need to be answered.

The environmental theory and concepts of C2C and CE are very developed. But how do companies understand and use the concepts from CE and C2C in their corporate communication. Referring to the waste or repurposing hierarchy of the C2C and CE framework, on which level of complexity do they communicate? Through using this rhetoric which type of legitimacy do companies seek to gain?

## **The Parts of the Thesis**

The thesis has three different parts. The first part of the thesis presents different theoretical approaches to legitimacy. The second part presents the theoretical framework of Cradle to Cradle and circular economy. The third part presents the findings. This part is made up of three sections. The first section of findings concerns the usage of CE and C2C terms in organizational communication. The second section looks into the importance of CE and C2C in organizational communication based on sustainability reports. The third section presents the results of the analysis of legitimacy strategies and CSR rhetoric. Following this a model synthesising the different approaches to CE/C2C and legitimacy strategies is presented. After that, the limitations and possibilities for further research are presented.

## **Part one: Theory**

### **Theory Part One: Legitimacy Theory**

#### **Why legitimacy theory?**

The theoretical framework for the thesis is legitimacy theory. This perspective is interesting because it focuses on the processes by which organisations seek to gain, maintain, and repair legitimacy, their social license to operate. These processes are essential elements in exploring corporate sustainability behaviour and specifically for this thesis corporate communication of sustainability (Tregidga et al, 2007).

According to legitimacy theory CSR communication is aimed at providing information that *“legitimises company's behaviour by intending to influence stakeholders' and eventually society's perceptions about the company...in such a way that the company is regarded a "good corporate citizen" and its actions justify its continued existence.”* (Hooghiemstra 2000, p. 57).

According to Tredgidga (2007), citing Lawrence & Hardy (2004), Boje, Oswick and Ford (2004), and Suchman, (1995), organisational legitimacy is socially constructed through discourse. Legitimacy can be seen as a discursive product, achieved and maintained through social dialogue and reliant on corporate communication (Tregidga et al 2007, p. 6). Phillips et al. (2004,) argues that (corporate) texts and verbal

reports are important because they are produced in order to establish, verify or change the meaning associated with actions to signal that the activities are legitimate.

*"In other words, texts that leave traces—which include written and verbal reports, as well as other symbolic forms of communication—are likely to be generated in order to secure and maintain legitimacy; without such texts, organizations cannot signal to internal and external members of the organization that their activities are legitimate"* (Philips et al.2004, p. 642).

Individual texts are more likely to become embedded in and influence discourse, and ultimately become legitimate and institutionalised (taken for granted), *"if they are produced by those with authority, are produced such that they conform to recognisable and interpretable genres, and draw on other existing (and familiar) texts"* (Tregidga et al., 2007 p. 6). Legitimacy theory has been used within accounting literature where the concern mostly has been the reactive nature of organisational disclosure. These studies, therefore, tend to focus on the corporate attempt to (re)build or repair legitimacy, and investigate legitimation as a reactive and short-term phenomenon. Content analysis is often used in research on CSR reporting associated with legitimacy theory examining amounts of disclosure in relation to size, industry and media pressure. This type of information identifies "who, how much and what" is being reported but not "how" this information is being communicated. Tredgidga et al. also notes that most research in this area is done by quantitative analysis (Tregidga et al., 2007 p. 7).

## Different Approaches to Legitimacy

The term organisational legitimacy is used by many researchers but it is not very well-defined.

Suchman (1995) presents an attempt at systematizing different approaches to legitimacy. The approaches are the strategic and institutional approaches to legitimacy. He presents three different forms of legitimacy to be gained, maintained and repaired in an organisation. The three forms are:

Pragmatic, based on audience self-interest.

Moral, based on normative approval.

Cognitive, based on comprehensibility and taken-for-grantedness (Suchman 1995, p.571).

Legitimacy theory according to Suchman, addresses *"the normative and cognitive forces that constrain, construct, and empower organizational actors"* (Suchman 1995, p. 571).

Suchman notes that studies of legitimacy fall into two groups: the strategic tradition and the institutional tradition. The strategic tradition uses a managerial perspective and focuses on the way organisations as agents instrumentally manipulate and use strong symbols to gain support from society (Suchman 1995, p. 572). Legitimation, according to this view, is purposive, calculated, and frequently oppositional (Suchman 1995, p. 576). The institutional tradition is less focused on organisations and more focused on the ways in

which sector-wide structuration dynamics create cultural pressures beyond any single organization's control (Suchman 1995, p. 572). Suchman mentions that organizations do not simply extract legitimacy as a resource from the environment. Instead external institutions construct and interpenetrate the organization in every respect. Institutionalists don't focus on the organisation but emphasize the collective structuration of entire sectors, i.e. health care, education, and publishing (Suchman 1995, p. 576). The distinction between the two approaches is mostly a matter of perspective with strategic theorists as managers looking "out" and institutional theorists as society looking "in" (Suchman 1995, p. 577).

### **Defining Legitimacy**

Suchman presents one of the earliest pragmatic definitions of legitimacy by Maurer (1971) "*legitimation is the process whereby an organization justifies to a peer or superordinate system its right to exist*" (Suchman 1995, p. 573).

There are other more cognitive definitions compared to the above which focuses on evaluating the desirability of the organisation. From a cognitive viewpoint, organisations are legitimate when they are understandable and make sense. According to Patel (2005), Meyer and Rowan (1977) were among the first to focus on cognitive legitimacy in order to "*call attention to the ways in which organizations seek legitimacy and support by incorporating structures and procedures that match widely accepted cultural models embodying common beliefs and knowledge systems*" (Patel et al. 2005, p. 4).

Suchman quotes Meyer & Scott's (1983) institutional explanation of legitimacy "*Organizational legitimacy refers to . . . the extent to which the array of established cultural accounts provide explanations for [an organization's] existence*" (Suchman 1995, p. 573).

Combining these definitions, Suchman arrives at the following definition of legitimacy: "***Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions***" (Suchman 1995, p. 574).

This definition highlights that is a generalized term. Organisational legitimacy is resilient to particular events, but it is also dependent on a history of events. The definition also highlights that it is based on perception or assumption. The perception represents a reaction of observers to the organization as they see it. Legitimacy is socially constructed because it shows congruence between the behaviour of the organisation and the shared values and beliefs of some social group (Suchman 1995, p. 574).

## **Reasons for Seeking Legitimacy**

Legitimacy affects not only how people react to organizations, but also how they understand them. The legitimate organization is not only perceived by audiences as more worthy, but also as more meaningful, more predictable, and more trustworthy. Meyer and Rowan (1991) as cited by Suchman, state that:

*"Organizations that . . . lack acceptable legitimated accounts of their activities . . . are more vulnerable to claims that they are negligent, irrational or unnecessary".* (Suchman 1995, p. 575)

Environmental legitimacy gives a company several advantages. For instance, legitimate companies have more chance to successfully negotiate with partners and have better access to resources which can then be used to improve environmental performance. Legitimacy also means companies can innovate with less risk of loss. Companies that perform well environmentally are better able to take advantage of new market opportunities created by the increased demand for environmentally friendly products and services. Importantly, environmentally legitimate firms are less exposed to risks of environmental problems and the possible legal sanctions, penalties, and significant environmental remediation costs to the parties affected (Lopin & Yi-Ju Chen 2013 p. 1463).

## **Pragmatic Legitimacy**

As mentioned, there are three types of legitimacy an organisation can seek. One is pragmatic legitimacy which stems from audiences becoming constituencies, scrutinizing organizational behaviour and activities to determine the practical consequences for them. Pragmatic legitimacy rests on the self-interested calculations of an organization's most immediate audiences. Immediate meaning audiences that are involved in direct exchanges with the organization, e.g. shareholders. The safest sign of continuous commitment to constituent well-being is the organisations willingness to give up some measure of authority to the affected audience (Suchman 1995, p. 578).

## **Moral Legitimacy**

Moral legitimacy is "sociotropic", meaning it rests not on self-interested evaluations of benefits of an activity. It rests on judgments about whether the activity is "the right thing to do". According to Scott (1977) and Scott & Meyer (1991), as cited by Suchman, moral legitimacy can take one of four forms: evaluations of outputs and consequences (consequential legitimacy), evaluations of techniques and procedures (procedural legitimacy), evaluations of categories and structures (structural legitimacy), and evaluations of leaders and representatives (personal legitimacy) (Suchman 1995, p. 579).

## **Cognitive Legitimacy**

Aldrich & Fiol (1994), note that there is a third set of legitimacy dynamics based on cognition instead of evaluation or interest. Suchman mentions two significant variants: legitimacy based on comprehensibility and legitimacy based on taken-for-grantedness (Suchman 1995, p. 582). Researchers who focus on the role of comprehensibility view the social world as a chaotic cognitive environment. According to Mills (1940) and Scott & Lyman (1968), as cited by Suchman, participants must struggle in this environment to arrange their experiences into coherent, understandable narratives and explanations. Legitimacy therefore rests on the availability of cultural models that give explanations for the organization and its actions. Taken-for-grantedness legitimacy is explained by Zucker (1983), who identified legitimacy with cognitive "*exteriority and objectivity*". This means that when an aspect of social structure is removed from the presumed control of the actors who first created the structure, for things to be otherwise becomes literally unthinkable. If alternatives to the structure become unthinkable challenges become impossible, and the legitimated organisation becomes almost invulnerable to legitimacy threats. According to Suchman, this kind of hard to obtain taken-for-grantedness represents the most subtle and strong source of legitimacy (Suchman 1995, p. 583).

Suchman suggests that although different types of legitimacy can often reinforce each other, they will occasionally come into conflict. Organizations can often win pragmatic and moral legitimacy by participating vigorously in explicit public discussions and dialogues. In contrast, cognitive legitimation implicates unspoken orienting assumptions. Heated defences of organizational actions tend to endanger the objectivity and exteriority of such taken-for-granted assumptions (Suchman 1995, p 585). Communication between the organization and its various audiences is the basis of legitimacy management (Suchman 1995, p. 586). Communication and rhetoric is therefore part of the strategies for building, maintaining and repairing legitimacy.

## **Strategies for Building Legitimacy**

Legitimacy can be built via 3 strategies.

**One strategy is conforming to environments.** This can happen by responding to client needs, pragmatic concerns, and tastes and by co-optation (offering decision-making access to constituents). This builds pragmatic legitimacy. Organizations can also use co-optation as a moral strategy "*not to incorporate the pragmatic concerns of exchange partners, but to associate the organization with respected entities in its environment*" (Suchman 1995, p. 588). Organisations gain cognitive legitimacy primarily by conforming to established models or standards. Institutionalists argue that organisations in uncertain environments mimick the most prominent and secure entities in their fields (Suchman 1995, p. 589).

**The second strategy is selecting environments.** Organisations gain pragmatic legitimacy by proactively selecting a favourable environments or selecting favourable exchange partners. According to Ashforth & Gibbs (1990), organisation can use market research to identify and attract audiences and exchange partners that value the kinds of exchanges the organisation can provide. When it comes to moral legitimacy, organizations are somewhat more limited in selecting moral standards than choosing exchange partners. But managers can adjust their goals and the subsequent moral criteria associated with the goals, such as efficiency, accountability, reliability, transparency etc. Organisations can gain cognitive legitimacy by gaining access to privileged, restricted categories, definitions and accounts through formal gatekeepers and institutions (Suchman 1995, p. 590).

**The last strategy is manipulating environments.** This is a strategy that means organisations must actively form new explanations of social reality. Pragmatic legitimacy is the easiest form to manipulate. Manipulation often takes the form of product advertising (changing constituent tastes). Communication can also be used to highlight constituent influence and decision power (Suchman 1995, p. 591). Moral legitimacy can be gained by accumulating a record of technical success stories of doing the right thing (Ashforth & Gibbs, 1990). Technical performance establishes consequential legitimacy and validation for procedures, structures and employees. Interorganizational collective strategies have even more of an impact in gaining moral legitimacy. According to Aldrich & Fiol (1994), as cited by Suchman, groups of organisations can join together to promote a moral order that values their outputs, structures, procedures and employees. Cognitive legitimacy can also be gained via. collective action. It either takes the form of popularization or standardization. Popularization promotes comprehensibility of a new perspective. Pfeffer (1981) suggested that this can be done: *"through continually articulating stories which [illustrate] its reality."* (Suchman 1995, p. 592). Lobbying, event sponsorship, litigation, and scientific research are examples of popularization. Standardization of a form promotes taken-for-grantedness which is a form of cognitive legitimacy, through isomorphism (Suchman 1995, p. 593).

### **Maintaining Legitimacy**

The literature depicts this task as far easier than gaining and repairing legitimacy. Most research has focused on repairing legitimacy in industries affected by a "disaster or event" often covered by the media instead of strategies to maintain legitimacy (Tregidga et al. 2007).

There are two groups of strategies for maintaining legitimacy. Either perceiving future changes or protecting past accomplishments. According to Levitt & March (1988) and Scott (1992), as cited by Suchman, perceptual strategies involve the organisation monitoring the cultural environment and integrating elements into organizational decision processes, usually by employing so-called boundaryspanning personnel through which the organisation can learn about audience norms, values and reactions (Suchman 1995, pp. 594-595).

Boundaryspanning efforts can emphasize either pragmatic, moral or cognitive concerns. To perceive emerging pragmatic concerns, the organization must monitor multiple interests to provide cultural insights to managers. To perceive moral concerns multiple ethics must be pursued e.g. through professionalization by making employees participate in external normative discourse. According to Ashforth & Gibbs (1990), to perceive cognitive understandings the organisation may establish subunits with a mandate to question the assumptions of others. Protecting accomplishments means that pragmatic exchanges and communication should be consistent and predictable, meeting constituent needs and also eliminating uncertainties and creating a sense of constituent control. Morally, activities should show responsibility by refraining from improper behaviour and minimizing the role of instrumental or consequential concerns. At a cognitive level, explanations for organizational behaviour should be simple and also seem natural and inevitable. (Suchman 1995, p. 596).

### **Repairing Legitimacy**

Legitimacy repair represents a reactive response to a crisis or event. A crisis usually happens when an organisation becomes trapped in its own legitimating myths and doesn't notice the change in cultural support (Suchman 1995, p. 597). But a crisis in one company can affect a whole industry. Deegan et al.'s (1999) study showed that companies operating in industries involved in an environmental crisis respond to the crisis by increasing disclosures of environmental issues in annual reports. The disclosures sought to show the legitimacy of ongoing operations (Hooghiemstra 2000 p. 59). Pragmatic repair strategies are denying the problem and restructuring by creating monitors. Pfeffer (1981), as cited by Suchman, states that creating monitors, governance structures, and watchdogs *"allows the organization to "post a bond" against future recidivism by, for example, inviting government regulation, chartering ombudspersons, or instituting grievance procedures."* (Suchman 1995 p. 598).

### **The Turn towards Moral Legitimacy**

Palazzo and Scherer (2006) present their political, communication-driven, and input oriented concept of CSR in which they state that *"a radical reformulation of the role of legitimacy is overdue"*. Their concept gives the corporation an active role in the process of interaction with political institutions, governments and civil society (Palazzo & Scherer 2006, p. 71). The authors argue that the two dominating approaches, cognitive and pragmatic legitimacy, are no longer enough to protect the corporate licence to operate. In many situations these approaches need to be *"complemented by moral access to corporate legitimacy"*. Their concept of moral legitimacy is based on political theory (Palazzo & Scherer 2006, p. 73). Firstly, the new approach is needed because modern society is subject to significant change from being a stable industrial society to being a post-industrial and post-national society which causes a pluralisation of modern societies, norms, and values.

Cognitive legitimacy is based upon the idea of society as a nation with a national governance system and a homogeneous culture of shared norms, values and beliefs. But the pluralisation of modern society which Palazzo & Scherer understand as "*the threefold process of individualization, the devaluation of tradition, and the globalization of society*" makes cultural homogeneity impossible, and erodes the normative taken-for-grantedness which the concept of cognitive legitimacy is based on (Palazzo & Scherer 2006, p. 74).

Secondly, this is because many corporations have been involved in legitimacy threatening conflicts with civil society and according to Sethi (2002), trust in corporate morality is on the decline (Palazzo & Scherer 2006, p. 71-73). Focusing on moral legitimacy will change the standards of organisational legitimacy because organisations will be involved in more processes of active justification "*vis-a-vis society through communicative engagement in public deliberation*" (Palazzo & Scherer 2006 p. 72). According to Palazzo & Scherer, management of moral legitimacy should be seen as deliberative communication, the challenge of this communication being how to convince others by reasonable arguments, engaging in true dialogue, participating in public discourse, but not aiming to persuade (Palazzo & Scherer 2006, p. 73 & 78).

Palazzo and Scherer discuss the corporation as a political actor and the "politicization of the corporation" meaning corporations' interference in non-business activities normally under the responsibility of the state. They see this politicization as an unavoidable result of the changing interchange between economy, government, and civil society in a globalizing world (Palazzo & Scherer 2006, p. 76). Quoting Steffek (2003) and Weber (1978), the authors define issues as political if they create public concern resulting from power and power in principle requires legitimacy.

Economic, social and political power has been developed by multinational corporations (MNCs) comparable to the power of nations. Palazzo & Scherer's thesis is that in the transition to a globalized post-industrial society cognitive legitimacy is eroding because of the diversity and complexity of societies while pragmatic legitimacy is provoking resistance. The prime source of societal acceptance is therefore turning to moral legitimacy (Palazzo & Scherer 2006, p.78).

Deep environmental changes and changes in the conditions of public acceptance of e.g. a type of behaviour or organisation have a significant influence on civil society expectations of an organization. This may lead to changes in corporate behaviour and the process by which legitimacy is produced. Some strategies of managing legitimacy may become unsuitable (Palazzo & Scherer 2006).

Palazzo & Scherer argue that some of the visible CSR strategies, such as developing corporate codes of conduct and standards in collaboration with NGOs, exposing corporate CSR performance transparently, linking corporate decision making to civil society discourses, and shifting company focus and finances to solving environmental challenges beyond direct stakeholder pressure, all point to the politicization of the corporation (Palazzo & Scherer 2007, p. 1115).

Some corporations do not simply comply with powerful external expectations and standards, they engage in discourses that “*aim at setting or redefining those standards and expectations in a changing, globalizing world and assume an enlarged political co-responsibility*” (Palazzo & Scherer 2007, p. 1109). This approach helps to anticipate potential conflicts between a corporation and civil society. This doesn't mean stakeholder conflicts vanish. But it is expected that the practice of political co-responsibility leads to the corporation becoming more sensitive to its context in comparison with strategic and tactical responses associated with a pragmatic approach to CSR (Palazzo & Scherer 2007).

### Rhetoric strategies: a discursive perspective

The thesis looks into the discursive and rhetoric aspect of legitimacy. Legitimacy in management and organisations is a quite well researched area (Suchman 1995) but the discursive aspects of legitimation are quite unexplored. Vaara & Tienari (2008) have presented a critical discourse analysis (CDA) perspective to complement the existing institutional literature. The legitimation of specific actions is the emphasis of a critical perspective but it also uncovers the power relations of the social actors involved, linking legitimation to society and organisation specific political struggles (Vaara & Tienari 2008, p. 986). What discourses do is providing the frames to make sense of specific issues and give sense to them. The senses of legitimacy are created vis-à-vis specific discourses (Vaara & Tienari 2008 , p. 987).

This way, the discursive perspective relates to the theory of sensemaking. According to this theory, sensemaking is in itself social, as we according to Nijhof et al. 2006, as cited by Morsing & Schultz 2006, “*make sense of things in organizations while in conversation with others, while reading communications from others, while exchanging ideas with others*” (Morsing & Schultz 2006 p. 323).

Sensemaking means trying to figure what the others want and attaching meaning to it. Gioia and Chittipeddi (1991) introduce the concept of sensegiving with an internal focus, which means attempts or actions (by management) to influence the way stakeholders understand or make sense (Morsing & Schultz 2006 p. 324). Morsing & Schultz build on a stakeholder perspective with an external focus. They suggest that by involving external stakeholders in CSR efforts, meaning taking part in “*progressive iterations of sensemaking and sensegiving processes*” external stakeholders may more strongly support and take part in organisations' CSR efforts. This relates to the politicization of the organization.

The discursive perspective looks at the microlevel processes, meaning textual strategies, of discursive legitimation (Vaara & Tienari 2008 p. 985). Referring to Fairclough (2003), the authors view “*discourses as linguistically mediated representations of the world that play a fundamental role in MNCs*” (Vaara & Tienari 2008 p. 986). According to Fairclough (2003), analysing legitimation strategies means examining “*the*

*specific ways of mobilizing specific discursive resources to create a sense of legitimacy or illegitimacy"* (Vaara & Tienari 2008, p. 987)

There is growing interest in using rhetorical analyses in organization theory (Suddaby & Greenwood 2005). Contemporary rhetorical analysis has adopted a sociocognitive perspective on discourse. In a context of social change, this perspective assumes that opposing actors adopt genres of speech and writing that function on a subconscious level to reflect and purposefully manipulate the values and ideology of a particular discourse community. Suddaby & Greenwood argue that rhetoric is an essential element of the deliberate manipulation of cognitive legitimacy. They view rhetorical strategies as *"the deliberate use of persuasive language to legitimate or resist an innovation by constructing congruence or incongruence among attributes of the innovation, dominant institutional logics, and broader templates of institutional change"* (Suddaby & Greenwood 2005 p. 41).

## Theory part 2: C2C and CE

### **Introduction to Cradle to Cradle and Circular Economy**

The discourse that frames corporate communication is about the need for a new way of production in order to solve the environmental problems in the textile industry. Part of this discourse is the Cradle to Cradle concept. In 2002 German chemist Michael Braungart and U.S. architect William McDonough first published their book called Cradle to Cradle: Remaking the Way We Make Things. The book is the main source for the concept of Cradle to Cradle also known as Cradle 2 Cradle and C2C (Braungart & McDonough 2008, p. 3). The concept is what they call a strategy of change and builds on the principle that we should mimic nature's model in our industrial production, that *"waste equals food"*, that humanity is only another kind of species, and that we should give back the materials we take from the earth (Braungart & McDonough 2008, pp. 3-16 & 44).

C2C is a law of the return of materials and incineration of waste makes us lose all the valuable nutrients. But reducing and controlling waste by "being less bad" is not the same as being good (Braungart & McDonough 2008, pp. 4-5). C2C is a process of defining the most beneficial chemical ingredients to be used but also establishing a social takeback system for products. The C2C perspective is different from "single reuse recycling". The time perspective is much longer and materials are seen as having almost infinite lifecycles. C2C is a support strategy which can give a company a competitive edge and it works best when the whole company wants to change but it is something that a company can strive for and use as a compass (Braungart & McDonough 2008, pp. 6-9).

In C2C, growth is seen as positive, just as in nature, and C2C can be seen as an inspirational source to achieving "unlimited growth" through material science. The aim is improving and optimizing the quality of industrial processes in cooperation with nature. According to the authors, government regulation banning

certain chemicals in products just creates other problems because then other toxic and rare materials are used. (Braungart & McDonough 2008, pp. 11-13). Also, substances that are banned in Europe still enter the country hidden in subcomponents from 2<sup>nd</sup> and 3<sup>rd</sup> tier manufacturers (Braungart & McDonough 2008, p. 39).

C2C points to the fault within the linear industrial Cradle-to-Grave (C2G) design which the authors believe is outdated and unintelligent. C2G is another term for linear economy as opposed to C2C's circular economy (Cradle People, 16. 3 2012). The fault is that C2G focuses on producing products that meet regulations quickly and are affordable. Also many products have "built-in-obsolence" meaning they last only a certain period of time (Braungart & McDonough 2008, pp. 17-28). C2C is against what the authors call "universal design solutions", which is designing products for worst-case scenarios so that products will always be equally efficient under all circumstances. C2G sees nature as the enemy and that chemical brute force and fossil fuel energy are needed to make the design solutions work. The authors state that instead we should be collecting solar energy and saving fossil fuels for emergencies. Products which are not designed for human and ecological health are named "crude products". An example of this is mass-produced polyester clothing which contains antimony; a toxic metal known to cause cancer. When the fabric is incinerated the antimony pollutes the air we breathe. It is called "*product plus*" when you buy a product and also get unwanted toxins and effects you didn't ask for. C2C is not about returning to "natural fibres" that are organic because the space needed to grow these would encroach on land needed to grow food (Braungart & McDonough 2008, pp. 30-42).

### **Eco-efficiency**

Eco-efficiency was a new strategy and response to industrial destruction in the 1990s which became central to most environmental agendas. Keywords central to this strategy were "reduce, recycle, avoid, minimize, sustain, limit and halt". The key to this is doing more with fewer resources. But according to the authors, most recycling is actually "downcycling". This means materials lose value and quality after recycling as they are made into lower grade products because the components (such as high-quality steel in a car) can't be separated from other parts (e.g. copper and paints). Separation of materials is key to closing the loop on materials. Eco-efficiency doesn't work long term because it is based on the production system that caused the problem in the first place. It is an illusion of change and just slows the process down and makes the old system less destructive. But efficiency can be valuable in a system of transition (Braungart & McDonough 2008, pp. 45-62).

If nature mimicked human efficiency there would be fewer trees, less diversity and joy. But we want more of nature's systems, not less. People also want more of what the authors call "eco-effective systems". This

means working on the right systems, services and products instead of making the wrong things less bad. (Braungart & McDonough 2008, p. 76)

### **Eco-effectiveness**

Eco-effectiveness means designing systems and products that restore and nourish the world and leads to positive growth meaning health, intelligence, diversity, and abundance. The focus is holistically on the effects of the whole system (commercially, socially, and ecologically) and not just the primary purpose of a product (Braungart & McDonough 2008, pp. 78-82).

Eco-effective systems imitate nature's own effective C2C system where material flows can be separated into either biological or technical nutrients. These flows are cyclical loops. Products and materials which are biodegradable (compostable) and non-toxic can become food for plants and animals. These belong to the biological metabolism known as the biosphere; the cycles of nature. Technical nutrients are materials that belong to the technical metabolism and which can be upcycled into new products so valuable nutrients stay in the closed-loop technosphere / technical metabolism. Within these cycles there is no such thing as waste. But waste is not the main problem. The problem is the valuable nutrients that are lost because of faulty systems of retrieval and "monstrous hybrids". A monstrous hybrid is a product, such as a shoe, consisting of both biological and technical materials neither of which can return to the cycles. Products and production systems need to be designed to not create or become waste. The nutrients in a product's materials determine the design. C2C also introduces the concept "product of service". Cars, carpets and clothes are purchased for a limited amount of time but the manufacturer retains ownership of the product (Braungart & McDonough 2008, pp. 92-114).

Another principle of C2C is respecting diversity. Not only biodiversity but also diversity of culture place, desire, and needs. Industries should engage with local material and energy flows and local social, cultural, and economic forces thereby recognizing their interdependent relationship with the surrounding environment and culture (Braungart & McDonough 2008, pp. 119- 122).

In C2C all sustainability is local. The question is not only how we can stop polluting but how we can add nourishment to the water and earth locally. How do we affect the health and economic stability of the region and how do our processes interact with what happens further up and downstream in the value chain. Local sustainability starts with using local materials. Another part of C2C is re-establishing the connection to the natural flows of energy on earth. This means a transition to diverse and renewing energy sources such as solar energy (Braungart & McDonough 2008, pp. 123-133).

Eco-effective design means considering locally how a product is made, how it is used, by whom and what happens to the e.g. packaging. There is no one-size-fits all and products and packaging need to be adapted to local needs, tastes and traditions (Braungart & McDonough 2008, pp. 139- 144).

Eco-effectiveness sees commerce as the driver for change but states that commerce has to confront environmental, social, and cultural concerns to avoid destroying resources for future generations. The authors have developed a tool they use to evaluate a product, or building, or even a city against three extreme “isms”: Equity (from communism), Economy (from Capitalism) and Ecology (from ecologism). The authors then mention that the “triple bottom line” approach often utilized in CSR communication resembles this tool but that this is often only focused on economics with bonus points for eco-efficiency e.g. achieving more reductions (Braungart & McDonough 2008, pp. 147- 154).

### **The 5 Step Model**

The authors share their advice for implementing eco-efficiency.

The first step is getting rid of known harmful substances in products.

The second step is following informed personal preferences. This means making the best possible choices with the information available, e.g. switching to materials that have been certified.

The third step is creating passive positive or preferred lists of the materials used categorised according to how potentially harmful they are and switching out the most harmful ones for substances on the preferred list.

The x list: contains substances that must be phased out, such as those that are teratogenic, mutagenic and carcinogenic.

The gray list: contains problematic substances that are not urgently in need of phasing out.

The p list: the preferred list with substances actively defined as safe to use.

The fourth step is activating the preferred list. This means redesigning products to become food for the two cycles mentioned.

The fifth step is reinvention: designing products to nourish the environment (Braungart & McDonough 2008, pp. 166-180).

Cradle to Cradle is also a certification programme administered by the 3rd party Cradle to Cradle Products Innovation Institute. Products can be granted an official C2C certification if they live up to the criteria for these five comprehensive categories: material health, material reutilization, renewable energy, water stewardship and social fairness (MBDC 2014).

### **Circular Economy Schools of Thought**

The concept of circular economy has become increasingly popular since the late 1970s. It cannot be attributed to a single date or author. The concept has been redefined and developed by six different schools of thought: regenerative design, performance economy, industrial ecology, biomimicry, blue economy and Cradle to Cradle (Ellen MacArthur, 2013a).

- Regenerative design was first envisioned by landscape architecture professor John T. Lyle during the late 1970s. Regenerative design means focusing on processes that restore, renew or revitalize their own energy and materials. This laid the foundation for the circular economy framework (Ellen MacArthur, 2013a).
- Performance economy: In 1976, the architect and economist Walter Stahel communicated the vision of an economy in loops in a research report. From his economic viewpoint this could lead to job creation, economic competitiveness, resource savings and waste prevention. He has been developing a "closed loop" approach to production processes at the institute he founded called "the Product Life Institute". This institute focuses on product-life extension, long-life goods, reconditioning activities, waste prevention and promoting the performance economy, selling services instead of products (Ellen MacArthur, 2013a).
- Industrial ecology is sometimes referred to as "the science of sustainability". It studies material and energy flows in industrial systems from a systemic perspective, creating closed-loop processes. Production processes are designed to respect the local ecological environment but looking at the impacts globally and shaping them to perform in the way nature's living systems do (Ellen MacArthur, 2013a).
- Biomimicry is a natural science approach inspired by nature and what we can learn from nature. This approach studies nature's best solutions and imitates forms, processes, systems and strategies to solve human problems. It also advocates using an ecological standard to judge sustainability (Ellen MacArthur, 2013a).
- Blue Economy is an open-source movement focused on promoting collaborative resource projects. The principle for projects is "using the resources available in cascading systems". That means the waste of one product becomes the input in another system to create new value and economic gain (Ellen MacArthur, 2013a).

### **The Circular Economy Repurposing Hierarchy**

The circular economy refers to a restorative industrial economy which aims to rely on renewable energy, minimises, tracks, and in the end eliminates the use of toxic chemicals and designs out waste. Circular economy is about optimising systems rather than components. It involves a careful management of material flows as described by the C2C philosophy. Within the CE framework, reducing materials usage is an accepted design and manufacture strategy to reduce waste and achieve cost savings. Optimizing materials is however a more preferred strategy. This means switching from scarce materials to recycled materials, switching to biologically safe nontoxic materials and ultimately optimising materials through the biological and technical cycles.

Biological nutrients are designed to re-enter the biosphere safely and to build natural capital, and technical nutrients are designed to circulate at high quality without entering the biosphere. CE also advocates selling the use of products instead of the ownership of the product. There is a hierarchy of most desired post-use activities within the technical cycle. The most desired is maintaining meaning repairing a product. Maintenance or repair is carried out in the use phase of the product life cycle to prolong a product's life. Maintenance is the most efficient way to retain a product's desired level of performance (Circular Economy Toolkit 2013a).

The second most desired is reusing/ redistributing a product or parts of a product. Re-usage or resale extends the product life by second hand use. Therefore, fewer products, which serve for the same purpose, have to be produced. The reused products can be the complete products, or can be components of the product which are then sold (Circular Economy Toolkit 2013b).

The third option is refurbishment or remanufacture of an entire product or parts of a product. Remanufacturing and refurbishment is the industrial process whereby used products referred to as 'cores' are restored. It means recapturing the value added to the material when a product was first manufactured (Circular Economy Toolkit 2013c).

The fourth option is recycling which is the least preferred option. Recycling is the process of using materials at the end of their life for new products. This option is aimed at avoiding waste going to landfill and reduces energy usage and the impact on the environment. Recycling is most often done in the metal, paper, glass, plastics textile and electronics industries (Circular Economy Toolkit 2013d). Below is a figure showing the hierarchy of repurposing strategies in the technical cycle.

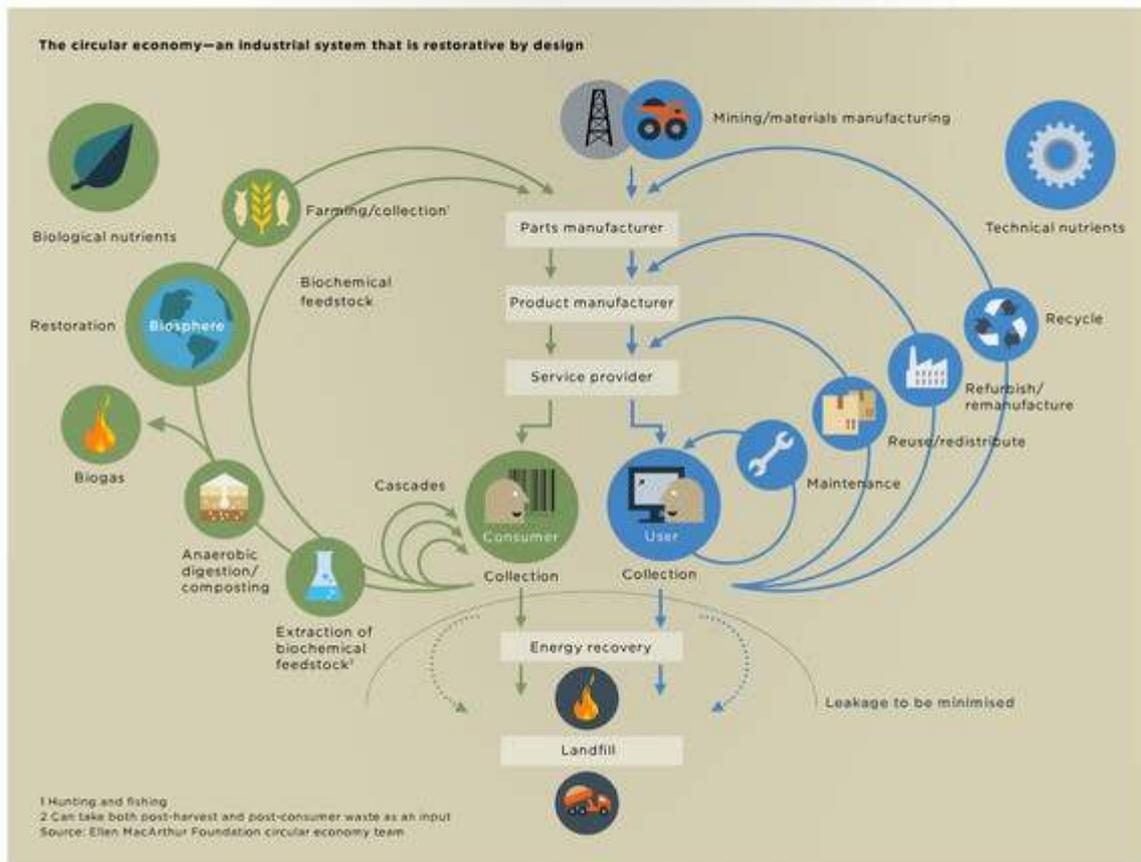


Figure 1: Model of the circular economy framework

## Principles of Circular Economy

The circular economy is based on five principles: (Ellen MacArthur, 2013b).

### 1. Design out waste

This principle comes from the C2C approach. The biological and technical components or materials of a product are designed by intention to fit within a biological or technical materials cycle, designed for disassembly and re-purposing hereby designing out waste. The biological materials are non-toxic and can be simply composted. Technical materials—polymers, alloys and other man-made materials are designed to be used again with minimal energy and keeping the same quality. The phrase “waste is food” by Braungart and McDonough, summarises the circular philosophy (Ellen MacArthur, 2013b).

### 2. Build resilience through diversity

Modularity, versatility, and the ability to adapt are features that should to be prioritised in an uncertain and fast-evolving world. Systems built simply with the aim of efficiency are fragile whereas versatile, diverse systems with connections to many others are more resilient to external events (Ellen MacArthur, 2013b).

### 3. Work towards using energy from renewable sources

Using only renewable sources should be the aim for all companies and systems. An example is the agricultural production system which should integrate food and farming systems to reduce the need for fossil-fuel and capture more of the energy value of by-products and manures produced. This integration would also increase the demand for human labour (Ellen MacArthur, 2013b).

### 4. Think in “systems”

Systems thinking here refers to real-world systems that are non-linear, feedback-rich, and interdependent. Systems thinking emphasises stocks and flows. The maintenance or replenishment of stock is inherent in feedback-rich systems and has the potential to incorporate regeneration and even evolution in living systems. In an industry context, the adaptive ability of feed-back rich systems means more room for innovation and the development of diversified value chains, as well as less dependence on purely short-term strategies. Systems with many connections to e.g. retailers or producers, are more resilient, but can become slow to change and therefore ineffective. But because more of the flows of materials, goods, and services are utilized in a circular economy and because risk (e.g. of lack of materials) is reduced, the firm is compensated for the reduced efficiency with lower costs, additional cash flows and fewer regulatory problems because waste is eliminated or is now seen as a resource (Ellen MacArthur, 2013b).

### 5. Think in cascades

This principle is from the blue economy, which illustrates that for biological materials, additional value from products can be created by cascading them through other uses. An example is mycelium packaging which is an innovation based on the bonding properties of mushroom roots and uses the entire living polymer—as well as the organic waste system on which it grows. Another example is the vast waste created in coffee-growing. This waste could be used to replace hardwoods traditionally used as growth media to farm high-value tropical mushrooms. The leftovers then can be reused as food for animals, as it contains valuable enzymes, and can thereafter be returned to the soil in the form of animal manure at the end of the cascade (Ellen MacArthur, 2013b).

Another environmental movement influencing circular economy is the zero waste movement. The term Zero Waste was first used in the name of the company Zero Waste Systems Inc established in the mid-1970s. Later the Zero Waste International Alliance was founded (ZWIA). There are two views on Zero Waste. It is seen either as post-discard total material recycling or as reuse of the entire function of products and materials. ZWIA’s definition of Zero Waste is the following:

*“Zero Waste is a goal that is both pragmatic and visionary, to guide people to emulate sustainable natural cycles, where all discarded materials are resources for others to use. Zero Waste means*

*designing and managing products and processes to reduce the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them...” (Zero Waste Europe 2014).*

Below is an attempt at making a diagram to illustrate the connections and hierarchy of the terms used in C2C and CE. The terms from the diagram will be used to analyze the rhetoric used by textile companies as part of their efforts to gain and maintain legitimacy.

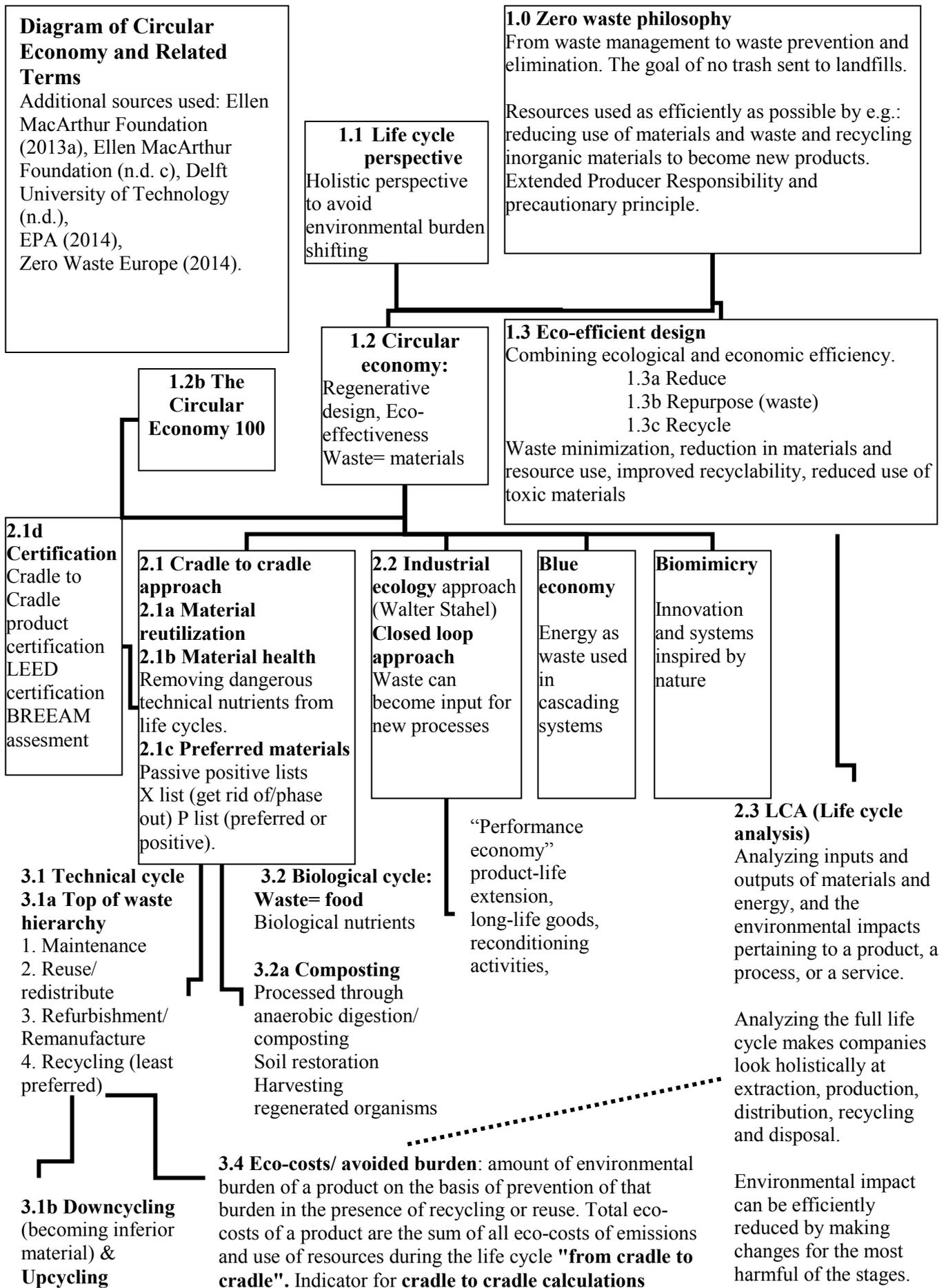


Figure 2: diagram of CE and C2C

## Part two: Method

### Epistemological Approach

The thesis is based on the epistemological approach of constructivism as well as hermeneutics. Hermeneutics, also called interpretivism, is aimed at interpreting texts, dialog, and conversations. An important principle behind interpretivism is the hermeneutic circle. This approach has been used in the analysis which uses thematic analysis to create the thematic categories by going from the parts (the statements in the texts) to the theory (the whole) and from the whole to the parts until an adequate understanding is reached. According to interpretivism, the relationship between the parts and the whole is what makes it possible for us to interpret and understand a phenomenon (Rasborg 2013, pp. 289-291).

The other approach used is constructivism. Constructivism never views the reality we are trying to understand as the actual reality but a reality that has been interpreted or constructed. Interpretations are certain perspectives or categories we impose on reality. Therefore, our understanding of reality does not simply reflect reality but shapes reality itself. Another point is that societal phenomena and our knowledge of these are created by historical, cultural and social processes. These are therefore not eternal and unchangeable. Language is not a simple tool for processing thoughts but is a prerequisite for processing thoughts because language and language concepts determine what we are able to think about. The usage of language is a kind of social act where saying something is the same as doing something, e.g. making a promise or inviting to an event. The usage of language determines reality. There is a focus on interaction and social practise (Rasborg 2013, pp. 403-405).

There is both an epistemological and an ontological version of social constructivism. The epistemological version claims that only our scientific knowledge about the societal reality is constructed (Rasborg 2013 p. 406). This means science consists of mental constructs, constructed in order to explain sensory experience (or measurements) of the natural world. Knowledge is constructed in that it is dependent on convention, human perception and social experience surrounding the research process. The ontological version claims the societal reality is a construction formed by our scientific knowledge about it or by social actors. This means that “facts” about reality *“first come into existence when people agree on them, consensus is reached about them or words and distinctions between concepts are introduced by which these facts can be expressed”* (Rasborg 2013 p. 406, my translation). Common for constructivism and hermeneutics is the perception that uncovering reality is always an interpretation of reality (Rasborg, 2013 p. 431).

Method wise, constructivism doesn't exclude any known methods from being used (Rasborg, 2013 p. 430). But constructivist, phenomenological/hermeneutic oriented methods such as qualitative interviews or text and discursive analysis work well when doing problem oriented projects. The focus is on presenting results as negotiable constructs rather than as models that aim to "represent" social realities more or less accurately. The epistemological issue associated with constructivism is relativism, that the truth is just a perspective. But relativism doesn't deny that we can uncover truths but it insists that statements can only be seen as true

compared to something else, e.g. a conceptual framework or ideological perspective. (Rasborg, 2013 p. 431). To say that the truth is relative doesn't mean it doesn't exist but it is dependant on the theories and methods used (Rasborg, 2013 p. 432).

## **Case Study Approach**

The thesis is based on a case study. Berg (2007) gives a definition of a case study:

*"a case study is defined as an approach capable of examining simple or complex phenomenon, with units of analysis varying from single individuals to large corporations and businesses; it entails using a variety of lines of action in its data-gathering segments, and can meaningfully make use of and contribute to the application of theory"* (Berg 2007, p. 283).

Case studies are used mostly in theory-building rather than testing and provide "thick description" (Berg 2007, p. 284-285). The case study is of the collective type, also known as a multiple-case or comparative case study (Berg 2007, p. 292). This has been chosen to represent contrasting situations for the purpose of cross-unit comparison. Case studies have scientific benefits in that they can open the way for discoveries. But two points need to be considered; objectivity and generalizability. Objectivity is achieved through replicability. The steps in the research procedure (defining research area, criteria for gathering data and means of investigation) need to be clearly defined so the research can be replicated in subsequent research (Berg 2007, p. 295). Generalizability is possible when case studies are properly done because few human and organisational behaviours are unique and spontaneous. It is therefore possible to generalize to an extent to similar companies (Berg 2007, p. 296).

## **Case Selection Criteria**

The clothing and sports clothing companies chosen are: Bestseller, H&M, Levi's, Nike and Puma. As will be discussed later, there are differences in the approach to circular economy or C2C in the companies but they have been chosen because of the following criteria.

The selection criterion is that all companies are involved in the clothing industry including sports wear. They are all global companies, meaning they operate internationally and their innovations and focus areas have an impact on how the whole industry operates. Another criterion is that they report substantially on their sustainability efforts in reports, on their websites, and in press releases. These efforts should include the focus areas of C2C. The case companies are chosen because they have one effort in common related to C2C. This is the initiation of garment collection initiatives where they collect clothing, other textiles, and shoes. The common vision of these companies is in a circular economy perspective to "close the loop on textile fibres" by reducing waste in the industry to 0 and producing clothing lines which contain more sustainable fibre alternatives and more recycled materials, and also using less energy, land, water, chemicals and thereby

preserving precious raw materials. As H&M comments on closing the textile fibre cycles: *“It’s the quickest and easiest way for our industry to dramatically reduce how many resources we use, and how much material goes to landfill”* (H&M, n.d. a).

## Presentation of C2C and Closed-loop Initiatives in the Case Companies

### Material Reutilization

To achieve C2C certification a product needs to live up to the standards set for 5 categories. But all these categories are not unique to the C2C approach and they pretty much cover all aspects of CSR one would expect to find in a company, including social fairness which means respecting workers rights and renewable energy and carbon management (MBDC, 2014). What sets it apart is the focus on using material science to get rid of the waste generated across a product’s lifecycle. This is the area of material reutilization which this thesis focuses on along with material health. The recycling initiatives are part of this category. Here is a short description of the different recycling initiatives in the case companies listed chronologically:

### Recycling Initiatives

**Nike:** Nike created its recycling program quite early in 1993. It is called “Reuse-A-Shoe”, and it collects old sports shoes of any brand and recycles them into a usable material which they named “Nike Grind”. The material comes from the rubber from the outsole, foam from the midsole and fabric from the upper layer. Nike also collects and recycles materials left over from manufacturing shoes at the factories which make up most the material in Nike Grind. The line of Nike Considered products contains Nike Grind but the material is mostly used in producing sports surfaces such as basketball courts, soccer fields and playgrounds which are then donated to communities worldwide (Nike News, 2008).

**Puma:** “Bring Me Back” is the recycling initiative by Puma. It was launched in Puma stores and outlets across Germany from April 17<sup>th</sup> 2012. Consumers bring used shoes, clothing and accessories from any manufacturer to a PUMA Store and put them in the Bring Me Back bins. The program became global in January 2013. Puma, like H&M, also has a partnership with I-Collect and the vision is *“one more step forward toward the long-term goal of transitioning to a closed cycle loop for materials usage”* (Puma, 2014).

**H&M:** Launched “the Garment Collecting Initiative” in 2013. It has now been extended to 1.500 stores globally. H&M was the first fashion company to launch a global garment collecting initiative aimed at consumer waste. *“In our vision of a better fashion future, nothing gets wasted”*, H&M states (H&M, n.d. b). H&M accepts all clothing and other home textiles at their collecting boxes in stores. In exchange for a bag of clothes customers get a discount coupon for H&M and a donation is made to a local charity organization.

The textiles are sent to the nearest processing plant (H&M, n.d. c). Here they are handled by H&M's partner, I:Collect, a global recycling company. They are then graded and hand-sorted. There are four possible usages for the textiles:

**Rewear:** Clothing that can be worn again is marketed worldwide as second-hand goods.

**Reuse:** Clothing which is not in a condition to be worn again are converted into other products, such as cleaning cloths.

**Recycle:** Textiles that can't be reused are made into textile fibres and used in new products such as insulating materials for the auto industry and to become textile fibres for new clothes.

**Energy:** When the three first options are not possible, textiles are used to produce energy, meaning they are incinerated (H&M, n.d. d).

**Bestseller:** Bestseller was the first Danish retailer to implement the recycling concept at their Jack & Jones stores in Denmark and Sweden in 2012 by partnering with I:CO. Consumers get a voucher for the store in exchange for their clothes (I:CO, 2012).

Fall 2013, the Bestseller kids' brand Name It also launched a recycling campaign across most of Europe. They call the campaign "Make a Difference". As of October 2013 consumers have been able to hand in their used clothes and shoes in all NAME IT stores in Denmark, Norway, Sweden, Finland, Iceland, Ireland, Germany, Austria, and the Netherlands. The textiles are then sent to sorting facilities at I:CO where they are categorised and passed on to recycling or disintegrated into fibres that are used in new products, e.g. as playground surfaces or filling for teddy bears. For every kilogram of clothes and shoes collected NAME IT donates EUR 0.6 to charity organisations. Common the charity organisations is that they work to improve the conditions of children (Bestseller, 2013).

**Levi's:** Starting in January 13 2014, the Levi's brand has been piloting an initiative called "Progress With Less", which is a recycling program at three Levi's stores in San Francisco. The program is a partnership with The San Francisco Department of the Environment and I:CO (I-Collect) and several retail companies (Warren, 12.1 2014).

Levi Strauss & Co. and Goodwill have come up with a global initiative for new product care tags that are put into clothing. The tag is called "A Care Tag for Our Planet". The care tags on Levi's clothing include messages to encourage people to donate their unwanted clothing when they are done with them. According to Goodwill, the charity organization in the U.S. and Canada make sure that more than 1.5 billion pounds of clothing and textiles a year don't end up in landfills and, in the process, this creates job-training opportunities for more than 1.5 million people yearly (Egolf 2009).

### **Material Reutilization: Closed-loop Product Design**

Besides recycling systems, the case companies are also designing products based on material reutilization. Nike came out with the “Consider Boot” in 2005. This product was made to be disassembled and recycled because it was put together without using glue and instead using stitching. Later came the “Nike Trash Talk” shoe made from post-manufacturing waste. Nike is now beginning to incorporate Considered Design into all its key product areas. Considered design aims to *“minimize environmental impact by reducing waste throughout the design and development process, using environmentally preferred materials and eliminating toxics”* (Nike, Inc. n.d.).

Puma released a collection called InCycle. It is the first of its kind, being a line of C2C-certified apparel, shoes and accessories. The products are either biodegradable or recyclable through Puma’s Bring Me Back program as mentioned earlier (Chua, 2012).

H&M has released its first collection made from 20 pct. recycled cotton collected from the garment collecting initiative one year after the initiative began. The collection comprises of five denim pieces. H&M has launched the collection as a *“dedication to sustainability and closing the loop on textiles”* (Chua 2014). The goal is to increase its use of post-consumer recycled materials. H&M also uses recycled materials such as PET plastic bottles to create polyester and are switching to more sustainable options such as organic cotton which they use in their Conscious Collection (H&M, n.d. d).

Levi’s has named their sustainable collections “Made of Progress”. These collections are the products of the company’s vision to *“progress in doing more by using less. And making less of an impact on the planet for the greater good of all”* (Levi Straus & CO, 2013b). Levi’s launched a collection called Waste<Less jeans at the beginning of 2013. One pair of jeans contains a minimum of 20 pct. recycled content amounting to 8 PET plastic bottles on average (Levi Straus & CO 2013a).

Bestseller also came out with a collection called “Green Attitude” for their women’s wear brand Vero Moda in Spring 2014. This collection uses materials that are less harmful to the environment and are more sustainable than their other products. The materials used are recycled polyester (30 pct.), mainly from PET bottles and production waste, organic cotton, and Tencel®, a cellulose fibre from trees. The tree fibres are produced using chemicals but they are reused in a closed loop system along with the water needed to produce the fibres (Vero Moda, n.d.).

Bestseller’s men’s wear brand Jack & Jones launched a tag for their jeans collection called “Low Impact Denim” mid 2012. This tag is supposed to create more transparency for consumers and more sustainable fashion. The collection saves water and energy in the production of jeans. The individual jeans have a tag

that tells the consumer how much energy and water has been used to make the item. Low Impact Jeans cuts water, chemical and energy usage by 40-98% (Mchangama, 2012).

## Data Collection: Sources

3 different genres of outbound communication have been chosen to be analyzed: sustainability reports, press releases, and websites. This is because there is a difference in where the companies communicate about sustainability and the CE. Levi's doesn't include a lot of information about sustainability in their report compared to Nike but they do communicate extensively about CE on their website. So the concern would be that the analysis would miss out on the variation in communicating about CE if focusing solely on e.g. sustainability/ financial reports. A list of sources is found in appendix 1. Besides searching through company websites and company news sections, the database Factiva has been used to locate press releases. The following search words have been used along with the company name to find relevant sources: closing the loop, closed-loop, Cradle to Cradle, C2C, circular economy, product life cycle (assessment), PLC, reduce clothing waste, upcycling, recycling, reuse, sustainable/ sustainability, technical nutrients/ materials, biological nutrients/ materials, zero waste, zero toxics, and waste equals food. The following number of sources have been collected to be used in the first part of the analysis:

Bestseller:	8 website, 5 press releases, 3 parts of the sustainability report:	16 sources
H&M:	7 websites, 6 press releases, 3 parts of the sustainability report:	16 sources
Levi's:	7 websites, 6 press releases, 3 parts of the sustainability report:	16 sources
Nike:	5 websites, 8 press releases, 3 parts of the sustainability report:	16 sources
Puma:	5 websites, 7 press releases, 3 parts of the sustainability report:	15 sources

In order to be able to compare the sustainability reports, each report has been split into relevant parts that concern the same subject. Except for the CEO introduction, the parts have been chosen because they include keywords from the framework of circular economy (e.g. C2C, circular economy, lifecycle, biological/ technical cycle, LCA (Life Cycle Assessment/analysis), closing-the-loop, closed-loop, recycling, recycled, reuse, zero waste, waste as resource, waste=food, limited/constrained resources). The section, introduction by the CEO, would be the section most easily compared and would show the priority of embedding circular economy concerns into the company. But two of the companies have integrated financial and sustainability reports so the introductions don't include many mentions of sustainability and circular economy. Section 3 named *waste and recycling* and 4 named *innovation and products* have been chosen to be included in the analysis because they include most keywords from circular economy and C2C. Section 6 which is named chemistry and zero discharge is also included to look into the part of Cradle to Cradle called "material health".

Report section	Nike	Puma	Levi's	H&M	Bestseller
<b>1. CEO introduction</b>	Letter from president & CEO pp. 4-5	Foreword Letter from Björn Gulden (not separated from financial report) pp. 4-5	Letter from CEO (Dear shareholders, customers, employees and other stakeholders) (not separated from financial report) pp. 4-7	CEO interview pp. 3-4	Foreword by our CEO p. 1
<b>2. Sustainability strategy/ introduction</b>	Our sustainability strategy pp. 10- 21	Puma's sustainability strategy awards and recognitions 2013 pp. 37- 42	Levi Strauss & CO: Made of progress p. 17	Introduction (About H&M conscious, The impacts and challenges along our value chain) pp. 5-11	Strategy called "20 by 20" Introduction, Bestseller's sustainability goals pp. 2-9
<b>3. Waste and recycling</b>	Waste pp. 50-53	Energy, water, recycling, environmental management at Puma suppliers, more sustainable retail stores, plastic bags recycling pp. 56-60	Waste (recycling wastewater) pp. 19-20	Commitment 5 Reduce, reuse, recycle. Focus: close the loop on textile fibres pp. 58-62 Focus: waste pp. 63-64	Environment: goal 18, goal 19, goal 20 p. 90-99
<b>4. Innovation and products</b>	Design the future (innovation and product) pp. 60-65	More sustainable products pp. 60-61. Reducing raw material impact to	Eureka innovation lab, innovative products, innovative	Commitment one: Provide fashion for conscious	Products: Goal 13, goal 14, goal 15, goal 16 pp. 65-77

		address E P&L results p. 51	practices. P. 14, pp. 17-18	customers pp. 12- 20	
<b>5. Chemistry and zero discharge</b>	Chemistry pp. 43-45	Zero discharge of hazardous chemicals and Puma's chemical management, Product Stewardship and Restricted Substance List (RSL) pp. 51-52	Made of progress: progress on chemical commitment pp. 20-21	Commitment 6 Use natures resources responsibly: Focus: Chemical management pp. 74-75	Environment: Goal 17 Bestseller's Chemical Restrictions pp. 81-86

*Tabel 1: sustainability and annual report parts*

### **About Thematic Analysis**

The thesis is based on analysing qualitative data using thematic analysis, also known as content analysis. Thematic analysis is a process for encoding qualitative information to create meaningful patterns by encoding codable moments in the data. Themes are patterns across the sample that are important to the description of a phenomenon and are associated with the research question. The themes that emerge become the categories for analysis (Boyatziz 1998).

Thematic analysis emphasizes rich description of the data, as Boyatziz notes: *"A good thematic code is one that captures the qualitative richness of the phenomenon"* (Boyatziz 1998, p. 31). Thematic analysis goes beyond counting phrases or words to identifying latent or semantic manifestations of themes. According to Boyatziz, the process of data analysis can be done in three ways: a theory-driven deductive approach, an inductive data-driven approach and a hybrid approach (Boyatziz 1998, pp. 34-42).

Thematic research often requires the use of a combination of several analytical elements also known as units of coding (Boyatziz 1998, p. 313). The chosen units are sentence and word level for some of the codes e.g. innovation and sustainability.

The advantage of content analysis is that it is virtually unobtrusive, cost-effective and provides a means by which to study a process that may reflect trends in a society (Boyatziz 1998, p. 328).

The weakness is in locating unobtrusive messages relevant to the research question and the ineffectiveness in testing causal relationships between variables. But content analysis is helpful in this case study because is a descriptive study not aimed at testing causal relationship (Boyatziz 1998, p. 329).

The chosen approach is the hybrid of the prior-research driven approach and data-driven approach as mentioned by Boyatziz (1998). This means using someone else's categories, codes or findings as inspiration. This of course also means accepting someone else's assumptions, projections and biases. The stages of analysis of the chosen approach are as follows:

#### Stage I

- 1) Deciding on sampling and design issues
- 2) Selecting subsamples

#### Stage II

- 1) Identifying themes within subsamples
- 2) Using theory and prior research for articulating meaningful themes (Boyatziz 1998, p. 52)
- 3) Creating a code
- 4) Determining the reliability

#### Stage III

- 1) Applying the code to the remaining raw material
- 2) Determining validity
- 3) Interpreting results

A code should contain a label, a definition, a description of how to know when the theme occurs, any exclusions to the identification of the theme, and examples (Boyatziz 1998, p. 31).

Some methodologies recommend descriptive use of thematic analysis and not quantifying the themes, e.g. when the sample size is small or there is no desire to generalize to others, or when the industry is strongly unique (Boyatziz 1998, p. 129). But as Boyatziz mentions, the method is strong in bridging the gap between the language of qualitative research and the language of quantitative research (Boyatziz 1998, p. 145). In this study, the frequency of themes will be counted to see how often they appear for each company, this way quantifying the qualitative data as the sample size is large. Along with this quantitative approach, quotes will be used to contrast the different approaches to communicating the CE discourse.

To ensure validity, comparable sampling units of coding and analysis have been chosen to ensure the method truly measures the concept. Reliability with this method needs to be addressed because of the variety of interpretations that may arise. Reliability is consistency of judgement that protects against or lessens against the contamination of projection (Boyatziz 1998, p. 146). Reliability is aided by coding the same source multiple times and checking for inconsistencies in the coding. The aim is for increased confidence in the dependability of the judgements without the illusion of “objective judgements”. Consistency of judgement could also be ensured by measuring interrater reliability. But this requires more than one coder (Boyatziz 1998, p. 144-150).

## Part three: Findings

### Part 1 Circular Economy Terms and Concepts in Context

Appendix 2 includes 6 tables which present the concepts from the Circular Economy diagram shown earlier in figure 2 as quotes from the companies. This following section presents tables that show if and how often the C2C and CE discourses are used across the five case companies. The terms and concepts associated with the discourses have been found by going through the sources and noting how the concepts are phrased and then coding these using the software Nvivo. Below is the resulting analysis combining how often CE terms are used across the companies and examples of how the terms are used in quotes from the sources. The quotes are included in appendix 2. Quotes from the source texts have been included to illustrate how the companies are using the terms to construct their narrative about implementing the change from linear to circular economy in the fashion industry.

Tier 1 circular economy	<b>1.0 Zero waste</b> 5 sources, 7 references. 39 references including related terms: waste prevention, get rid of, eliminate, remove, prevent, avoid waste	<b>1.1 Life cycle</b> Life cycle, lifecycle 22 sources, 38 references	<b>1.2 Circular economy</b> 5 sources, 25 references
Bestseller	Zero waste 2 sources 2 reference Related terms 2 sources 3 references	6 sources 11 references	
H&M	Zero waste 2 sources 2 reference Related terms 7 sources 10 references	3 sources 3 references	3 sources 17 references

Levi's	Zero waste 1 source 3 references Related terms 2 sources 5 references	8 sources 16 references	
Nike	Zero waste 0 Related terms 4 sources 10 references	2 sources 4 references	1 source 7 references
Puma	Zero waste 0 Related terms: 2 sources 4 references	4 sources 5 references	1 source 1 reference

Table 2

### Tier 1 Circular Economy

**1.0 Zero waste:** The term "zero waste" is used twice by both H&M and Bestseller. But Levi's has the most references of the companies (3). However, related terms are mentioned by all five companies with H&M and Nike having the most references (10). Bestseller and H&M mention zero waste as a future goal, while Bestseller refers to a company collaboration and Levi's mentions the term in relation to a collaboration with a city:

*"We believe that to make a difference, you have to lead – and collaborate. This effort will help San Francisco achieve its goal of zero waste by reducing the amount of clothing, shoes and other textiles to landfill".*

Nike which has 10 references to related terms mentions removing waste in relation to their product design standards while Puma mentions its aim to eliminate waste in order to protect the environment. (Appendix 2 table 1).

**1.1 Life cycle:** The term life cycle is used in 22 sources and has 38 references. Levi's is the company with most references to the term (16) followed by Bestseller with 11. Puma, Nike and H&M each have 5, 4 and 3 references to life cycle. Levi's quote refers to their partnership with Goodwill extending the life cycle of clothing. Bestseller refers to designing a product while considering the impact throughout the product's life cycle. H&M uses the term the same way as they refer to making decisions about materials from a life cycle study perspective. Puma refers to a changed distribution life cycle in their new distribution system. Nike refers to including the product's life cycle when designing products *"We begin with comprehensive systems thinking around the domains of design, manufacturing and the life cycle of a product..."*(Appendix 2 Table 1).

**1.2 Circular economy:** The term circular economy is primarily used by H&M (17 out of 25 references) and also by Nike but only in one press release. The term is used once by Puma in their sustainability report. Both Nike and H&M use the term in the context of requirements for the vision of creating a circular economy, namely innovation of products, reuse, materials, business models, systems and for Nike also collaboration:

*“Nike Inc. VP of Sustainable Innovation Hannah Jones, who participated in WEF panels, shared Nike, Inc.’s vision of a circular economy – one that includes harnessing innovations to design out waste and collaborations to bring about lasting and meaningful systems change”.*

Nike and H&M both see circular economy as necessary part of the future while Puma mentions the concept is gaining popularity in delivering sustainability improvements as well as financial value. The organisation Circular Economy 100 is only mentioned by H&M but it seems a key organisation to H&M as it is mentioned 11 times in 3 sources, in a press release, sustainability report, and on their website:

*“H&M today announced that we will join The Circular Economy 100 as a corporate member for the next three years to help accelerate the transition to a circular economy”.* (Appendix 2 table 1).

Tier 1 circular economy continued	<b>1.3 Eco-efficient design</b>	<b>1.3a Reduce</b>	<b>1.3b Repurpose</b>	<b>1.3c Recycle</b>
	20 sources, 37 references Related terms: Eco-efficiency, resource efficiency, waste efficiency, effectively, efficient	57 sources 253 references	10 sources, 16 references	64 sources, 440 references
Bestseller	3 sources 5 references	9 sources, 26 references	1 source 1 reference	10 sources 45 references
H&M	5 sources 5 references	12 sources, 55 references	2 sources 2 references	14 sources 146 references
Levi's	2 sources 5 references	13 sources, 47 references	3 sources 5 references	12 sources 70 references
Nike	6 sources 15 references.	11 sources, 77 references.	1 source 4 references	15 sources 93 references
Puma	4 sources 7 references	12 sources, 48 references	3 sources 4 references	13 sources 86 references

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Table 3

### Tier 1 Circular Economy Continued

**1.3 Eco-efficiency:** Eco-efficiency and related terms are mentioned by all companies. However, 15 out of 37 references are from Nike, meaning this is a key term to the company. They refer to measuring the waste efficiency of their designs. To Puma which has second most references to efficiency, the term means improving energy efficiency at suppliers: *“It remains PUMA’s goal to improve energy efficiency at our owned and operated entities...”*

Levi's uses the term to refer to getting the most out of primary materials: *“Materials efficiency – How much of the primary materials end up in the final product”*. This is the same for H&M but they also mention their vision of a zero waste future in this connection. To Bestseller it refers to ensuring water-efficiency at suppliers. H&M, Bestseller and Levi's all have 5 references to the concept but H&M’s references are found in 5 sources compared to Levi's and Bestseller whose references are found in 2-3 sources (Appendix 2 Table 2).

**1.3a Reduce:** Out of the 3 R's (reduce, reuse, recycle) reduce is the 2nd most used across the companies with 253 references while recycle has 440 references and reuse has 88 references. It therefore seems an integral term in all companies with 9-13 sources from each company mentioning this term. Nike has the most references (77) but not the most sources which Levi's has (13). Bestseller mentions reduce the least (26 times). H&M’s quote refers to their garment collecting program making it possible for the company to reduce the waste created by the textile industry: *“That way, we can reduce waste and give old products a new life”*. Puma’s quote refers to reducing waste as the goal of creating recycling facilities in stores. Levi’s quote refers to reducing consumers’ environmental impact by encouraging them to recycle through their campaign. Nike’s quote refers to their discovery that reducing waste in design is the most efficient approach. Bestseller's quote refers to reducing the company’s impact in the context of corporate responsibility and the environment:

*“As a part of the textile industry, we are aware of our responsibility to reduce the impact our production has on the environment and to ensure sustainable disposal and eco-friendly recycling of garments as well.”* (Appendix 2 table 2).

### Connections

The following section shows connections found between the action of reducing and the direct object of what is being reduced.

**Reduce waste:** 28 sources and 64 references refer to reducing waste. Nike and H&M have the most references to reducing waste (25 and 24). Puma has 9 and Levi's has the second least references to reducing waste (6) and Bestseller has the least references (1).

**Reduce impact:** 35 sources and 52 references refer to reducing impact. Levi's has the most references to reducing impact (18). Bestseller has second most references (17). H&M, Nike and Puma all have 4-6 references to this.

**Reducing materials, input, water, and energy:** Levi's has the most references to reducing input (11), while Puma has second most (8 references). Nike, Bestseller, and H&M have 4, 2 and 2 references. When searching for reducing waste and design, it is clear that only Nike refers to this concept (6 sources and 9 references). Nike also has the most references to reducing weight (2 sources and 12 references). Nike focuses on reducing the weight of products and packaging to thereby reduce waste.

**1.3b Repurposing:** Repurposing as a term is used the most by Levi's, Puma, and Nike (5, 4, and 4 references) followed by H&M and Bestseller both with 2 and 1 reference. The term is primarily used as a collective term to refer to recycling of waste and different ways of dealing with waste both plastic bottles and unwanted garments.

To all Levi's refers to repurposing waste (plastic bottles) to make new products instead of using virgin materials. *"By repurposing waste—in this case, plastic bottles and trays—and recycling them into new fabrics, we're doing our small part to utilize existing materials in place of virgin cotton..."* Puma refers to their partner company I:CO that repurposes consumer waste products. Nike refers to limiting waste through design instead of just repurposing waste. H&M refers to 3 ways of repurposing unwanted garments from their garment collecting. Bestseller refers to their brand Jack & Jones being the first Danish retailer to form a partnership with I:CO to repurpose garments into materials or to help people in need.

*"JACK & JONES is proud to be the first Danish retailer to collaborate with I:CO to repurpose used clothes into raw materials or wearable clothing for consumers in challenged economies."* (Appendix 2 table 2)

**1.3c Recycle:** Recycling seems to be a widely used term. H&M and Nike have the most references to the term (146 and 93). But the term is used to great extent in all companies (in 9-15 of sources for each company). The lowest usage is Bestseller (45 references) and Levi's with 70 references. Bestseller's quote refers to recycling textiles being the way to a more sustainable business. H&M refers to being proud of launching their "ground-breaking" clothing recycling program with their NGO partner organisation: *"H&M is investing in this ground-breaking clothing recycling program and we are proud to partner with Global Green USA to launch this initiative"*.

Levi's refers to their recycled denim insulation as a successful mission to make a sustainable product with the highest recycled content of all insulation materials. Puma refers to their new shoe being made from recycled scrap polyester. Nike refers to the usage of recycled polyester in their performance apparel as a ground-breaking innovation (Appendix 2 table 2).

### Connections

The following section shows connections found between the action of recycling and the direct object of what is being recycled.

**Recycle waste:** Just 27 out of the 434 references refer to recycling waste. H&M has the most references to this (16) followed by Puma and Nike (7 and 4). Reducing waste is much more popular than recycling waste.

**Recycle cotton:** Recycling cotton has about the same amount of references (26) as waste. H&M again has the most references (16) followed by Bestseller and Puma (5 and 4), and Levi's with one reference. Nike has no references.

**Recycle polyester:** Recycling polyester and recycled polyester has second most references of all recycling related themes (51). Nike has the most references (22) followed by Puma (15), H&M (10) and Bestseller (4).

**Recycle clothing:** Recycling clothing, textiles, jeans, products and shoes etc. has the most references of all recycling related themes (53). H&M has almost half the references (23). Bestseller has 2nd most references (11) while Levi's and Puma both have 8 each and Nike has 3 (Appendix 2 table 2).

Tier 2 circular economy	<b>2.2</b> <b>Industrial ecology</b> Closed loop approach, closing the loop, "uendelig cirkel" 28 sources, 79 references	<b>2.3</b> <b>LCA</b> 5 sources 8 references <b>Avoided burden, eco-costs</b> 5 sources, 13 references
Bestseller	3 sources 4 references	
H&M	9 sources 38 references	1 source 1 reference
Levi's		1 source 2 references
Nike	6 sources 14 references	
Puma	10 sources 23 references	3 sourced 5 references

Tabel 4

### Tier 2 circular economy

**2.2 Closing the loop:** Closing the loop, which is associated with industrial ecology, has around twice as many references as life cycle (79). About half of them are from H&M (38). Puma has 2nd most references (23). Nike has 14 references and Bestseller has just 4. Levi's does not use the term. H&M states that they are aiming to create a closed loop for textile fibres *“This is why we are aiming for nothing less than creating a closed loop for textile fibres and to find ways for turning unwanted clothes into new fashion”*.

Puma refers to closing the loop being part of their effort to create a circular system through innovation. Bestseller refers to chemicals being reused in a closed loop system. Nike refers to supply chain cooperation to create closed-loop materials and the increase in these materials:

*“Nike has worked with seven vendors to create closed-loop materials used in footwear manufacturing including heel counters, toe boxes, strobels and lining. Between FY06 and FY09, closed-loop materials and take-back programs within footwear increased by 51 percent, to a total of more than 4.6 million kilograms.”* (Appendix 2 table 3)

**2.3 Life cycle analysis (LCA):** LCA is a term used mostly by Puma (5 times), twice by Levi's and once by H&M. H&M mentions LCA methodology in the introduction to their sustainability strategy in the CSR report. Levi's mentions having done a scientific lifecycle analysis of a pair of jeans on their corporate website: *“So we commissioned a scientific life cycle assessment (LCA) to find out the facts about the climate change, water and energy impact of a pair of Levi's 501 and Dockers Original Khaki ...”*

Puma mentions collecting data to do a life cycle study of organic cotton production as well as using insights from LCA studies in their sustainability strategy. The term “environmental costs” is used by Puma in their sustainability report but the usage is most evident in a press release. This states that they are using this method for measuring product impacts for the first time. The method also makes it easy to compare product sustainability. They also mention that their new InCycle collection has less environmental costs than Puma's conventional products.

*“By showing environmental costs in Euros and Cents, our new PUMA Product E P&L visualizes the environmental impacts PUMA products cause and makes comparing products in terms of sustainability easy for everyone.”* (Appendix 2 table 3).

C2C tier 2	<b>2.1 Cradle to cradle</b> Cradle to cradle, C2C, eco-effectiveness, unending cycle	<b>2.1a Material reutilization</b> Efforts, programs or initiatives to take back products	<b>2.1b Material Health</b> banned chemicals, restricted substances, ban on, phasing out, eliminate hazardous chemicals	<b>2.1c Preferred materials</b> Positive list, preferred chemicals, precautionary principle, healthy materials, safe chemicals, replace chemicals	<b>2.1d Certification</b> Cradle to cradle product certification. LEED certification. BREEAM assesment. 1 reference
	5 sources, 43 references	36 sources 108 references	16 sources, 113 references	14 sources, 54 references	7 sources, 26 references
Bestseller	1 source, 2 references	5 sources 14 references	6 sources, 38 references	2 sources 3 references	1 source 1 reference
H&M		10 sources 33 references	2 sources 19 references	2 sources 10 references	
Levi's		4 sources 6 references	3 sources 12 references		1 source 2 references
Nike		7 sources 25 references	5 sources 25 references	8 sources 36 references	1 source 11 references
Puma	4 sources, 41 references	9 sources 30 references	1 sources 19 references	2 sources 5 references	4 sources 12 references

Table 5

## Tier 2 Circular Economy: C2C

**2.1 Cradle to Cradle:** Puma refers to Cradle to Cradle 41 times in 4 sources meaning this is a key term to Puma. Bestseller is the only other company to refer to C2C, which they do twice.

Puma refers to getting an award from the C2C Product Innovation Institute for their InCycle collection “*In November 2013, PUMA was awarded the New Innovator Award by the Cradle to Cradle Product Innovation*

*Institute.*” Bestseller uses C2C as an explanation for a product's life cycle and how they are evaluating materials based on impacts from cradle to cradle. *“The fibres are evaluated and compared based on their impact on the environment throughout a product’s life cycle (from cradle to cradle)...”* (Appendix 2 table 4).

**2.1a Material reutilization:** This term refers to how many times a company mentions its efforts, programs or initiatives to take back products after use. H&M mentions this the most times (33) followed by Puma (30) and Nike (25). Bestseller and Levi's each have 14 and 6 references to take back programs. H&M mentions having successfully scaled their initiative to cover all their stores globally. Bestseller mentions their children’s brand Name It collaborating with a partner to collect clothes and showing a video of how recycling works: *“We collect clothes in collaboration with the German recycling company I:CO. Watch this cute video to learn how it is happening.”*

Levi’s explains that their jeans carry a label advising customers to donate the clothes after use. Nike notes that their take back programme which collects manufacturing waste has grown between the years 2006-2009. Puma explains that their product recycling program has been launched globally to help collect clothes in connection with the launch of their new Incycle collection. (Appendix 2 table 4).

**2.1b Material Health 1:** Cradle to Cradle concepts that refer to getting rid of hazardous chemicals and chemical discharge are used in all five companies but with varying emphasis (113 references total). Bestseller is the company that communicates about this concept the most (38 references). They refer extensively to their restricted substance list and how they test for harmful chemicals:

*“... Chemical Testing Programme which aims at ensuring that our products do not contain any harmful or potentially harmful chemicals.”*

Nike has second most references (25) and their quote refers to the potential benefit if the clothing industry adopts a restricted substance list (RSL) such as Nike's. *“We are hopeful that other brands in the industry follow Nike's lead in adopting Restricted Substance Lists....”* H&M, Puma and Levi's each have 19, 19 and 12 references. H&M's quote also refers to their RSL list and third party product tests. Puma states that they make sure their products contain no harmful chemicals to protect consumers and the environment. Levi's states, that they were one of the first companies to establish a RSL in the early 2000s (Appendix 2 table 4).

**2.1c Preferred Materials:** The next step to material health is positively defining safe materials known as preferred materials in Cradle to Cradle and replacing hazardous chemicals with these. This part of material health has less than half the references of material health 1 (54). Nike has most references to this (36). Nike's quote refers to a partnership which gives Nike's supply chain access to a list of preferred chemicals.

*“We have entered a strategic partnership with bluesign® in which bluesign® will provide the NIKE supply chain with access to a database of more than 4,300 preferred chemical formulations.”*

H&M has 2nd most references (10) and also refers to positive lists and environmentally preferred chemicals. *“Besides restricting harmful chemicals, we have also started to use so-called positive lists.”* Puma and Bestseller have 5 and 3 references to the concept and related terms. Puma refers to being certified by the Cradle to Cradle certification program and Bestseller refers to using the precautionary principle going beyond unsafe chemicals banned by law. Levi's does not refer to any of the terms. (Appendix 2 table 4).

**2.1d Certification:** Cradle to Cradle certification is central to Puma as 4 out of 7 sources and 12 of the references are from the company. Nike has 11 references to related certification but only from one source. Levi's and Bestseller have a few mentions to C2C certification. Nike mentions their headquarters achieving LEED gold rating while Levi's mentions the goal of LEED certification for their new building. *“Our goal is LEED certification for green building practices. LEED is a third-party certification program...”* Bestseller mentions using the BREEAM International certification system as inspiration for their logistics centre. Puma mentions the innovation challenge to launch the industry first Cradle to Cradle certified collection.

*“PUMA conceived InCycle as an innovative challenge to be the first in our industry to launch a full collection of Cradle to Cradle® certified apparel, footwear and accessories and we are thrilled with the media, industry and consumer reception.”* (Appendix 2 table 4).

C2C tier	<b>3.1 Technical cycle, technical nutrients</b>	<b>3.1a Top of waste hierarchy:</b> repair, reuse, redistribute, resell, rewear, donate	<b>3.1b Downcycling</b> (becoming inferior material) & <b>Upcycling</b>
3	2 sources, 4 references	27 sources, 95 references	5 sources, 10 references
Bestseller		3 sources 8 references	1 source 1 reference
H&M		9 sources, 32 references	
Levi's		3 sources, 6 references	1 source 6 references
Nike		9 sources, 45 references.	1 source 1 reference
Puma	2 sources 4 references	3 sources 4 references	2 sources 2 references

Tabel 6

### Tier 3 Circular Economy: C2C

**3.1 Technical Cycle, technical nutrients:** Puma is the only company to use the C2C terms explaining the biological and technical cycles. Puma refers to these terms four times in relation to how materials in the Incycle collection can be broken down and become new products within the technical cycle:

*“Materials found within the Technical Cycle - such as metals, textiles, and plastics - can then be used to create new products.”* (Appendix 2 table 5).

**3.1a Top of waste hierarchy:** Reuse and related terms is the least frequently used of the three R's. It has 27 sources and 95 references. H&M and Nike have the most references to this term (32 and 45) while Bestseller, Levi's and Puma mentions reusing 8, 6 and 4 times. Bestseller’s quote refers to their garment collecting giving focus and creating awareness about reuse and recycling of textiles. H&M refers to reusing and recycling in connection to waste management as the second best alternative to avoiding waste. Levi’s refers to starting a project to reuse jeans (in reality down cycling them) to become building materials to avoid textile waste and using this at their own headquarters. Puma refers to partnering with artists to put up art made of waste materials creating awareness about the importance of reusing in Bangalore where a new Puma store has opened:

*“These will then be put up in key locations around Bangalore city later this month as a strong message to highlight the glaring need to reuse, reduce and recycle – the cornerstone of waste minimization strategies”.*

Nike refers to the success of their shoe collecting program called “Reuse-A-Shoe” having now recycled 1-2 million pairs of shoes into 170 sports surfaces and through this helped kids to be more active the 12 years it has existed. (Appendix 2 table 5).

**3.1b Downcycling and upcycling:** Upcycling is mentioned the most by Levi’s (6 times) in an interview on their website. Puma mentions that the company is upcycling old clothes and seeks to avoid downcycling waste. *“Almost every item gets a new life, whether it is re-worn, up- cycled for industrial use, or recycled...”* Levi's mentions that artists upcycle their products into art. Bestseller mentions both downcycling and upcycling in their model of collaboration with the recycling company I:CO. Nike mentions downcycling in relation to measuring how much waste that is downcycled each year into the material “Nike Grind”. (Appendix 2 table 5).

C2C tier 3 continued	<p><b>3.3 Biological cycle</b></p> <p>Waste = food, biodegradable, biological nutrients</p> <p>5 sources references 32</p>	<p><b>3.3a Composting</b></p> <p>Decomposition, anaerobic digestion, returned to the soil, soil restoration, harvesting</p> <p>6 sources 18 references</p>
Bestseller		

H&M		
Levi's	1 source 1 reference	
Nike		3 sources 7 references
Puma	4 sourced 31 references	3 sources 11 references

Tabel 7

### Tier 3 Circular Economy: C2C continued

**3.3 Biological cycle and nutrients:** Levi's uses nutrients in one of 11 categories used to measure the environmental impact of products. Puma refers extensively to the biological cycle (31 times). This is done especially in 2 press releases about the release of the InCycle collection. One focuses on the reduced environmental costs due to the products being biodegradable. The other one focuses on explaining the principle of the biological and technical cycles:

*“Materials within the Biological Cycle can be broken down by microorganisms into biological nutrients and will go back into the earth, thus making them biodegradable.”* (Appendix 2 table 6).

**3.3a Composting:** Nike has relatively many references to composting in their sustainability report (5). They show how much waste they have diverted from landfills by composting and recycling. *“We are also focusing on the diversion of waste to compost and recycling, away from landfill.”* Puma has the most references to composting (11). They use the term in their press releases rather than their sustainability report, explaining how their products can be composted and highlighting the environmental advantages of composting:

*“At the end of its life, the PUMA InCycle Basket is 100% compostable while the traditional Suede will likely be disposed of in landfills or incinerated, furthering its environmental footprint. Composting has the lowest GHG emissions in the end-of-life treatment of products.”* (Appendix 2 table 6).

### Summary of Findings of the Usage of C2C and CE Terms

To sum up the findings, the following tables have been created to provide an overview of the different approaches to communicating about C2C and CE. It is clear that the rhetoric of recycling is the most important across the companies. Recycling is explained as a means to reduce waste e.g. by using postconsumer products such a plastic bottles, to create the recycled material polyester or to reduce the environmental impact of textile production. This difference is seen between H&M and Bestseller. In H&M's case recycling is used in connection with textiles to reduce waste and in Bestseller's case, the rhetoric of recycling is used in connection with reducing the overall impact of textile production (Bestseller). But besides this difference, there are other differences in the usage of CE rhetoric.

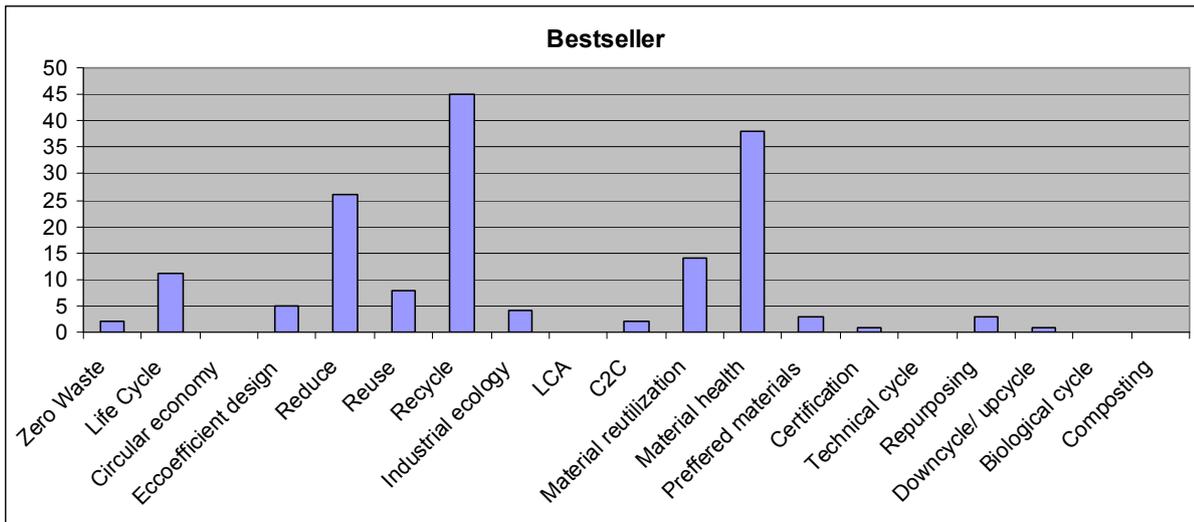


Figure : Bestseller's usage of CE terms

Bestseller uses terms relating to material health, e.g. restricted substance lists, restricting harmful chemicals, banned chemicals, and the perspective of product life cycles and minimizing the impact along the life cycle. The company uses the rhetoric of reducing moderately while the company uses terms referring to collecting clothes (material reutilization) significantly.

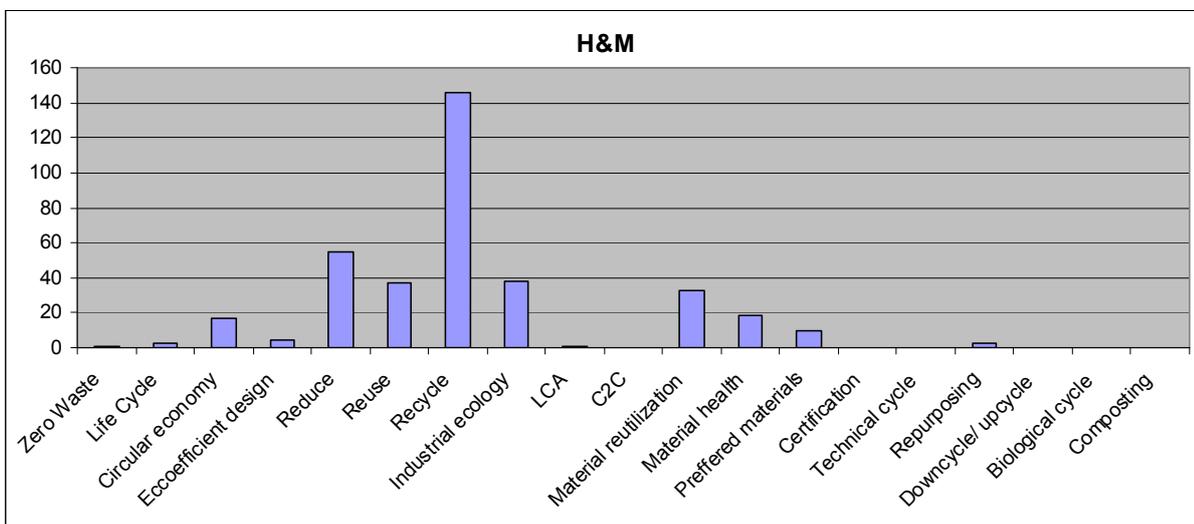


Figure 4: H&M's usage of CE terms

The rhetoric of recycling is used the most by H&M, while the company uses reduce very little. But the term reuse is used relatively much in comparison with other terms. Referring to the concept of industrial ecology characterises the company's communication as well as referring to the concept "Circular Economy" and Circular Economy 100.

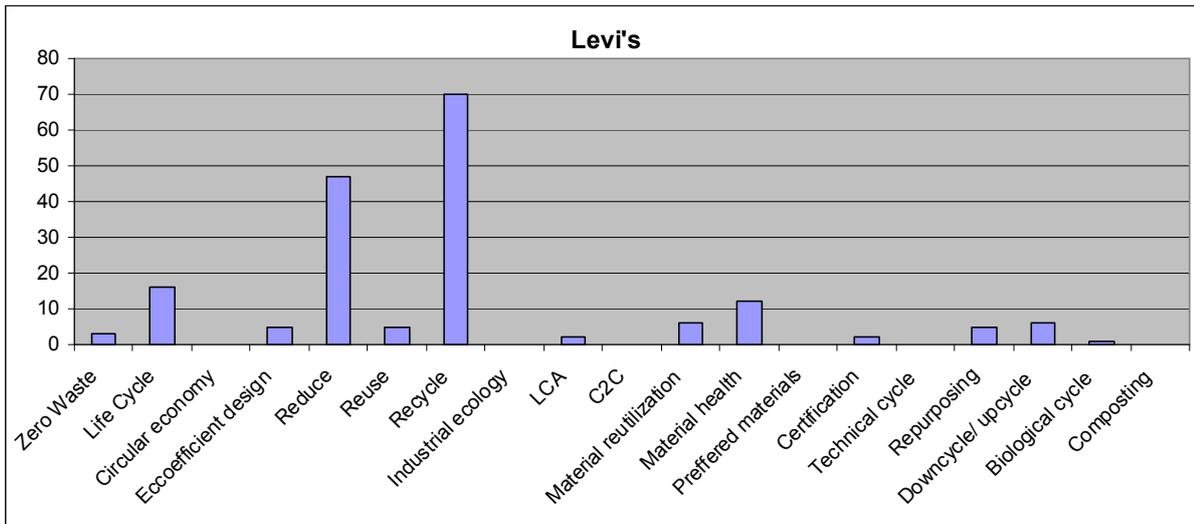


Figure 5: Levi's usage of CE terms

Levi's communicates about CE using the terms recycle and reduce primarily followed by life cycle and material health. Communicating about reducing the amount of input (e.g. water) that goes into production seems important to Levi's.

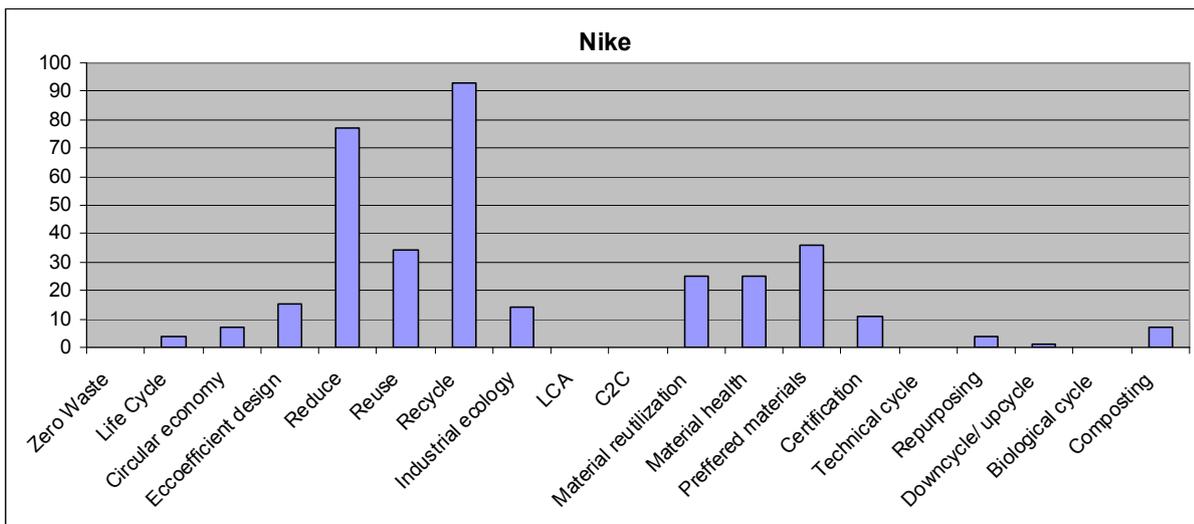


Figure 6: Nike's usage of CE terms

Nike's CE communication is based on quite a lot of different CE terms. They primarily use the terms recycle and often use the word reduce, notably reducing waste by reducing the weight of designs and reducing waste created in production. But the high amount of references to preferred materials, meaning mentioning safe and positive materials, and reusing shoes are also notable along with the focus on composting as a waste management strategy.

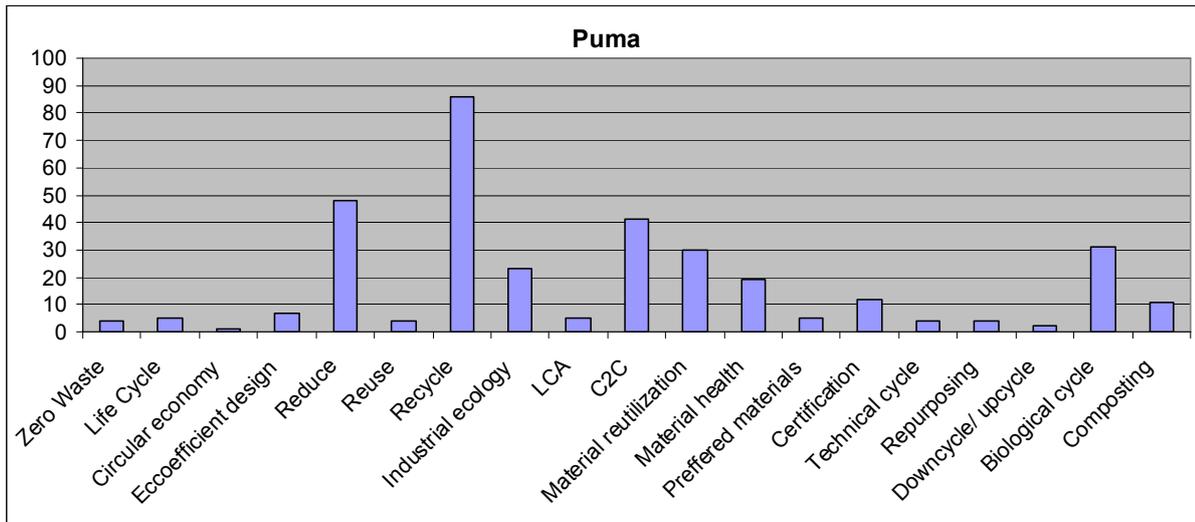


Figure 7: Puma's usage of CE terms

The eco-efficiency terms recycle and reduce are used only moderately in Puma's communication. Instead the key terms are Cradle to Cradle, material reutilization, C2C certification, biological cycle and composting.

## Findings part 2: The Position and Importance of CE and C2C Terms

This analysis looks at the position of CE terms in the sustainability and financial reports to illustrate how important CE is to the companies, by if and where these terms are communicated in the sustainability reports. The CEO statements have also been included to review whether circular economy is important to the companies. The analysis is based on coding the following terms central to circular economy and C2C:

Circular economy including constrained resources, durability, and systems thinking, Cradle to Cradle, material health part 1 banning hazardous chemicals, material health part 2 preferred materials, recycle, material reutilization, reuse, certification, close the loop, technical cycle, eco-costs, repurposing, downcycling and upcycling, and LCA.

The terms can be used in the introduction, the middle section or the conclusion as well as in models, notes and tables of the different sections. Where the terms are used and to what degree may signify the importance of CE to the company, especially in the strategy section. Below is a table illustrating where mentions of CE can be found. It is clear that the companies communicate the idea of the circular economy differently and that the terms are used to a different degree in different sections of the sustainability and financial reports.

<b>Company</b>	<b>Sustainability strategy</b>	<b>Waste and recycling section</b>	<b>Products and innovation</b>
Location Bestseller	End of the section of goals (part of last focus areas)	Headline and mostly middle sections and in one bullet point. Sporadic mentions	Most mentions of CE in this section. Beginning of this part: first paragraphs. Next sections (goals): last paragraph, headline, end of middle paragraphs, 2nd paragraph. Next goal: headline, all paragraphs and in concluding model
Location H&M	Middle section, commitment 5 out of 7. Note to a model and stage 2 of the model. Next section: last collaboration mentioned (out of 6)	Most mentions of CE in this section. Headline, middle, end of introduction, headline, most goals mentioned in the table. Next page: part of most highlights mentioned. Next section, mission and strategy uses CE terms extensively. Conclusion is a model using CE terms. The last pages contain CE terms in all text sections	End of introduction, as a note at the end of the section called strategy. 3 out of 8 actions/goals. Next page CE terms are used in the first goal. Next page: headline and conclusion, next page end of strategy section. One reference on the last 2 pages about involving customers and colleagues.
Levi's	End of strategy section	Headline, first section and conclusion is a model using CE terms	Eureka Innovation Lab section: used in textbox of facts. Innovative products: used extensively in section (waste<less). Next section, Innovative Practices, CE terms are used in the middle section
Nike	Page 2 paragraph 2, illustration of value chain. Next page in-depth illustration of value chain, next page	Most mentions of CE in this section. The CE terms are used through all sections, except for two small paragraphs. Used in introductions,	Introduction, first section about innovation and at the end of the section in the 4 <sup>th</sup> example of innovation. Next section called product: commitment 5 (sub

	middle and end including a model of opportunities. Next page presented as 3 <sup>rd</sup> strategy (introduction) and in a model. Next section (materials matter): middle and end. Next section: beginning and highlight. Last page: timeline	headlines, fact section, middle main body of text and concluding section (closing the loop) and 2 tables in the conclusion	headline and text) and 3 <sup>rd</sup> highlight. Last section: middle part of text and in model left of the text
Puma	Introduction (first paragraph) and middle section, sustainability scorecard model. Issues and Highlights 2013 as first and last highlight. Last page award 3 out of 9 and shown in two photographs	End of the section on water, in the headline (waste and recycling) and middle sections of the section on paper. Mentioned throughout section on consumer engagement and included a graph	Most mentions of CE in this section. CE terms are found throughout all sections. Ends with a table which includes CE terms

*Tabel 8*

Bestseller: CE is not essential to the strategy as the terms are used in the last part of the section and the last part of the report, meaning there are more important issues such as workers' right to communicate about. CE is more essential to communicating products and innovation than waste and recycling as CE terms are mentioned at the beginning of this section. Also, the last part of the products and innovation section explains CE in-depth and also includes a visual explanation in the form of a circular model. On the other hand, the waste and recycling section has sporadic mentions of CE. The statement from the CEO doesn't mention the issue of limited resources and waste. Instead the focus is on workers' right and wellbeing and the Rana Plaza incident.

H&M: CE is essential to H&M's sustainability communication. CE is quite essential to communicating the sustainability strategy as CE is mentioned in the introduction to strategy and as their commitment 5. They also incorporate CE in the assessment of their value chain. CE is very essential to waste and recycling as

most sections' goals and commitments, models and headlines incorporate ideas from CE. H&M also includes a circular model at the end of the part called "Close the loop on textile fibres: strategy". In the products and innovation section, CE terms are used at the end of the introduction section, in a note to strategy and in the main text of 3 out of 8 "actions or goals mentioned on the following 3 pages. CE terms are not essential to the last section named "Involve our customers and colleagues". When looking at the statement from the CEO, circular economy and closing the loop is mentioned many times as the solution to making the fashion industry sustainable. The focus of the CEO statement is not only circular economy but also securing workers' rights and wages and the Rana Plaza incident.

Levi's: CE is important to communicating about recycling practices but CE terms are not very essential to the strategy section because there is only one reference to CE. The reference is that they are looking at ways to be more resourceful with materials (recycled bottles). In products and innovation CE is first mentioned as a note in a text box on the first page but on the next page CE terms are essential in explaining the waste-less collection. There are also some mentions in the middle paragraphs of the section "innovative practises". CE terms are even more essential to waste and recycling (wastewater) as the terms are used in the headline and introducing paragraphs and the section ends with a circular model expressing CE ideas.

Nike: Nike has the longest strategy section of the companies. CE terms are mentioned first on page 2 and then in a total of 4 models, often in middle and concluding parts of sections. CE is important as it is mentioned as 1 out of 3 strategies. The part called waste and recycling uses CE terms in all sections and has 2 tables which illustrate CE terms at the end. The products and innovation section uses CE terms in the introduction. But CE is only part of one commitment (commitment 5), one highlighted result and is mentioned in a model in the last part of the section. CE is an important part of the letter from the CEO. It is part of one out of three business opportunities. Innovative technologies like NIKE Flyknit, which reduces waste, and ColorDry, which eliminates water and process chemicals from dyeing are mentioned to decouple growth from constrained resources. The challenge of preserving the earth's constrained resources is mentioned again at the end of the letter.

Puma: CE is essential to Puma's strategy as CE terms are used in the introduction, middle section and in the model presented. The introduction mentions closing the loop by innovating both materials and process. Closing the loop is the long term goal of Puma. The C2C sports collection is also presented as a highlight in this section as well as the award received for the collection. In the section on waste and recycling, CE terms are essential to communicating about engaging consumers through recycling initiatives. CE terms are essential to the section on products and innovation as CE terms are used throughout the section including a table, and linking to a video.

## Findings Part 3: Thematic Analysis Themes

For the thematic analysis, three comparable websites, three press releases, the waste and recycling section along with the product and innovation section from the reports were selected. Next follows the themes created for the thematic analysis to uncover the type of legitimacy sought through using C2C and CE rhetoric. These themes were created by taking an interpretative hermeneutic approach, going back and forth from the data to the theory of legitimacy and previous studies of legitimacy such as the study of legitimacy in Asia by Castelló and Galang (2012) to discover how legitimacy manifests itself in these genres of corporate communication where the C2C and CE concepts are communicated. That resulted in the following 17 themes presented below. The name of the theme is mentioned first and after that is a description of the theme. Below the description are examples of what phrases qualifies a sentence to be included in the theme. Every theme has an example to illustrate the coding.

### 0 Savings and saved resources

Mentioning results of processes in reduced and saved resources

- water, oil, gas, electricity, garments saved from landfill
- shoes collected and recycled, waste diverted from landfill, number of products made

*“Converse’s 13% reduction in shoebox weight in FY12 saved 1,300 metric tonnes of corrugate fiber and \$1.5 million, compared to FY11.”*

### 1 Operationalization and management

A sentence mentioning specific ways companies are embedding CE into their supply chain, products, systems, processes and structure. Exclusion: if classified as innovation

- Implementation of business systems, methods, techniques, tools or processes e.g. incorporating recycled polyester
- Explaining products and collections embedding CE materials
- Working with supply chain e.g. to create products and implement processes
- Increasing or expanding processes or recycling programs

*“We have now taken the next step in our mission to create a closed loop and have made the first products with at least 20% recycled material from collected garments.”*

### 2 Innovation

Mentioning new innovative products, methods or processes. Exclusion: if used in a name of a business unit

- Innovation or innovative processes, innovative materials
- New, revolutionary or pioneering products or processes

*“Our innovation is in the NIKE Flyknit manufacturing process”*

*“We design and develop innovative products that address the environmental impact throughout the product’s lifecycle.”*

### 3 Strategic link

Statements linking CE activities and the company’s strategy, core business, values or mission

- Corporate performance, corporate strategy e.g. Levi's "Progress with Less" strategy, long-term, retail business, long term planning, has worked towards, our goal is
- Incorporating or integrating CE in strategy, goal to extend, "In keeping with our focus on", we aim to incorporate, 2020 strategy
- Economic or competitive benefits: efficiency, reducing costs, reputational benefits ,optimising, creating more value, successful company, maximizing output, productivity, progress across value chain, create added value
- Vision of closed-loop, “Closing The Loop strategy”, company ethos, part of culture

*“To achieve a more sustainable business, we must address the way our products are produced, search for new more sustainable materials and aim to recycle more textiles.”*

### 4 Governance

Any mention of the governance structure related to CE and C2C

- Explicitly mentioning governance, compliance, code of conduct, audit scheme
- Compliance with (own) environmental standards or criteria, mentioning requirements and regulations, E.g. LID and waste water standards
- Product or sourcing policy, restricted substances list, banned practises

*“Checking for effective wastewater treatment is an integrated part of our audit scheme.”*

### 5 Corporate responsibility

Integration of social and environmental concerns in business. Mentions responsibilities and commitments.

Also includes mentions of social contribution and social change benefiting humanity

- Uses the word responsibility, responsible, commitment, dedication
- Mentions responsibility of business to the environment, right thing to do, important causes, doing our part
- Contribute to positive change, improve social standards, drive change, deliver benefits (to humanity) e.g. helping farmers/children

*“We must also ensure that our products are manufactured in a responsible way and with respect for the environment.”*

## 6 Sustainability

Any mention of activities, opportunities, and solutions aimed at balancing the fulfilment of human needs with protection of the environment so that these needs can be met not only in the present, but in the indefinite future. Exclusion: if used in a name of a business unit.

- Mentioning the word sustainable or sustainability e.g. sustainable development, sustainable uses, sustainable fashion
- General approach to sustainability e.g. save natural resources, environmentally friendly products
- General approach to improving the environment or reducing environmental harm e.g. reducing waste, environmental benefit
- General approach to impacts e.g. have a positive impact or footprint, mitigate virgin materials, materials put in the right place

*"Textile production is very resource consuming, and over the past years, we have worked on creating sustainable solutions that can help ensure that we also have enough resources in the future."*

## 7 Organic

Any mention of the word organic

- Organic cotton, organic textiles, organic products, organic production

*"Organic cotton is grown without the use of synthetic fertilisers and pesticides."*

## 8 Philanthropy

Statements referring to voluntary charity activities that have a different focus than the core business linked to CE

- Philanthropy, charity, non-profit, orphanage
- Donations, beneficiary
- Developing countries, foundations (Ellen MacArthur Foundation)

*"For every kilogram of clothes and shoes collected, € 0,60 will be donated to a charity working to improve the conditions of children."*

## 9 Consumer communication and awareness

Any process of communication with consumers or customers coming from the company aiming to inform and encourage customers

- Informing customers, reach out to, share information, increasing awareness, leaflets, guide for customers, instructions how to recycle
- Educate, empower or help, get customers recycle, easy for customers to choose or benchmark, advise customers, consumer tool, consumer responsibility

- Encourage, reward, incentivise, receive discount or voucher, more information on a website

*“We inform our customers on how our products are used, maintained and recycled most effectively.”*

## 10 Celebrities

Sentences mentioning teaming up with celebrities for CE activities

- Inviting celebrities, teaming up with celebrities, quotes from celebrities

*“Steve Nash is the All-Star guard for the Phoenix Suns whose passion for environmental awareness forged a partnership with Nike (NYSE:NKE) to create the Nike Trash Talk, the first performance basketball shoe made from manufacturing waste.”*

## 11. Scientific studies and analysis

Statements mentioning doing a scientific study of materials or impact

- Study, studies, life cycle studies, EP&L, analysis

*“This analysis helped PUMA to determine the impacts that arise from the point of cotton or leather production to the point where PUMA products are sold in a PUMA store.”*

## 12 Need for collaboration

Statements mentioning the need for collaboration to solve CE challenges

- Requires partnership, the idea of joining with our partners, can't do this alone, responsibility to work with others, require new ways of working together, we value collaboration

*“We like the idea of joining with our partners to reduce the apparel industry's water use.”*

## 13 Global Standards

Mentioning certifiable or non-certifiable standards focused on increasing business accountability through reporting, evaluation, verification, and certification or labelling schemes

- Global Compact, HIGG INDEX, the Sustainable Water Group, Ginetex
- Certification schemes: Better Cotton Initiative, Global Organics Textile Standard (GOTS), EU Ecolabel, OEKO-Tex 100, Leather Working Group (LWG), FSC-certified, Cotton Made in Africa, the organisation MADE-BY, Cradle to Cradle® Certification
- Independently-certified, verified by third party, third-party sources, certified leather, certified organic, supplier certification schemes

*“2013 saw the launch of both the Spring/ Summer and Autumn /Winter collections of InCycle, PUMA's “Cradle to Cradle Certified CM Basic” collection.”*

#### 14 Transparency and accountability

Any mention of a process in which the company is held accountable by stakeholders. This also includes voluntary actions by the company to increase its transparency and level of accountability such as: footprint measures, transparency indexes and initiatives and formal accountability mechanisms such as external committees

- Formal accountability: external consultancy company, independent assurance statement
- Transparency or transparent, accountable, accountability
- Limitations: limits to current sustainable actions, disclosing percentages of recycled content
- Mentioning a process, initiative or index that calculates and provides progress measures or footprint measures (e.g. Nike Smart Data, Apparel Sustainability Index (ASI) and Footwear Sustainability Index (FSI))

*"This adds a whole new level of transparency."*

#### 15 Partnership

Any mention of collaborations or partnerships between:

- NGOs: Global Green, Textile Exchange, DoSomething.org
- Governments, municipalities or cities: San Francisco Department of the Environment, NASA, US Departments of State
- Private companies, industries and others organizations: Sustainable Apparel Coalition (SAC), I:CO (I-Collect), BASF (chemicals), Jeanologia (consultancy), PET:Plant Technology Collaborative, Ford Motor company, H.J. Heinz Company and Procter & Gamble, Bluesign (Swiss firm), Lenzing, The Circular Economy 100

*"The San Francisco Department of the Environment and I:CO are partnering with several retail companies, including Levi Strauss & Co. on the first large scale Textile Reuse & Recycling Initiative."*

#### 16 Focus on industry or issue

Statements referring to a social or environmental problem that is core to the company's business operation or strategy. Problems within the textile industry:

- Water and water scarcity, climate change, biodiversity
- Chemicals used in textile production, conventional cotton production, leather production
- Textile waste, clothes ending in landfills, "main issue of our time: recycling", scarce non-renewable resources, "what happens to clothes when consumers no longer want them", virgin resources

*"But still, too many clothes end up in landfill. In the UK alone, according to a study conducted by WRAP, some 31% of all textiles end up in the bin."*

## 17 Stakeholder dialogue

Statements mentioning stakeholder reception, dialogue, engagement, or responding to stakeholders

- others following lead, entering into dialogue, involving, engaging with stakeholders or customers, incorporating thinking from others, teaming up with customers, asking customers or colleagues
- Quotes from stakeholders, linking to social media e.g. follow a campaign, join the conversation on twitter, blog posts, enter competition

*"And we can extend this to an even bigger impact when we team up with our customers."*

## 18 Events

Mentioning taking part in or creating events related to CE

- Creating or attending events, pre-Oscar party, sustainability booth, sponsor event, Stanford Innovation Summit, LAUNCH 2020, World Economic Forum (WEF) Annual Meeting 2014, America's Cup Finals

*"Following Earth Day, H&M will take this message coast to coast, popping up at 3 major college campuses."*

## **Thematic analysis findings**

From going back and forth from the theory of legitimation to the thematic analysis, three broader categories of rhetoric could be created. These categories of rhetoric are labelled as: "strategic rhetoric," "institutional rhetoric," and "political rhetoric" from the study of legitimacy in Asia by Castelló and Galang (2012). Strategic rhetoric is used to gain pragmatic legitimacy, while institutional rhetoric is used to gain cognitive legitimacy, and political rhetoric is used to gain moral legitimacy, which are the three types of legitimacy reviewed by Suchman (1995).

## Themes and Legitimacy Theory

**Strategic rhetoric** includes the themes: saved resources, operationalization, innovation, strategic link, and governance.

Strategic rhetoric assumes that CSR can be managed and used as an instrument by organisations as agents to manipulate and gain support from society. The strategic tradition uses a managerial perspective and focuses on the way organisations as agents instrumentally manipulate and use strong symbols to gain support from society (Suchman 1995). This type of rhetoric supposes that companies must maximize shareholder value. This objective is served by relating CE terms to the company's long-term strategy, and the benefits of

operationalization, innovation and governance as Suchman notes that companies can repair their pragmatic legitimacy through creating monitoring programs (Suchman 1995).

**Institutional rhetoric** includes the themes: corporate responsibility, sustainability, organic, philanthropy, consumer information and awareness, celebrities, and scientific studies.

Instrumental rhetoric is aimed at gaining cognitive legitimacy. Cognitive legitimacy rests on the availability of cultural models that give explanations for the organization and its actions. Organisations gain cognitive legitimacy primarily by consciously or unconsciously conforming to established models or standards to “*demonstrate the organization’s worthiness and acceptability*” (Oliver, 1991, p. 158). The themes sustainability and corporate responsibility have been included as cultural models or standards from the study of legitimacy in Asia by Castelló and Galang (2012) along with the themes organic, philanthropy, consumer information/awareness, celebrities, and scientific studies. Suchman gives scientific research as an example of institutional rhetoric (Suchman 1995, p. 23). According to DiMaggio and Powell (1983) and Scott (1991), as cited by Castelló & Lozano (2011), organizations build support for cognitive legitimacy by supporting normative and widely endorsed principles of behaviour such as philanthropy and using the constructs of CSR or sustainability as symbols of identification with the CSR movement. But the authors also note that constructs such as CSR and perhaps sustainability may have been recognized as desirable symbols previously, but they are losing their normative force.

**Political rhetoric** is based on moral legitimacy. Political rhetoric includes the themes: need for collaboration, global standards, transparency, partnership, focus on industry or issue, stakeholder dialogue, and events. This form of rhetoric is based on normative approval, judgments about whether the activity is “the right thing to do” (Suchman 1995). The theme “focus on industry or issue” reflects trying to focus on the right thing to do morally. According to Suchman (1995), moral legitimacy can be gained by accumulating a record of technical success stories. Technical performance establishes consequential legitimacy and validation for procedures, structures and employees. The theme transparency and the subthemes “progress” and “own index” is based on validation of procedures. The themes global standards and partnership refer to groups of organisations joining together to promote a moral order that values their outputs, structures, and procedures. The theory also states that to perceive moral concerns employees must participate in external normative discourse. This is reflected in the theme events. Moral legitimacy is also gained by participating in deliberative communication, trying to convince others by reasonable arguments and engaging in true dialogue. Palazzo and Scherer (2006) criticise that the current discussion about CSR and organizational legitimacy does not appropriately reflect the reality of the globalized world. They instead advocate a political, communication-driven, and input oriented concept of CSR. This view gives the corporation an active role in the process by interacting and establishing relationships with political

institutions and stakeholders (Palazzo & Scherer 2006, p. 71). Partnership, and stakeholder dialogue most reflect the willingness to form bonds with stakeholders and interact with political institutions. Castelló & Lozano (2011) argue that this form of rhetoric “*appeals to a political re-conceptualization of the role of firms, a ‘post-positivistic’ CSR in Scherer and Palazzo’s (2007) terms.*” (Castelló & Lozano 2011, pp. 20-21). The political conceptualization of the firm relates to the willingness of companies to assume political responsibilities by e.g. making their own community waste management centres or defining and enforcing environmental standards. The question is, which of these rhetoric strategies the companies use and how these are managed.

### Quantitative Results from the Thematic Analysis

	References	Sources
0 Saved resources	53	18
1 Operationalization	246	37
2 Innovation	69	21
3 Strategic link	118	29
4 Governance	39	11
Strategic/ pragmatic	<u>524</u>	<u>116</u>
5 Corporate responsibility	53	26
6 Sustainability	161	38
7 Organic	28	9
8 Philanthropy	35	14
9 Consumer information/awareness	98	27
10 Celebrities	10	3
11 Scientific studies	27	10
Institutional/ cognitive	<u>412</u>	<u>127</u>
12 Need for collaboration	21	11
13 Global standards	74	15
14 Transparency	114	15
15 Partnership	89	30
16 Focus on industry or issue	97	30
17 Stakeholder dialogue	42	19
18 Events	17	6
Political/ moral	<u>454</u>	<u>126</u>

*Tabel 9: number of references and sources*

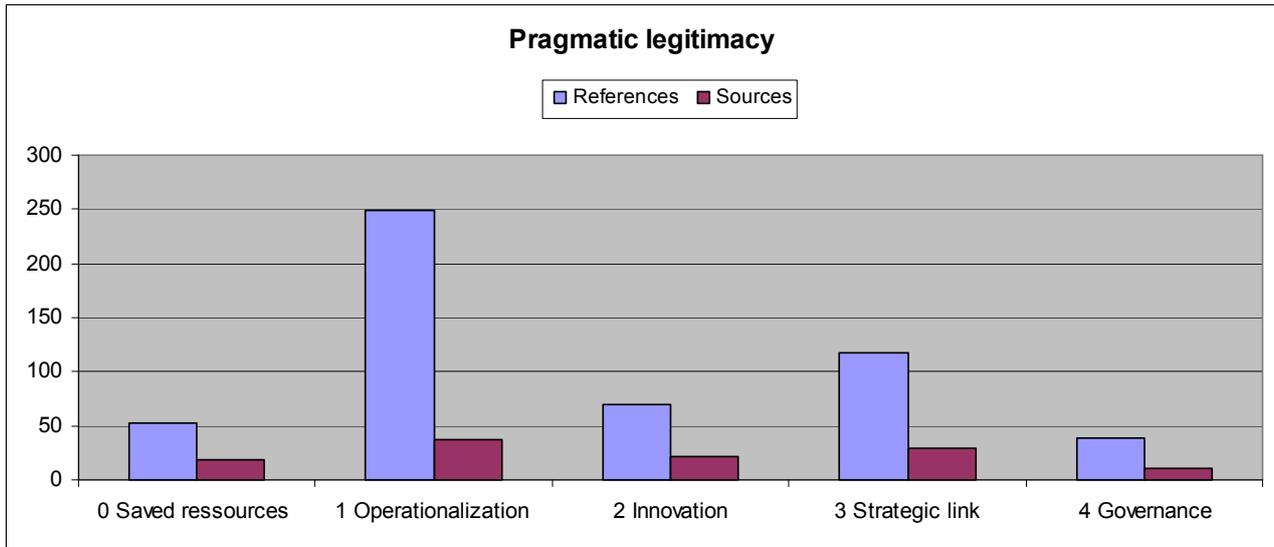


Figure 7: strategic rhetoric

Across the companies, strategic rhetoric is the most coded of the three types of rhetoric as shown in table 9. Figure 7 shows the difference between the themes related to seeking pragmatic legitimacy. Within strategic rhetoric, operationalization is the theme most common across the companies, followed by strategic link which is used half as many times as operationalization. In the case companies, strategic rhetoric provides concrete accounts of the benefits of implementing CE and C2C to stakeholders. This is because pragmatic legitimacy is based on the self-interest of stakeholders (Suchman 1995). Within the theme operationalization, CE products and collections is the most used subtheme. This subtheme illustrates the benefits of the CE products. A quote from Bestseller illustrates this “*VERO MODA's GREEN ATTITUDE products are produced using various methods and materials with less impact on the environment than conventional approaches.*” The companies also go into depth explaining the recycling process and benefits of techniques and methods as well as the expansion of these techniques to suppliers, other markets and products due to their success. Governance is the least used of the types of rhetoric along with saved resources and innovation.

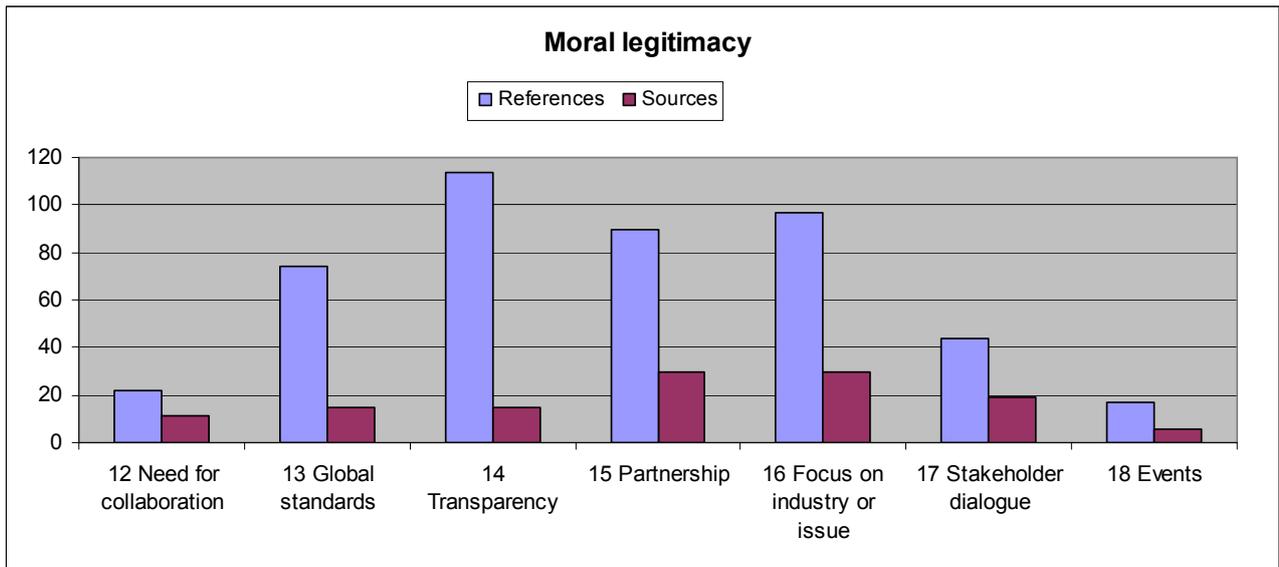


Figure 8: political rhetoric

Figure 8 shows the difference between the themes related to seeking moral legitimacy. Political rhetoric is the second most coded of the three rhetoric types. Transparency, focus on industry or issue, and partnership are the most used of the types of rhetoric. Transparency is used in half as many of the sources. The sources are mainly the sustainability reports. “Progress” and “own index” are the most coded subthemes. An example of progress is this quote from Nike: *“We showed good progress toward our 10% finished goods manufacturing waste reduction goal, achieving an 8.6% reduction in FY13 over FY11 levels.”* An example of “own index” is this other quote from Nike: *“New NIKE Brand global footwear product achieves minimum silver rating on the NIKE Footwear Sustainability Index by the end of FY15”*. Partnership is used mostly in press releases. I:CO (I-Collect) and Sustainable Apparel Coalition are the organisations most frequently mentioned. “Focus on industry or issue” refers extensively to reducing textile waste across the companies as in this example from H&M: *“We believe this program will really make an impact in reducing the amount of clothing that ends up in landfills all over the world.”* Some of the most referred to global standards are: Better Cotton, HIGG Index, Leather Working Group certification and Cradle to Cradle Certification. Events, need for collaboration and stakeholder dialogue are the least frequently used of the types of political rhetoric.

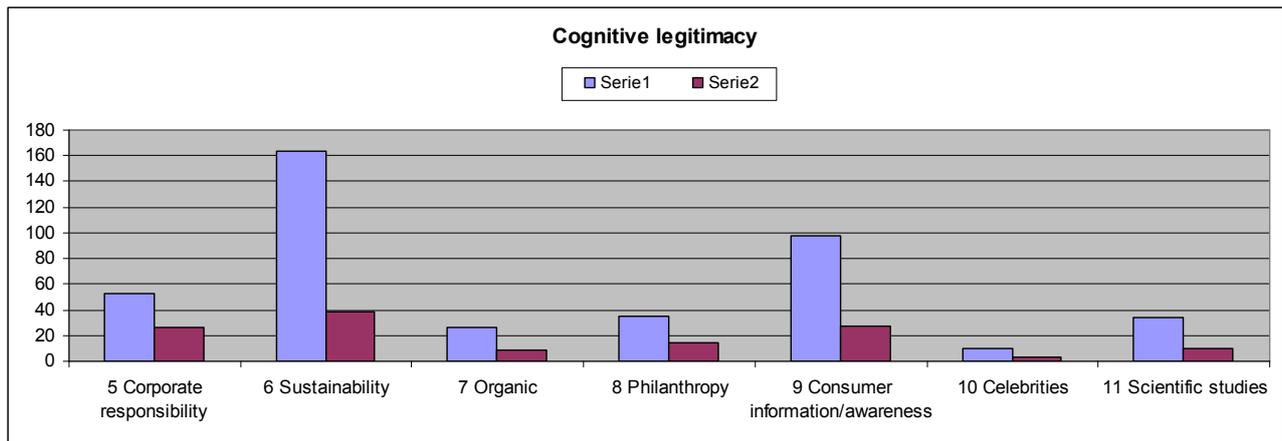


Figure 9: institutional rhetoric

Figure 9 shows the difference between the themes related to seeking cognitive legitimacy. Within institutional rhetoric, sustainability is the most used rhetoric theme and is also used in the most sources of all rhetoric themes. The 2<sup>nd</sup> most used theme is consumer information and awareness followed by corporate responsibility. Corporate responsibility is used very little compared with the findings by Castelló & Galang where the same rhetoric is used extensively in CEO statements from 2006-2008 (Castelló & Galang 2011, p. 23). Their analysis also showed that this form of rhetoric is being used less, but is still dominant while the usage of political rhetoric is increasing. The rhetoric of consumer information and awareness refers mostly to the companies encouraging and informing consumers how to recycle and care for their clothes and informing customers where to turn in their used textiles. An example from Levi's shows this: "In 2009, Levi Strauss & Co. introduced "A Care Tag for our Planet," an initiative to educate consumers on how to clean their clothes with less environmental impact; it also encourages them to donate used jeans to Goodwill rather than throwing them out." Philanthropy, organic and celebrities are the least used of the institutional rhetoric.

### Company Specific Results

Next follows an analysis of company specific usage of the types of rhetoric. The analysis is based on the results shown in the tables found in appendix 3.

### Sustainability report findings

#### Bestseller

Bestseller uses mostly strategic rhetoric in their sustainability report. This form of rhetoric has as many references as institutional and political rhetoric together. The two sections of the report show some differences though. In the waste section, institutional rhetoric and political rhetoric is rarely used while the distribution between the three forms of rhetoric is more even in the section on products. Operationalization and saved resources are used mostly in the section about waste and recycling while strategic link is used mostly in the section about products. Governance is used in both sections and Bestseller has the most

references to this theme of all the companies. Institutional rhetoric is used mostly in connection to products. Here, the theme sustainability is the most used along with organic. For political rhetoric, global standards are coded extensively in the product section, while transparency is found more in the waste and recycling section.

## H&M

The three types of rhetoric are used the same amount, though political rhetoric is used slightly more. The difference is that for waste and recycling, strategic rhetoric is dominant. The main themes coded in this section are strategic link, operationalization, and saved resources. For products, innovation, operationalization and strategic link are the most coded themes for strategic rhetoric. Institutional rhetoric is used mostly in the product section. Sustainability, consumer information and organic are the most coded themes. Political rhetoric is used in the product section. Here, global standards, transparency, focus on industry or issue and stakeholder dialogue are the most coded themes. For the waste section, focus on industry or issue and partnership are the most coded.

## Levi's

Strategic rhetoric is used primarily for both the waste and recycling and the product section, which is the same as Bestseller. For the waste section, operationalization is the most coded theme along with strategic link and governance. For products, operationalization, innovation, strategic link and saved resources are coded the most. Institutional rhetoric is used primarily in relation to products. Sustainability and corporate responsibility are the dominant themes. Political rhetoric is used more in relation to products. The rhetoric refers to partnership and focus on the industry or issue. The waste section uses political rhetoric more than institutional rhetoric. The most coded theme is transparency and global standards.

## Nike

Strategic and political rhetoric is used twice as much as institutional rhetoric. But there is a difference between the waste and products sections. For waste, strategic rhetoric is used the most while for products political rhetoric is used the most. The most coded themes strategic rhetoric themes are operationalization, saved resources and strategic link.

Institutional rhetoric is not used much in the waste section but scientific studies and sustainability have 3 references each. The products section uses the rhetoric of sustainability the most compared to other companies. The rhetoric of organic and consumer information are also used. Political rhetoric is used around 3 times more in the products section than the waste section. But both sections use the rhetoric of transparency primarily. The product section uses global standards and partnership as well as transparency.

## Puma

Puma shows the same patterns as Nike as strategic and political rhetoric is used more than institutional rhetoric. The strategic rhetoric in the product section is based on operationalization, strategic link and innovation. The strategic rhetoric in the waste section is based on saved resources and operationalization. Institutional rhetoric is used mostly in combination with describing products through references to sustainability and organic. The following political rhetoric is used in the waste section: transparency, global standards, focus on industry or issue, stakeholder dialogue, and partnership. In the products section, global standards, transparency, and focus on industry or issue are used.

## Press release findings

Bestseller uses mostly institutional and political rhetoric in their press release. Institutional rhetoric uses the rhetoric of sustainability, philanthropy, and consumer information. Political rhetoric uses the rhetoric of partnership and focus on industry or issue. Strategic rhetoric (operationalization) is prominent in one press release about Bestseller's recycling initiative at their Jack & Jones stores.

H&M also uses primarily political and institutional rhetoric in their press releases. Institutional rhetoric uses mostly the themes celebrities, sustainability, and consumer information, while political rhetoric uses partnership and events.

Levi's primarily uses institutional rhetoric in their press releases. One press release about the new recycling initiative (Forever blue) does account for 21 out of 32 references though. Consumer information and philanthropy are the most coded institutional rhetoric themes. The press release about a new product (the wasteless collection) uses the rhetoric of operationalization the most. The last press release about partnering up with Goodwill uses mostly political rhetoric.

For Nike, strategic rhetoric is by far the most used rhetoric in press releases. Operationalization, innovation and strategic link are used equally much. Within institutional rhetoric, sustainability and celebrities are the most used. Political rhetoric is mainly used in one press release where the themes need for collaboration and events are used.

For Puma, institutional rhetoric is the most used form of rhetoric. One out of three press releases, concerning the Incycle collection uses mostly strategic rhetoric (operationalization) which is the most used subtheme. Within institutional rhetoric, sustainability is the most used along with consumer information. Within political rhetoric, global standards, and focus on industry or issue has the most uses.

## **Website findings**

Bestseller's websites use mostly institutional rhetoric, primarily sustainability, philanthropy, and consumer information along with political rhetoric: partnership, focus on industry or issue. One website about the new Vero Moda collection uses strategic rhetoric (operationalization) as primary rhetoric.

H&M uses primarily strategic and political rhetoric. Operationalization is the most used rhetoric strategic but this is especially from one press release about efforts and action to close the loop. "Focus on industry or issue" is the most used rhetoric within political rhetoric.

Levi's uses all three types of rhetoric equally. Within strategic rhetoric, operationalization and strategic link are the most coded themes. Within institutional rhetoric, sustainability and consumer information are the most coded. Within political rhetoric, partnership and focus on the issue are the most coded.

Like Levi's, Nike has around the same amount of references to all three types of rhetoric. For strategic rhetoric, operationalization, strategic link, and innovation are the main themes. For institutional rhetoric, consumer information is the main theme, though this mainly stems from one source. For political rhetoric, stakeholder dialogue and focus on industry or issue are the main themes.

Puma mainly uses institutional rhetoric on their websites. Just as Nike, this form of rhetoric is coded mostly at the theme consumer information, along with corporate responsibility. Strategic rhetoric is coded at operationalization and political rhetoric is coded at global standards, partnership and focus on industry or issue.

## **Discussion**

### **The Usage of C2C and CE Compared with Theory**

The CE repurposing hierarchy has the following post-use options:

1. Maintenance, 2. Reuse/ redistribute 3. Refurbishment/ remanufacture, and 4. Recycling (least preferred) Circular Economy Toolkit (2013a).

The C2C framework is based on the following repurposing options:

The eco-efficiency approach: Reduce, limit, use less, recycle (downcycle).

The eco-effectiveness approach: design for unlimited reuse in the technical cycle (upcycle) and the biological cycle (composting). Achieving material health, according to C2C, has two levels. Level 1: removing toxins and hazardous chemicals and material health level 2: defining safe preferred materials and utilizing these.

It is clear that on one hand, the approach labelled as the eco-efficiency approach in the theory of C2C is the most dominant across the companies (reduce, limit, use less, recycle). In the CE theory, according to the waste hierarchy, recycling is the least preferred post-use option but it is found to be the most popular term. Reuse is one of the most preferred post-use options according to the theory but just two companies use this term extensively: Nike and H&M.

There seems to be a difference in the perception of the strategy of reducing in the C2C theory and the CE theory, (e.g. reducing usage of materials, and reducing packaging). From a C2C perspective this strategy is part of the eco-efficiency approach which is part of a cradle to grave industrial view. From this perspective, switching to recyclable, reusable or biodegradable materials is much more preferred. CE on the other hand, recognizes that eco-efficiency is a step in the right direction to closing the loop on materials by reducing the volume of waste created and achieving cost savings.

## Integration of CE Terms

Three different levels of integration of CE and C2C terms have been determined across the case companies using the findings from the analysis of the reports. The sustainability reports have been used because this genre of corporate communication is more comparable form and content wise. The first level of integration is called “limited integration of CE terms” and includes the case companies that focus on communicating using the terms recycling, reducing impact and the first part of material health: reducing harmful chemicals. Bestseller and Levi’s are included here. The second level is called “Integrating higher levels of the CE waste hierarchy”. This level includes a focus on the second part of achieving material health (using positive, preferred chemicals) and moving from recycling to reusing products and materials in a closed loop along with systems thinking. The third level is called “Official certification and design for recycling” and includes Cradle to Cradle certification and design for reuse, recycling and composting.

### **1. Limited integration of CE terms**

Bestseller’s communication is based on the terms recycling; recycling textiles and recycling partner, and material health; reducing and getting rid of harmful chemicals and chemical restrictions. It is also based on a general approach to reducing; initiatives to reduce the impact along the life cycle of clothing, and lastly their focus on collecting textiles to recycle (material reutilization).

Levi’s communication is based on recycling as well; recycling water, water programs and water recycling standards, using recycled plastic bottles in products and using recycled denim insulation in buildings. Like Bestseller, they focus on reducing the environmental impact, but they explain doing it by reducing water usage along a product’s life cycle. Material health is also important to Levi’s. The difference in comparison to Bestseller is the focus Bestseller has on material reutilization.

## **2. Integrating higher levels of the CE repurposing hierarchy:**

### ***2.a Design to reduce***

Nike has a focus on recycling shoes and using recycled content in products e.g. polyester from PET bottles. They also focus on their collaboration with the National Recycling Coalition to collect worn-out shoes. Recycled materials are part of Nike's preferred materials. The second part to achieving material health in C2C is using defining and using positively defined materials called preferred materials. Nike communicates extensively about this. Nike focuses on reduction but reduction in a different way than the previously mentioned understanding of reduction. The focus is on source reduction. This means reducing weight and materials usage, reducing waste in production and packaging and implementing waste reduction goals and targets and designing to reduce waste. In C2C this focus on reducing signals an eco-efficiency of doing more with less within the supply chain. The focus is on both reduction and reuse/recycling in eliminating solid waste to close the loop primarily within the waste stream and supply chain.

Nike communicates extensively about the higher levels of the waste hierarchy (reuse) but only in the waste section in the sustainability report is the term used correctly.

In general, reuse means recycling not reuse as illustrated in this example *“Nike created a recycling program in 1993 called Reuse-A-Shoe, which collects worn-out athletic shoes of any brand and recycles the footwear into usable material we call Nike Grind”*

If products can still be reused, Nike advises customers to donate them to charity. The only place the distinction between reuse and recycling is made clear is in the waste section of the sustainability report where they make a distinction between downcycling/recycling (Nike Grind) and reuse (reuse of scrap and production waste). Takeback programs and reusing production waste into new products is seen as the best option while *“The next best options are NIKE Grind applications, basic recycling solutions, and then energy recovery.”*

### ***2.b Closing the loop on materials***

The rhetoric of recycling is used the most by H&M, while they use reduce very little. But the term reuse is used relatively much in comparison with other terms. Referring to the concept of industrial ecology characterises the company's communication as well as referring to the concept “Circular Economy”. H&M mentions using the hierarchy of reduce, reuse, and recycle. They want to increase the recycled input from textiles, (recycled cotton and recycled polyester), recycling waste (from their production). They aim to minimize and reduce waste by reusing and recycling. They reuse textiles by selling them as second hand clothes and reuse their own waste products e.g. hangers, and packaging which are designed for multiple uses in the technical cycle.

*“We are reducing, reusing and recycling on many fronts: garments, hangers, packaging, shopping bags and*

more.” “All collected clothes are then reused or recycled. At the moment, for example, as second hand clothes or recycled into your next cleaning cloth.”

Through the recycling program they recycle collected garments that are not suitable for reuse and reuse the garments that can be worn again. This way they are integrating reuse better than Nike.

### **3. Official certification and design for recycling**

The eco-efficiency terms recycle and reduce are used only moderately in Puma’s communication. Instead the key terms are Cradle to Cradle, material reutilization, C2C certification, biological cycle and composting. Puma refers to the waste hierarchy “*the glaring need to reuse, reduce and recycle – the cornerstone of waste minimization strategies*”. The products they collect are sent to be re-used preferably or recycled into new products. The creation of Cradle 2 Cradle licensed products are mentioned often. The products are described as biodegradable and as products designed to be easily disassembled and recycled after use. Puma also focuses on the reduced eco-costs along the life cycle of these products compared to normal textiles.

The rhetoric of recycling is used extensively just as in the other approaches but the usage of the term is very diverse. Puma aims to make recycled or recyclable products and also recycles plastic bags and paper and uses recycled materials (metal) in their buildings. The company is also increasing the recycled content in products (e.g. polyester waste), and is installing recycling bins with the help from their recycling partner. Reducing is mentioned in combination with achievements: Having reduced water usage, having reduced paper consumption across operations, having reduced waste and CO2.



Figure 10: the relation between CE terms and rhetoric

## Conclusion: The relation between CE and gains in legitimacy

Figure 10 shows a model illustrating the different approaches to CE combined with the different approaches to realizing CE and C2C rhetorically in order to gain either pragmatic, cognitive or institutional legitimacy. According to Palazzo & Scherer's theory, the transition to a globalized post-industrial society, the pluralisation of norms and values, and the diversity of societies have eroded cognitive legitimacy. Companies relying on pragmatic legitimacy are experiencing pressure from stakeholders (e.g. NGO's and governments), which creates resistance and threatens a company's license to operate. Companies therefore seek to gain moral legitimacy by referring to a political discourse e.g. by increasing transparency, referring to global standards, increasing dialogue, and forming partnerships as the prime sources of societal acceptance (Palazzo & Scherer 2006, p. 78).

The political discourse is indeed used quite strongly. But except for Puma, the political discourse is used much more to address products and innovation than waste and recycling across the companies. Environmental NGO's such as Greenpeace have targeted especially the big multinational companies such as Nike, Puma, and H&M for producing products that contain hazardous materials. Perhaps this is the explanation why political rhetoric is used extensively in combination with products by H&M and Nike because they are companies that have been targeted the most in the past and they are the case companies with the biggest turnovers. According to Perks et al. (2013), large corporations are under more public scrutiny to disclose environmental information in order to maintain their legitimacy. Nike has been criticised extensively in the past for its labour practices. Nike was one of the first targets for activists in 1991, because its business model of outsourcing manufacturing proved to be successful in cutting expenses (Nisen 2013).

Another reason for the difference in rhetoric could be that a company's products are more visible than their waste management. Consumers and NGO's, for example, are more exposed to physical products while waste and waste management is more invisible. In the visible part of business, companies want to use the right words to show that they are doing the right thing by using the right certified materials, engaging with partners and making sure their environmental progress is transparent. In the more invisible part, the companies want efficiency. They create systems in order for suppliers to manage waste and wastewater efficiently in order to limit waste creation. Another reason is that the companies have more control over design and innovation, which they manage in-house, compared with environmental management and waste which they can mostly aim to manage strategically.

Nike mentions this in their sustainability report:

*"Reducing materials-related impacts is among the strongest levers we have for improving our overall environmental performance. However, it's challenging to reach far upstream into our value chain and influence the behavior of companies and individuals over which we have no direct impact. Therefore, we focus on product design, an area we do control". (p. 18).*

Bestseller has the same perspective in their sustainability report:

*“Many studies suggest that as much as 80% of the total environmental impact of a product is determined in the design phase. Consequently, this phase is very important to consider when working on reducing the total environmental impact of a product.”*(p. 74).

The technical limitations to creating circular economy products and closing the loop are mentioned often by the case companies. Communicating that you are engaging with others to solve these technical difficulties, meaning using political rhetoric, is therefore important to gaining legitimacy. The creation of CE products requires collaboration, partnership, and external validation.

As Nike phrases it in the strategy section of their sustainability report:

*“Our materials decisions are limited by what materials are available and their expected performance attributes. So we also seek to understand and engage others who play critical roles in the process of developing, creating and bringing materials to market.”*(p. 18).

Transparency is key to environmental reporting at both Puma and Nike. As Puma phrases it:

*“Whereas in the past, there was only investor demand for transparent accounting, now there is public demand for transparency on corporations' environmental footprint.”*(Zeit 16.11 2011).

An explanation why Puma uses moral legitimacy more in their section on environmental management and waste is that they have put a lot of effort into integrating and communicating transparency with their Environmental Profit & Loss Account (E P&L). This tool was made in collaboration with PricewaterhouseCoopers (PwC), the UN, academics and environmental research group Trucost. But the recycling section is hard to compare with the other cases because the content is slightly different as Puma has a large focus on the issue of recycling consumer waste rather than upstream supply chain waste. Recycling of consumer waste is handled in collaboration with their partner I:CO. Puma doesn't focus only on where the company has control but where the impact is the greatest.

*“By regular E P&L reporting, we can adjust our targets and projects to where our impact is greatest, rather than focusing mainly on the impacts closest to our sphere of influence and control.”* (Annual report 2013, p. 50)

To Puma, the E P & L is a transparency tool which was created to be ahead of and influence environmental regulation as this quote from Puma's chairman, Jochen Zeitz, indicates: *“I believe that regulation will also kick in and environmental profit and loss will become a standard because, you know, it's such a powerful idea that you can't ignore it. I believe that either way, push or pull, it's going to happen.”*(Guest 2011).

As the only company, H&M uses institutional rhetoric more than strategic rhetoric when reporting about CE products and materials. This is because the inexpensive fast fashion that H&M creates is inherently unsustainable. H&M is involved in fast fashion more than the sports companies Nike and Puma who release collections and styles that stay in style longer. This is why H&M isn't focused on creating specific CE collections like Nike, Puma and Levi's but instead focuses on increasing the usage of sustainable and organic materials in products in general. The goal stated in the sustainability report is to *"increase the share of such fabrics (sustainable fabrics) in our total material use every year"* (p. 15). By using institutional rhetoric they justify that they are a responsible company which belongs to the CSR community.

Consumers recognize the institutional rhetoric H&M uses which is based on sustainability, organic, and the encouragement to buy and live sustainably. Making products more sustainable is seen as the corporate responsibility of the company: *"We keep working hard to make all of our products more sustainable, piece by piece, all the way from the cotton farm up. Because, quite simply, it's the right thing to do."* (Sustainability report 2013, p. 12).

Bestseller uses strategic rhetoric because they are focused on making sure procedures are efficient, that supplier wastewater is well managed and products are safe and nontoxic. They are focused on *"optimising our business procedures in some key areas"* (sustainability report 2013, p. 98). Political rhetoric is used more in combination with products and innovation than waste. They refer to global standards that ensure products are free from harmful chemicals e.g. Oeko-tex and the EU Ecolabel.

Levi's uses strategic rhetoric and their communication is focused on making sure their strict recycled water standards are enforced efficiently by creating innovative recycling systems that will be expanded to other suppliers. When explaining products they focus on explaining how new collections are innovative because they use recycled materials and save resources as explained in this quote from the annual report:

*"Since the collection launched last spring, we've utilized more than 9.4 million recycled plastic bottles in our products."* (p. 17).

## **Limitations and further research**

A limitation of the study is the epistemological methodology adopted which is interpretivist and constructivist. Thus, the relationship between the researcher and the data is an intrinsic one. The level of involvement is high, because the main instrument in qualitative research is the researcher, who interacts with the object of the study. Hence, there is a risk of subjectivity, which may lead to bias in the analysis. This is something the use of thematic analysis to systematize theme creation and quantification aims to address. Another limitation of the study is that the research is exploratory, based on a single industry and not tested on a larger sample. However, as the central purpose of the paper was exploring the use of CE terms by

organizations and their rhetorical realization, the methodological approach was deemed appropriate. The study is limited to the parts called material health and material reutilization in the Cradle to Cradle framework as these are the parts embraced most by the textile industry. The study is also limited to the textile industry. According to Perks et al. (2013), firms within industries receiving more attention from the public are those that may (a) cause greater environmental and social impact (b) deal directly with consumers and have higher visibility, and (c) larger organizations. These industries are under more public scrutiny to disclose environmental information in order to maintain legitimacy. The textile industry is one of these industries. It could therefore be interesting to look at if and how other smaller and less visible industries embrace the idea of CE in disclosing environmental information.

Further research could uncover how important C2C and CE thinking is to a company's stakeholders and if the companies gain, maintain, or repair the legitimacy they seek through communicating about CE. Another research topic could be the relationship between environmental and social legitimacy. In continuation of this study it could be interesting to compare the rhetoric used to gain environmental legitimacy compared with the rhetoric used to gain social legitimacy. According to Mobus (2005), how a company is performing environmentally is becoming a large part of a company's generalized perceived legitimacy: *"Environmental performance is a rising component of organizational legitimacy as societal norms increasingly recognize the negative impacts on the local, national, and global commons that often result from corporate operations."* (Mobus 2005, p. 499). Another research topic is if the difference between the rhetoric used to communicate about waste and recycling and communicating about products is found in other industries. The study is focused mostly on international CSR leader companies. Another approach could be to contrast this with CSR "laggards" to see if they include CE terms in their communication and which rhetorical strategies do they use. Du, Bhattacharya, and Sen (2010) as cited in Perks et al. (2013), report that communicating CSR activities can offer several benefits such as increasing organizational image, greater consumer loyalty, purchase likelihood, and advocacy behaviour. Further research could uncover which benefits companies achieve from communicating about their CE activities.

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## Appendix 2

### Circular Economy terms and concepts in context

The following labels refer to the source of the quote, either: W= website, P= press release, R= sustainability report or annual report.

Tier 1 circular economy	1.0 Zero waste	1.1 Life cycle	1.2 Circular economy
Bestseller	<p>P. "...next step on the road to what will hopefully one day be a <i>'Zero Waste' world.</i>" (Jack &amp; Jones 2012).</p> <p>R. "...The purpose of the concept is to take the first steps... <i>minimising textile waste</i> in the dump sites." (Sustainability report 2013 p. 76)</p>	<p>R. "We design and develop innovative products that address the environmental impact throughout the <i>product's lifecycle</i>". (Sustainability report 2013 p. 74)</p>	
H&M	<p>W. "Our goal is to send <i>zero waste</i> to landfill." (H&amp;M n.d. a).</p> <p>W. "Which means in the future we'll be able to <i>get rid of clothes waste</i> altogether." (H&amp;M n.d. c).</p>	<p>R. "... recycled plastic is the best choice from a <i>lifecycle perspective</i>". (Sustainability report p. 64)</p>	<p>P. "<i>A circular economy</i> requires innovation of material and product reuse, as well as related business models." (H&amp;M 2013 June 20).</p>
Levi's	<p>W. "Today, San Francisco moved a little closer to its goal of becoming a <i>zero waste city</i>... helping close the gap by reaching <i>zero textile waste</i>." (Levi's 2014 January 15).</p> <p>P. "Donating to Goodwill not only <i>diverts unwanted items from landfills</i> but also helps</p>	<p>P. "... the first partnership of its kind to encourage donation as a way to extend the <i>life cycle of clothing</i> ..." (Levi's 2010 January 25).</p>	

	people who need it most in local communities." (Levi's 2010 January 25).		
Nike	W. "The Considered ethos is not only <i>removing waste from product design</i> but is also helping...". (Nike 2010 b).	W. "We begin with comprehensive systems thinking around the domains of design, manufacturing and <i>the life cycle of a product...</i> " (Nike 2010 a).	P. "... Hannah Jones, who participated in WEF panels, shared Nike, Inc.'s vision of a <i>circular economy...</i> ". (Nike 2014 January 27).
Puma	P. "PUMA helps to protect the environment, aspiring to <i>eliminate waste</i> by recycling used products to create new ones." (Puma 2012 April 17).	P. "In changing <i>the packaging and distribution life cycle</i> from the ground up, we hope our new design ..." (Puma 2010 April 13).	R. " <i>Circular economy</i> has gained momentum as a means to deliver significant improvements..." (Annual report 2013 p. 37)

Table 1

Tier 1 CE continued	1.3 Eco-efficient design	1.3a Reduce	1.3b Repurpose	1.3c Recycle
Bestseller	W. " Energy consumption and supply in regards to CO2 emissions from secondary meter, <i>energy efficient light sources... and energy efficient elevators.</i> "	P. "As a part of the textile industry, we are aware of our responsibility <i>to reduce the impact</i> our production has on the environment ....". (Name It n.d).	P. "JACK & JONES is proud to be the first Danish retailer to collaborate with I:CO to <i>repurpose</i> used clothes into raw materials or <i>wearable clothing</i> for consumers in	R. "... we must address the way our products are produced, search for new more sustainable materials and aim <i>to recycle more textiles.</i> " (Sustainability Report 2013 p. 65).

	(Bestseller (2012 c)).		challenged economies." (Jack & Jones 2012, August 7).	
H&M	W. "That said, <i>efficient material use</i> and the application of smart methods to reuse and recycle means ...." (H&M n.d. d).	W. " That way, we can <i>reduce waste</i> and give old products a new life." (H&M n.d. c).	W. " Looking ahead, there are <i>three ways to repurpose the unwanted garments</i> : Rewear – clothing that can be worn again will be sold as second hand clothes." (H&M n.d. c).	P. "H&M is investing in this ground-breaking <i>clothing recycling program</i> and we are proud to partner ...". (H&M 2013 March 8).
Levi's	W. " <i>Materials efficiency</i> – How much of the primary materials end up in the final product." (Levi's n.d.).	P. "... encourage consumers to not only give back to communities in need, <i>but also to reduce environmental impact</i> ." (Levi's 2010 December 1).	W. " <i>By repurposing waste</i> —in this case, plastic bottles and trays—and recycling them into new fabrics, we're doing our small part to utilize existing materials in place of virgin cotton..." (Levi's 2012 December 12).	W. "Mission accomplished. Made from <i>80 percent recycled cotton fibers</i> , denim insulation has the highest <i>recycled content</i> of any batt insulation on the market." (Levi's 2014 March 13).
Nike	R. "By measuring the environmental impact of chosen materials and the <i>waste efficiency</i> of	W. "We have found it is more effective <i>to reduce waste at the design stage</i> rather	R. "We aim to design our products to limit the creation of waste in manufacturing,	P. "... and the <i>expanded use of recycled polyester</i> in performance apparel. ". (Nike 2012 February 21).

	designs...." (Sustainability report p. 52).	than..." (Nike 2010 b).	<i>rather than figuring out how to repurpose waste after the fact.</i> " (Sustainability report p. 51)	
Puma	"It remains PUMA's goal to improve <i>energy efficiency</i> at our owned and operated entities..." (Annual report p. 56).	P. " <i>To reduce waste</i> and keep products out of landfills, the Sportlifestyle company PUMA has installed recycling bins ..." (Puma 2012 April 17).	W. "They deliver your goods to a regional processing plant <i>for sorting, repurposing and recycling.</i> " (Puma n.d.e).	P. "The <i>recycled polyester</i> is scrap waste from manufacturing processes that is repurposed to create the synthetic material". (Puma 2011 November 8).

Table 2

Tier 2 CE	<b>2.2</b> <b>Industrial ecology</b> Closed loop approach, closing the loop	<b>2.3</b> <b>LCA</b> Life cycle, avoided burden, eco-costs
Bestseller	W. "... but the chemicals are less harmful to humans and the environment and are reused in <i>a closed loop system</i> ". (Vero Moda n.d.).	
H&M	R. "This is why we are aiming for nothing less than creating <i>a closed loop for textile fibres</i> and to find ways for turning unwanted clothes into new fashion". (Sustainability Report 2013 p. 58)	R. "For the footprint analysis, primary and secondary data has been used and <i>the principles of LCA-methodology</i> has been applied." (Sustainability Report 2013 p. 7)
Levi's		W. " So we commissioned <i>a scientific life cycle assessment (LCA)</i> to find out the facts about the climate change, water and energy impact of a pair of Levi's 501 and Dockers Original Khaki ..." (Levi's n.d.).

Nike	W. "Nike has worked with seven vendors to create <i>closed-loop materials</i> used in footwear manufacturing..." (Nike 2010 b).	
Puma	R. "For PUMA, " <i>Closing the Loop</i> " encompasses our efforts to innovate materials and processes to work in circular, not linear, industrial systems". (Annual Report 2013 p. 37).	R. "The project aimed at collecting life cycle inventory data from organic cotton farming in India and conducting <i>an LCA study of cotton production</i> from cradle to (farm) gate". (Annual Report p.61)  P. "By showing <i>environmental costs in Euros and Cents</i> , our new PUMA Product E P&L visualizes the environmental impacts PUMA products cause..." (Puma 2012 October 8).

Table 3

C2C tier 2	2.1 Cradle to cradle	2.1a Material reutilization	2.1b Material Health	2.1c Preferred materials	2.1d Certification
Bestseller	W. "The fibres are evaluated and compared based on their impact on the environment throughout a product's life cycle (from <i>cradle to cradle</i> )...". (Bestseller 2012 b).	W. " <i>We collect clothes</i> in collaboration with the German recycling company I:CO". (Name It n.d).	R." ... Chemical Testing Programme which aims at ensuring that our products <i>do not contain any harmful or potentially harmful chemicals</i> ." (Sustainability report p. 82)	R. "...This is because they are developed according to <i>the precautionary principle</i> to protect humans and environment." (Sustainability report p. 85).	W. "... <i>BREEAM International certification system</i> for sustainable construction has been our inspiration for the centre measuring 48,000 m <sup>2</sup> ". (Bestseller 2012 c).
H&M		R. "Since the launch of <i>our garment</i>	R. " We have strict <i>chemical restrictions</i>	R. "Besides restricting harmful	

		collecting initiative in spring 2013...". (Sustainability Report 2013 p. 62).	(Restricted Substance List, RSL) in place..." (Sustainability Report p. 74)	chemicals, we have also started to use so-called positive lists." (Sustainability Report 2013 p. 75)	
Levi's		P. "... will carry a new care label that advises consumers to donate their jeans to keep them out of landfill...". (Levi's 2010 December 1).	R." In the early 2000s, LS&Co. was one of the first companies to establish a Restricted Substances List (RSL), identifying chemicals ..." (Annual Report p. 20)		W. " Our goal is LEED certification for green building practices. LEED is a third-party certification program... " (Levi's 2010 September 16).
Nike		W. "Between FY06 and FY09, closed-loop materials and take-back programs within footwear increased...". (Nike 2010 b).	W. "We are hopeful that other brands in the industry follow Nike's lead in adopting Restricted Substance Lists..." (Nike 2010 b).	R. "... provide the NIKE supply chain with access to a database of more than 4,300 preferred chemical formulations". (Sustainability report p. 43).	P. "... an event highlighting the company's recent success in earning a LEED-EB "Gold" Rating from the U.S. Green Building Council for its Ken Griffey, Jr. building". (Nike 2006 February 14).
Puma	R. "In November	P. "To aid in the product	R. "PUMA	P. "... program that rates	R. " PUMA conceived InCycle

	2013, PUMA was awarded the New Innovator Award by the Cradle to Cradle Product Innovation Institute". (Annual report 2013 p. 6)	<i>collection</i> and recycling process, PUMA has launched <i>the "Bring Me Back" program ...</i> " (Puma 2013 February 12).	ensures that all its products are <i>free of harmful and hazardous chemical substances</i> to protect ..." (Annual report p. 51)	products against five sustainability factors: 1) <i>the use of environmentalall y safe and healthy materials..</i> " (Puma 2013 February 12).	as an innovative challenge to be the first in our industry to launch <i>a full collection of Cradle to Cradle® certified apparel, footwear and accessories ...</i> " (Annual report p. 60)
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Table 4

C2C tier	3.1 Technical cycle, technical nutrients,	3.1a Top of waste hierarchy: repair, reuse, redistribute, resell, rewear, donate	3.1b Downcycling and Upcycling
Bestseller		P. "Therefore, the brand is proud to announce the launch of a new concept that brings eco-friendly <i>reuse</i> and recycling of textiles into focus". (Name It n.d).	R. "Designer bags, purses. laptop sleeves, etc. UP-CYCLE clothing shoes, etc." (Sustainability Report 2013 Figure 02. The I:CO concept p. 77)
H&M		R. "For waste that cannot be avoided, we need to make sure <i>to reuse</i> and recycle as much as possible." (Sustainability Report 2013 p. 63).	
Levi's		W. "To begin to address this issue, we're piloting projects where we <i>reuse old jeans</i> as building	W. "We are such a throw away society now. It is important to me that every piece I do is at least

		insulation..." (Levi's n.d.).	85% upcycled." (Levi's 2014 May 27).
Nike		P. "... the Nike <i>Reuse-A-Shoe</i> program recycles 1-2 million pairs of post-consumer and defective shoes..." (Nike 2007 June 11).	R. "Energy Recovery Recycling (NIKE Grind, downcycling) Closed-loop Reuse (in-house, takeback)" (Sustainability report 2013 p. 53).
Puma	P. "Materials found within <i>the Technical Cycle</i> - such as metals, textiles, and plastics - can then be used to create new products." (Puma 2013 February 12).	P. "... as a strong message to highlight the glaring <i>need to reuse, reduce and recycle</i> – the cornerstone of waste minimization strategies". (Puma 2012 August 23).	R. "We recycled cotton cutting waste that would have otherwise been sent to landfill <i>or down-cycled</i> ." (Annual report p. 60)  W. "Almost every item gets a new life, whether it is re-worn, <i>up-cycled for industrial use</i> , or recycled..." (Puma n.d.e).

Table 5

C2C tier 3 continued	<b>3.3 Biological cycle</b> Waste = food, biodegradable, biological nutrients	<b>3.3a Composting</b> Decomposition, anaerobic digestion, returned to the soil, soil restoration, harvesting
Bestseller		
H&M		
Levi's	W. "Eutrophication – Measures impact of <i>harmful nutrients</i> discharged to freshwater bodies." (Levi's n.d.).	
Nike		R. "We are also focusing on the <i>diversion of waste to compost</i> and recycling, away

		from landfill." (Sustainability Report 2013 p. 52).
Puma	P. "Materials within the <i>Biological Cycle</i> can be broken down by microorganisms into biological nutrients and will go back into the earth, thus making them <i>biodegradable</i> ". (Puma 2013 February 12).	P. "At the end of its life, the PUMA InCycle Basket is <i>100% compostable</i> while the traditional Suede will likely be disposed of in landfills or incinerated, furthering its environmental footprint. <i>Composting</i> has the lowest GHG emissions in the end-of-life treatment of products". (Puma 2012 October 8).

Table 6

### Appendix 3: data from the companies

#### Bestseller

	Waste	Products	ICO	Name It	Jack & Jones	Name It web	Vero Moda	Use/ disposal
0 Saved resources	6	1						2
1 Operationalization	19	8	3	1	6	1	10	2
2 Innovation		2	2		1			
3 Strategic link	5	12		1				1
4 Governance	5	5					4	
Strategic/ pragmatic	35	28	5	2	7	1	14	5
5 Corporate responsibility	1	2	2	1	1		1	
6 Sustainability	4	11	5	1	4		9	3
7 Organic		4					2	
8 Philanthropy			3	1	2	2	3	
9 Consumer information		1	2	1	3	3		4
10 Celebrities								
11 Scientific Studies	2	1						
Institutional/ cognitive	7	19	12	4	10	5	15	7
12 Need for collaboration								
13 Global standards	3	13					2	
14 Transparency	5	0					4	
15 Partnership	2	3	6	1	7	1	1	
16 Focus on industry or issue	2	4	2		4	1	6	
17 Stakeholder dialogue	1	1	2	1	2			
18 Events								
Political/ moral	13	21	10	2	13	2	13	

	CSR report	Press releases	Web- sites	Total
0 Saved resources				
1 Operationalization	7	0	2	9
2 Innovation	27	10	13	50
3 Strategic link	2	3	0	5
4 Governance	17	1	1	19
Strategic/ pragmatic	10	0	4	14
	63	14	20	97
5 Corporate responsibility				
6 Sustainability	3	4	1	8
7 Organic	15	10	12	37
8 Philanthropy	4	0	2	6
9 Consumer information	0	6	5	11
10 Celebrities	1	6	7	14
11 Scientific Studies	0	0	0	0
Institutional/ cognitive	3			3
	26	26	27	79
12 Need for collaboration	0	0	0	0

13 Global standards	16	0	2	18
14 Transparency	5	0	4	9
15 Partnership	5	14	2	21
16 Focus on industry or issue	6	6	7	19
17 Stakeholder dialogue	2	5	0	7
18 Events	0	0	0	0
Political/ moral	34	25	15	74

## H&M

	Waste	Products	Come-back clothes	Green	Circular	New collection	Closing loop	Reduce
0 Saved resources	4							2
1 Operationalization	7	9	2	1		3	1	11
2 Innovation	2	6				2		
3 Strategic link	11	6		1	1	1	1	5
4 Governance		3						
Strategic/ pragmatic	24	24	2	2	1	6	2	18
5 Corporate responsibility		5		2	2		2	
6 Sustainability	2	14	1	4	1	1		3
7 Organic		6		1				
8 Philanthropy	1	4		3		1		1
9 Consumer information	1	10	2	3				
10 Celebrities			5	2				
11 Scientific studies		1						
Institutional/ cognitive	4	40	8	15	3	2	2	4
12 Need for collaboration		2					1	
13 Global standards		14						
14 Transparency	1	9				1	1	2
15 Partnership	4	3	4	3	4			2
16 Focus on industry or issue	9	8	1	3		2	3	6
17 Stakeholder dialogue		7	4				1	
18 Events			4	2				
Political/ moral	14	43	13	8	4	3	6	10

	CSR report	Press releases	Web-sites	Total
0 Saved resources	4	0	2	6
1 Operationalization	16	3	15	34
2 Innovation	8	0	2	10
3 Strategic link	17	2	7	26
4 Governance	3	0	0	3
Strategic/ pragmatic	48	11	20	79
5 Corporate responsibility	5	4	2	11
6 Sustainability	16	6	4	26

7 Organic	6	1	0	7
8 Philanthropy	5	3	2	10
9 Consumer information	11	5	0	16
10 Celebrities	0	7	0	7
11 Scientific studies				
Institutional/ cognitive	44	28	6	77
12 Need for collaboration	2	0	1	3
13 Global standards	14	0	0	14
14 Transparency	10	0	4	14
15 Partnership	7	11	2	20
16 Focus on industry or issue	17	4	11	32
17 Stakeholder dialogue	7	4	1	12
18 Events	0	6	0	6
Political/ moral	57	28	16	101

### Levi's

	Waste	Products	Forever blue	Waste-less	Goodwill	Progress	Planet	Mens collection
0 Saved ressources	2	3	3	2		1	3	
1 Operationalization	5	10	2	6		4	9	1
2 Innovation	1	5		1			5	
3 Strategic link	4	3			1	3	2	3
4 Governance	4						5	
Strategic/ pragmatic	16	21	5	9	1	8	24	4
5 Corporate responsibility	1	5		4	1	3	4	
6 Sustainability	1	6	4	2	1	3	9	3
7 Organic								
8 Philanthropy			7					
9 Consumer information			9	3		3	3	3
10 Celebrities								
11 Scientific studies			1				11	1
Institutional/ cognitive	2	11	21	9	2	9	27	7
12 Need for collaboration	1	1				1	2	2
13 Global standards				1			1	2
14 Transparency		1					6	
15 Partnership	3	3	1	2	3	6	5	
16 Focus on industry or issue	2	3			2	6	3	
17 Stakeholder dialogue		1	2		1	2	1	
18 Events		2						
Political/ moral	6	11	3	3	6	15	18	4

	CSR report	Press releases	Web-sites	Total
0 Saved ressources	5	5	4	14
1 Operationalization	15	8	14	37

2 Innovation	6	1	5	12
3 Strategic link	7	1	8	16
4 Governance	4	0	5	9
Strategic/ pragmatic	<b>37</b>	15	36	<b>88</b>
5 Corporate responsibility	6	5	7	<b>18</b>
6 Sustainability	7	7	15	29
7 Organic	0	0	0	0
8 Philanthropy	0	7	0	7
9 Consumer information	0	12	9	<b>21</b>
10 Celebrities	0	0	0	0
11 Scientific studies				
Institutional/ cognitive	13	<b>32</b>	<b>43</b>	88
12 Need for collaboration	2	0	5	7
13 Global standards	0	1	3	4
14 Transparency	1	0	6	7
15 Partnership	6	<b>6</b>	<b>11</b>	<b>23</b>
16 Focus on industry or issue	5	2	9	16
17 Stakeholder dialogue	1	3	3	7
18 Events	2	0	0	2
Political/ moral	17	12	<b>37</b>	66

## Nike

	Waste	Products	Perfor- mance	Circular	Trash talk	Reuse shoe	Nike grind	Nike grind2
0 Saved resources	8	1	2			1		
1 Operationalization	19	16	8	1	8	7		1
2 Innovation	1	11	7	6	2	1	2	1
3 Strategic link	9	10	6	4	3		3	3
4 Governance		3			3			
Strategic/ pragmatic	<b>37</b>	<b>41</b>	<b>23</b>	11	16	9	5	5
5 Corporate responsibility		1	1				2	
6 Sustainability	3	21	3	2	3	1	1	2
7 Organic		5						
8 Philanthropy					1	2		
9 Consumer information		3		2		10		3
10 Celebrities					3			
11 Scientific studies	3							
Institutional/ cognitive	6	30	4	4	7	13	3	5
12 Need for collaboration		1		8				
13 Global standards		7		1				
14 Transparency	21	40		1				
15 Partnership		6		1	1	2		1
16 Focus on industry or issue	2	1		2		3	1	1
17 Stakeholder dialogue		1				2		7

18 Events	2		5				
Political/ moral	23	58	18	1	7	1	9

	CSR report	Press releases	Websites	Total
0 Saved resources	9	2	1	12
1 Operationalization	35	17	8	60
2 Innovation	12	15	4	31
3 Strategic link	19	13	6	38
4 Governance	3	3	0	6
Strategic/ pragmatic	78	50	19	147
5 Corporate responsibility	1	1	2	4
6 Sustainability	24	8	4	36
7 Organic	5	0	0	5
8 Philanthropy	0	1	2	3
9 Consumer information	3	2	13	18
10 Celebrities	0	3	0	3
11 Scientific studies	3		0	3
Institutional/ cognitive	36	15	21	72
12 Need for collaboration	1	8	0	9
13 Global standards	7	1	0	8
14 Transparency	61	1	0	62
15 Partnership	6	2	3	11
16 Focus on industry or issue	3	2	5	10
17 Stakeholder dialogue	1	0	9	10
18 Events	2	5	0	7
Political/ moral	81	19	17	117

## Puma

	Waste	Products	Orphan-age	Incycle	Recycling	Closing loop	Bring me back	Packaging, Incycle
0 Saved resources	9	1			1			1
1 Operationalization	9	11	5	16	7	5	3	5
2 Innovation	1	4		1	1			
3 Strategic link	3	8		1	2			
4 Governance	2	3						
Strategic/ pragmatic	24	27	5	18	11	5	3	6
5 Corporate responsibility	2		3			2	2	2
6 Sustainability	3	8	2	7	5	3		2
7 Organic	0	8		1	1			
8 Philanthropy	1	0	4			2		
9 Consumer information	0	1	1	5	6	1	11	1
10 Celebrities	0	0						
11 Scientific studies	0	1		1	3			2
Institutional/ cognitive	6	18	10	14	15	8	13	7
12 Need for collaboration	0	0						

13 Global standards	5	13	8	1	2	2
14 Transparency	6	12		2		
15 Partnership	3	2	2	2	4	
16 Focus on industry or issue	6	3	2	4	1	3
17 Stakeholder dialogue	3	1	1			
18 Events	2	0				
Political/ moral	25	31	13	9	1	9

	CSR report	Press releases	Websites	Total
0 Saved resources	<b>10</b>	1	1	12
1 Operationalization	20	<b>28</b>	<b>13</b>	<b>61</b>
2 Innovation	5	2	0	7
3 Strategic link	11	3	0	14
4 Governance	5	0	0	5
Strategic/ pragmatic	51	<b>34</b>	14	<b>99</b>
5 Corporate responsibility	2	3	<b>6</b>	11
6 Sustainability	11	<b>14</b>	5	30
7 Organic	8	2	0	10
8 Philanthropy	1	4	2	7
9 Consumer information	1	<b>12</b>	<b>13</b>	<b>26</b>
10 Celebrities	0	0	0	0
11 Scientific studies	1	4	2	<b>5</b>
Institutional/ cognitive	24	<b>39</b>	<b>26</b>	89
12 Need for collaboration	0	0	0	0
13 Global standards	18	<b>9</b>	4	<b>31</b>
14 Transparency	18	2	0	20
15 Partnership	5	4	4	13
16 Focus on industry or issue	9	<b>6</b>	4	<b>19</b>
17 Stakeholder dialogue	4	1	0	5
18 Events	2	0	0	2
Political/ moral	<b>56</b>	22	12	90