



INSTITUTO  
UNIVERSITÁRIO  
DE LISBOA

---

## **Mapping social sustainability practices among organizations at different levels of the Circular Economy journey.**

Carla Esteves

Master's in Environmental Studies and Sustainability

Supervisor:

Professor PhD Cristina de Sousa, Associate Professor, Department  
of Political Economy  
ISCTE – University Institute of Lisbon

October, 2023



CIÊNCIAS SOCIAIS  
E HUMANAS

---

School of Social Sciences and Humanities

**Mapping social sustainability practices among organizations at different levels of the Circular Economy journey.**

Carla Esteves

Master's in Environmental Studies and Sustainability

Supervisor:

Professor PhD Cristina de Sousa, Associate Professor, Department of Political Economy  
ISCTE – University Institute of Lisbon

October, 2023

## **Acknowledgements**

To my professor and advisor Cristina Sousa for her amazing generosity and who inspired me to pursue this course since the first time we talked.

To my daughter Marina and my sisters Patricia e Karina for all their support.

To Sara Matos, the great friend this Master's brought me.

To my generous roommate Ana Maria Burnier who had all the patience in the world to listen to and discuss my ideas with me as I arrived home from the university, inspired by so many learnings.

To my Mom who inspires me to become a more generous and empathetic person every day.

To my parents to whom I owe everything.



## Abstract

The global pursuit of sustainable development has reached a critical point, with the Circular Economy (CE) emerging as a transformative model that holds the promise to reshape our economic landscape, representing the latest attempt to conceptually integrate economic activity and environmental well-being in a sustainable manner. This model, which provides a conceptual framework for achieving sustainability by promoting resource efficiency, waste reduction, and closed-loop systems, aims to bring about a systemic change that fosters long-term resilience, generates economic and business opportunities, and provides environmental benefits. However, despite the frequent association of the CE with sustainability, most practices within this economic system still need to prove their actual contribution to achieving sustainable development. The strong criticism is that even though CE is a great economic and environmental model, it does not bring the social dimension of sustainability in its principles nor discourse. Despite the extensive literature on Sustainability and CE and their relationships, the differences in the implementation of social sustainability practices among organizations at different stages of the journey to Circularity is still missing. This study aims to address this gap by answering the research question—“Will there be differences in social sustainability practices among organizations at different stages in the journey towards the CE?” The study collected and analyzed both qualitative and quantitative secondary data. It proposes a scoring system to identify in which level of circularity selected sample of organizations were and then investigates and measures their social practices. The findings revealed a positive trend in the transition to circularity and the considerable implementation of social actions. Moreover, the research highlights that the number and social value of disclosures reported by sampled organizations does not necessarily correlate with the reported progress in the circularity journey. Two companies stand up for their social actions, Apple and Fairphone, the first founded within the industrial LE and on the intermediate stage of circularity, the other, within the CE, in the advanced level of circularity.

**Keywords:** Circular economy, circular economy disclosures, social sustainability disclosures, corporate sustainability reporting, stakeholders theory



## Resumo

A busca global pelo desenvolvimento sustentável atingiu um ponto crítico, com a Economia Circular (EC) emergindo como um modelo transformador que promete remodelar nosso cenário econômico, representando a mais recente tentativa de integrar conceitualmente a atividade econômica e o bem-estar ambiental de maneira sustentável. Esse modelo, que fornece um quadro conceitual para alcançar a sustentabilidade promovendo eficiência no uso de recursos, redução na geração de resíduos e sistemas de circuito fechado, visa promover uma mudança sistêmica que estimule a resiliência a longo prazo, gere oportunidades econômicas e comerciais e proporcione benefícios ambientais. No entanto, apesar da associação frequente da EC com a sustentabilidade, a maioria das práticas dentro desse sistema econômico ainda precisa provar sua contribuição real para alcançar o desenvolvimento sustentável. A forte crítica é que, mesmo sendo um ótimo modelo econômico e ambiental, a EC não incorpora a dimensão social da sustentabilidade em seus princípios nem em seu discurso. Apesar da extensa literatura sobre Sustentabilidade e EC e suas relações, ainda há uma lacuna na compreensão das diferenças na implementação de práticas de sustentabilidade social entre organizações em diferentes estágios da transição para a circularidade. Este estudo visa preencher essa lacuna ao responder à pergunta de pesquisa: “Haverá diferenças nas práticas de sustentabilidade social entre organizações em diferentes estágios na jornada em direção à Economia Circular?” O estudo coletou e analisou dados secundários qualitativos e quantitativos, propõe um sistema de pontuação para identificar em qual nível de circularidade as organizações da amostra se encontram e, em seguida, investiga e mede suas práticas sociais. Os resultados revelaram uma tendência positiva na transição para a circularidade e uma implementação significativa de ações sociais. Além disso, a pesquisa destaca que o número e o valor social das divulgações feitas pelas organizações da amostra não necessariamente se correlacionam com o progresso relatado na jornada para a circularidade. Duas empresas se destacam por suas ações sociais, Apple e Fairphone, a primeira fundada dentro da LE industrial e em estágio intermediário de circularidade, a segunda, dentro da EC, em estágio avançado de circularidade.

Palavras-chave: Economia circular, indicadores da economia circular, indicadores da sustentabilidade social, relatórios de sustentabilidade corporativa, teoria dos stakeholders





## Contents:

Acknowledgements	i
Abstract	iii
Resumo	v
Introduction	01
Chapter 1. Literature Review	03
1.1. Sustainability and Sustainable Development Concepts	03
1.1.1. The TBL Framework	04
1.1.2. Corporate Sustainability Reporting and main Standards & Frameworks	06
1.1.3. Sustainability and ESG Standards, Frameworks, Rankings and Ratings	11
1.1.4. GRI Standards, Material Topics and Disclosures	13
1.2. The Circular Economy	15
1.2.1. The Industrial Linear Economy (LE)	15
1.2.2. The Circular Economy Concepts	16
1.2.3. The Circular Economy Definitions	19
1.2.4. Social Sustainability within the Circular Economy	20
1.2.5. Social Sustainability Themes within CE Literature	21
1.2.6. The CE and Sustainability	22
1.2.7. Social Sustainability Disclosures within the CE Measurement Tools	24
1.3. Addressing Social sustainability within the Context of the CE drawing insights from the ST	25
Chapter 2. Methodology	29
2.1. Determining Company Sizes and Sectors	29
2.2. Selecting Companies within each Sector	30
2.3. Establishing the Sustainability Standards Framework	33
2.4. Assessing the progress of companies on their CE journey	33
2.5. Collecting and analyzing secondary data from CSRs to compare Social Disclosures in each stage of the Circularity Journey	36
Chapter 3. Results & Discussion	38
3. Assessing the social dimension of sustainability in organizations at different stages of the journey to Circularity	38
3.1. Sampled Organizations Sustainability Reports	38
3.2. Organizations' levels in the circularity journey	41

3.3. Social Dimension Disclosures	44
3.3.1. Interconnectedness among disclosures	45
3.3.2. Assessing differences in the social sustainability initiatives implemented by Organizations at different stages of the journey to Circularity	49
Conclusion	53
Sources	54
References	56
Annexes	61

## Table and Figures

### Tables

Table 1: Thematic areas and aspects for social dimension within CE	22
Table 2: Level of strength of each characteristic	39

### Figures -

Figure 1 - The nested sphere model, also known as the “Venn Diagram”	05
Figure 2 - The overlapping sphere model	05
Figure 3 - Evolution in the number of large, multinational and small medium enterprise with worldwide reporting initiatives	07
Figure 4 - Trend in Reporting from 1997 to 2022	08
Figure 5 - Environmental vs Social and Governance Reporting	08
Figure 6 - Standards, Frameworks, Raters and Rankers	12
Figure 7 - GRI Economic, Environmental and Social Material Topics	14
Figure 8 - The Butterfly Diagram	17
Figure 9 - Classification of questions according to the sustainability aspect, by each analyzed tool	24
Figure 10 - The 10R Framework	35
Figure 11 - Fashion Organizations - CSR Social Disclosure Structure	40
Figure 12 - Tech/Electronics - CSR Social Disclosure Structure	40
Figure 13 - Circularity-related terms	41
Figure 14 - % Mix of 10Rs within each segment	42
Figure 15 - % Mix of 10Rs within each organization	43
Figure 16 - Level in the journey towards circularity	43
Figure 17 - Variety of disclosures reported by sampled companies	45
Figure 18: Most reported Social Material Topics and companies that reported them	45
Figure 19: Social Disclosures by company (maximum possible: 37 points)	47
Figure 20: % Mix Social disclosures reported by segment	49
Figure 21: Social Material Topics Interconnectedness	49

## Abbreviations and Acronyms

CBM	–	Circular Business Model
CDP	–	Carbon Disclosure Project
CE	–	Circular Economy
CRESB	–	Center for Real Estate Sustainability Benchmark
CS	–	Corporate Sustainability
CS	–	Corporate Sustainability
CSR	–	Corporate Sustainability Report
CSRs	–	Corporate Sustainability Reports
CSRD	–	Corporate Sustainability Reporting Directive
CSR HUB	–	Corporate Social Responsibility Hub
D&I	–	Diversity and Inclusion
DE&I	–	Diversity, inclusion and equity
EU	–	European Union
EFRAG	–	European Financial Reporting Advisory Group
EMF	–	Ellen MacArthur Foundation
ESRS	–	European Sustainability Reporting Standards
FASB	–	Financial Accounting Standards Board
FTSE Russel	–	Financial Times Stock Exchange
GGEI	-	Global Green Economy Index
GRI	–	Global Reporting Initiative
GSSB	–	Global Sustainability Standards Board
IASB	–	International Accounting Standards Board
IFC	–	International Finance Corporation
IFRS	–	International Financial Reporting Standards
ILO	–	International Labor Organization
IR	–	Integrated Reporting
ISS	–	Institutional Shareholder Services
ISSB	–	International Sustainability Standards Board
KPI	–	Key Performance Indicators
LE	–	Linear Economy
MNCs	–	Multinational Corporations
MNGT	–	Management
OECD	–	Organization for Economic Co-operation and Development
SASB	–	Sustainability Accounting Standards Board
SDGs	–	Sustainable Development Goals

ST – Stakeholders Theory

TBL – Triple Bottom Line

TCFD – Task Force on Climate-related Financial Disclosures

UN – United Nations

UNEP – United Nations Environment Programme

UNEP PRI – United Nations Environment Programme Principles for Responsible Investment

WBCSD – World Business Council for Sustainable Development

WCED – World Commission on Environment and Development



## Introduction

The global pursuit of sustainable development has reached a critical point, with the CE emerging as a transformative model that holds the promise to reshape our economic landscape. As Bocken (2016) stated, the CE, which provides a conceptual framework for achieving sustainability by promoting resource efficiency, waste reduction, and closed-loop systems, carries the potential to revolutionize the economic system towards sustainable development. It has often been associated to sustainability, however, a persistent debate surrounds the model's apparent oversight: the absence of the social dimension of sustainability in its principles, concepts, discourse, and practices (Geissdoerfer et al., 2017; Kichherr et al., 2017; Mies and Golden, 2021; Murray et al. 2017). This critical gap challenges the CE's capacity to truly deliver sustainable development. Existing literature has extensively explored the relationship between sustainability and the CE, disclosing positive strides in economic and environmental realms (Geissdoerfer et al., 2017; Kirchherr et al., 2017). However, the social dimension remains an underexplored territory. The limited attention given to social sustainability practices within the CE raises concerns about its holistic contribution to sustainable development. Critics argue that the emphasis on economic and environmental aspects might inadvertently sideline social considerations, limiting its effectiveness as a comprehensive sustainability model (Geissdoerfer et al., 2017; Kichherr et al., 2017; Mies and Golden, 2021; Murray et al., 2017; Padilla-Rivera et al., 2020; Russo-Spena, 2018; Scarpellini, 2021; Walker et al., 2021).

This study endeavors to address this gap by exploring the intersection of social sustainability and the CE. It seeks to answer the question: "Will there be differences in social sustainability practices among organizations at different stages in the journey towards the Circular Economy?" Through a comprehensive examination of both qualitative and quantitative secondary data from Corporate Sustainability Reports, it aims to bring clarity to the complexities surrounding the social dimension of circularity. The core objective is to find out whether there are variations in social actions implemented based on the organization's progress in transitioning toward the Circular Economy.

Drawing on an extensive literature review, Chapter One, navigates on the evolution of sustainability concepts, from the initial idea of supporting future generations brought by the Brundtland Report (1987) to the Triple Bottom Line (TBL) framework by Elkington (1998). This chapter also explores the intricate relationship between the CE and the social dimension of sustainability. It scrutinizes the landscape of standards and frameworks, such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and the UN's Sustainable Development Goals (SDGs). Additionally, it discusses the prominence of Corporate Sustainability Reports (CSR) as a key strategy for organizations to be accountable for their actions to their stakeholders. Despite the growth of CSR globally, debates persist over its effectiveness and transparency, leading to the need for standardized frameworks to guide organizations.

Chapter Two outlines the methodology detailing the collection and analysis of qualitative and quantitative data used. While examining both linear and circular organizations to include in the study, the researcher found that companies are not classified exclusively as either linear or circular by the market nor institutions. Instead, they are positioned at different levels in the circularity journey, as outlined by the Ellen MacArthur Foundation (2023), (EMF).<sup>1</sup> Therefore, to address this aspect and lay the groundwork for answering the research question, a scoring system was created to evaluate organizations' progress toward circularity: initial, intermediate or advanced.

The selection criteria for sectors and companies considered factors such as the number of employees, a preference for global presence, and a requirement for involvement in waste management and/or manufacturing. The Fashion and Tech/Electronics sectors and the companies within these segments met most of the selection criteria.

Additionally, Chapter 2 provides insights into the scoring system created to assess the social sustainability practices implemented by sampled organizations at each level of circularity. The study relied on secondary data collected from the organizations' CSR as its primary source for both sets of results. Initially, the strategy involved gathering data from the GRI Index, a mandated summary for organizations reporting in accordance with GRI standards. The challenge encountered in using the CSRs as the research source was the lack of standardization among them, as highlighted in the literature review. This challenge was addressed through a comprehensive analysis of the reported content on social practices, recognizing that the GRI Index alone was insufficient.

The findings in Chapter Three reveal that despite evident progress in circularity among the sampled companies, it doesn't always correlate with the reported social sustainability initiatives. Some companies positioned in the intermediate stage of circularity scored nearly the maximum of 37 points, surpassing those in the advanced stage. Another relevant finding was the fact that, on the contrary of what the literature stated, companies reported extensively beyond "employment" and "health and safety".

By providing fresh insights and addressing the social dimension's intricacies, the study sheds light on the diverse landscape of social sustainability practices among organizations at different stages of the circularity journey. It serves as a clear call for organizations to bridge the gap in social sustainability practices within the transformative CE. On the other hand, due to the several differences in reporting, it is challenging to precisely determine the advancement of organizations and predict the time required to overcome the challenges associated with embracing the transformative circular business model.

---

<sup>1</sup> See email exchange with the Ellen MacArthur Foundation in Annexes C and D.



Chapter 1:  
**LITERATURE REVIEW**

**1.1. Sustainability and Sustainable Development Concepts**

The term "sustainability" has its roots in the French verb "soutenir," meaning to hold up or support, and was initially applied in forestry practices to ensure wood resources were not depleted beyond regrowth capacity. This principle of maintaining a balanced rate or level of resource usage has since been applied to ecological contexts (Geissdoerfer et al., 2017).

It was only after 1987 that sustainability and sustainable development gained prominence worldwide among governments, organizations, and society with the publication of "Our Common Future," also known as the Brundtland Report. The report, produced by the World Commission on Environment and Development (WCED), chaired by Gro Harlem Brundtland, not only provided definitions and essential information but also called for the formulation of sustainable development guidelines. The report defines sustainable development as "meeting the present needs without compromising future generations' ability to meet their own needs, involving harmony among resource exploitation, investment direction, technological orientation, and institutional changes to fulfill human needs and aspirations" (Brundtland & WCED, 1987, p. 46).

This concept acknowledges the finite nature of natural resources and the need for proper management to ensure their availability for future generations, considering "the limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities" (Brundtland & WCED, 1987, p. 8).

"Our Common Future" raised widespread concerns about businesses' insufficient attention to critical sustainability issues such as excessive use of natural resources, inadequate response to global warming, and insufficient focus on social justice (Murray et al., 2017). Unfortunately, "the report's publication coincided with the period in history where we witnessed the adoption of neo-liberal economic policies by most western governments" (Murray et al., 2017, p. 369), leveraged by Milton Friedman's<sup>2</sup> argument that the only social responsibility of a business was to increase its profits to maximize value to shareholders (Friedman, 1970).

The Brundtland Commission also provided the most commonly accepted definition of sustainability (Geissdoerfer et al., 2017). In a quick search in many organizations' websites<sup>3</sup> it was

---

<sup>2</sup> Milton Friedman, Nobel Prize-winning economist: Article "The Social Responsibility of Business is to Increase its Profits," published in The New York Times Magazine, in 1970. <https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html> the-social-responsibility-of-business-is- to.html

<sup>3</sup> UNEP, IUCN, WWF, the World Bank, the U.S. Agency for International Development, the Swedish and Canadian International Development Agencies, the World Resources Institute, the International Institute for Environment and Development, the Worldwatch Institute, and activist groups the Global Tomorrow Coalition.

confirmed how the Brundtland's Report definition for sustainability and sustainable development has been embraced.

Nevertheless, the concept has faced criticisms due to its ambiguity, inconsistencies, and contradictions (Baroni, 1992). In fact, approximately 300 alternative definitions of sustainability has emerged (Correia, 2019), encompassing concepts like sustainable development, corporate sustainability, sustainability indexes, green marketing, sustainable fashion, green cities, and more (Correia, 2019). Some definitions emphasize maintaining environmental and human health and effective management, while others include aspects such as resource depletion, nature conservation, and human well-being (Correia, 2019). In fact, the literature reveals an inconsistent use of the term sustainability with many studies focusing primarily on either environmental or social and some omitting the economic dimension or combining multiple dimensions (Alhaddi, 2015). Padilla-Rivera et al. (2020) highlight that the concept is often interpreted differently depending on the actors, context, and indicators used. Geissdoerfer et al. (2017) agree there is divergence regarding the term's perceived strengths and weaknesses. However, these authors acknowledge that the concept has gained significant recognition in policymaking and in organizations' strategies, continuously influencing social interventions and behavior. O'Riordan (1993, p. 48) goes beyond stating that the concept proves to be a "political concept as persistent as are democracy, justice and liberty". Over time, it has gained significant attention and become one of the most pressing global issues (Alhaddi, 2015).

The discourse surrounding the sustainability concepts extends beyond its mere definition, encompassing considerable deliberation over their practical application. On one hand, certain businesses perceive implementation as a series of gradual improvements built upon the existing business practices. On the other hand, other businesses view implementation as a deep paradigm shift, revolutionizing both thinking and action.

Landrum and Ohsowski (2018) state that as a result of the ongoing debates over terminology, definition, and implementation, some researchers have come to the conclusion that the field is in a continuous state of emergence and evolution (Landrum & Ohsowski, 2018). Despite the differences in the definitions of the term found in the literature, they all share the idea of societal development towards a better world, preserving natural resources and cultural achievements for future generations while also bringing value and financial gains in the present (Alhaddi, 2015).

A significant contributor to the increasing awareness of this concept is the Triple Bottom Line (TBL) proposed by Elkington (1998), which plays a crucial role in the most contemporary understanding of sustainability. This concept encompasses the three pillars of sustainability: people, profit, and planet (Geissdoerfer et al., 2017), as explained in the following subsection.

### **1.1.1. The TBL Framework**

Sustainability is considered a complex construct that requires balancing several factors for the continued existence of the planet and, at its core, it values and aims to preserve the natural environment (Alhaddi,

2015). Particularly relevant to the widespread diffusion of the term being its most contemporary understandings, the so-called TBL by Elkington (1998). After the World Summit in 2002, the TBL has been referred to as the balanced integration of economic, environmental and social performance (Geissdoerfer et al., 2017). This construct is a framework for assessing business performance and organizational success, encompassing economic, social, and environmental value (Goel, 2010). It is not synonymous with sustainability but rather a framework for measuring it (Goel, 2010).

The economic pillar of the TBL framework (Profit) highlights the connection between an organization’s growth and the overall economic system, emphasizing the importance of creating economic value that promotes prosperity and sustains the well-being of future generations. This aspect of TBL focuses on business practices that prioritize the preservation of environmental resources for the benefit of future society (Correia, 2019). It assesses how an organization’s activities impact the economic system and examines its contribution to the long-term viability and development of the economy within the context of sustainability (Elkington, 1998).

The social performance pillar of TBL (People) focuses on the interaction between the organization and the community, addressing issues such as community involvement, employee relations, and fair wages (Goel, 2010). It involves implementing fair and beneficial business practices towards labor, human capital, and the community. These practices aim to provide value to society and contribute to community well-being. Examples include offering fair wages and providing healthcare coverage (Elkington, 1998).

The environmental pillar of TBL (Planet) focuses on practices that ensure the preservation of environmental resources for future generations. This includes efficient energy use, greenhouse gas reduction, and minimizing ecological impact (Goel, 2010).

One of the widely recognized models for describing sustainability and the TBL is the nested spheres model, also known as the “Venn Diagram” (Figure 1). This model portrays sustainability as the intersection or overlap of the three dimensions. However, one limitation of this approach is its failure to demonstrate hierarchical levels among the three dimensions. Getzner (1999) referred to this as a “weak approach” to sustainability and proposed a “strong approach” instead. The strong approach portrays a broader environmental system where both the economic and social domains function as subsystems (figure 2).

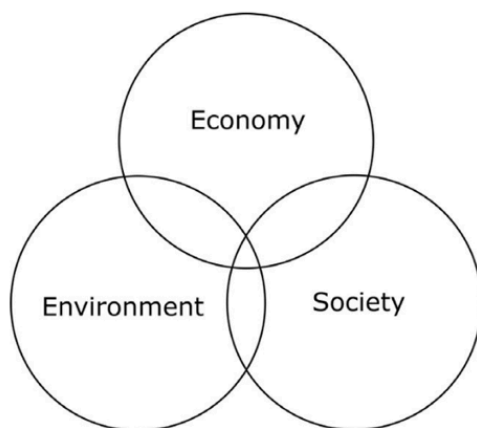


Figure 1: The nested sphere model, also known as the “Venn Diagram”.  
Source: Correia, 2019 (p.31).

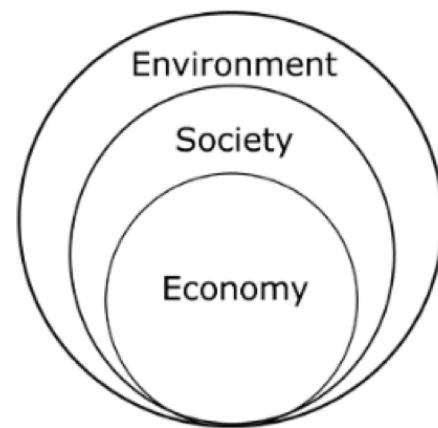


Figure 2: The overlapping sphere model.  
Source: Getzner, 1999 (p. 170).

The TBL framework has become widely influential worldwide (Correia, 2019). It sets the foundation for long-term strategies in companies transitioning to sustainability, based on three crucial dimensions of sustainable development: environmental quality, social equity, and economic benefits (Elkington, 1998). Stakeholders, watchdog groups, regulators, and legislators pressure businesses to adopt sustainable practices. It is crucial that business leaders understand the meaning of sustainability from the perspective of the TBL to effectively apply the concept (Correia, 2019).

In 2006, the concept of sustainability was further reinforced by the long-term vision outlined in Article 3 of the Treaty on European Union (European Union Treaty, 2006). This article emphasized that economic growth, social cohesion, and environmental protection are interdependent aspects of sustainability that mutually reinforce each other (European Union, 2006). The combination of this definition with that of the Brundtland Report has led to the adoption of strategies that embrace a TBL approach, balancing economic, social, environmental objectives (Claro & Esteves, 2021), and promoting a systemic thinking mindset. Achieving a sustainable future for humanity needs comprehensive systemic thinking that encompasses society, the environment, and the economy (Murray et al., 2017). The reintegration of these sustainability pillars is essential if we are to restore a balanced coexistence with the rest of the biosphere (Murray et al., 2017).

Although there is an ongoing debate about this three-dimensional classification, no alternative categorization schemes have been further suggested in the literature (Padilla-Rivera et al., 2020).

### **1.1.2. Corporate Sustainability Reporting and main Standards & Frameworks**

Following the Brundtland Report's influential impact on the global agenda and the widespread acceptance of the TBL Framework for assessing sustainability practices, corporations faced continuous pressure from society and governments to take responsibility for their negative externalities. In response to this pressure, CSR has emerged as a crucial communication strategy used by organizations to demonstrate their ethical stance and show their commitment to sustainability across all three dimensions (Russo-Spena et al., 2018).

CSR is not mandatory for most companies, but the literature shows that it has grown to become essential for enhancing an organization's brand reputation and legitimacy, motivating employees, and sharing corporate information (Halkos & Nomikos, 2021; Russo-Spena et al., 2018). This form of reporting encompasses both environmental and social disclosure, providing insights into a company's impact on the environment, community, and employees. Several factors, such as firm characteristics, industry, and corporate governance, influence on CSR practices, with stakeholder pressures on social and environmental issues playing a significant role (Halkos & Nomikos, 2021). Additionally, the company's credibility goals also shape its CSR initiatives aiming to gain, maintain or repair legitimacy (Russo-Spena et al., 2018). Aligning sustainability practices with stakeholders' expectations helps to build and maintain authority, while accurate activities reduce information asymmetries (Halkos &

Nomikos, 2021). Paying attention to CSR activities is not only an ethical matter, but is good for business itself:

“Some authors have started to summarize the results of CSR disclosure strategy not simply as an effect on reputation, but also as referring to the reduced threats of regulation, improved profitability through lower operating risks and input costs, long-term orientation of management and potentially innovation and market opportunities”(Russo-Spena et al., 2018, p. 566).

Despite numerous studies, the field of social and environmental disclosure continues to be a matter of dispute, marked by significant variations in its practices and conceptualizations (Mahoney et al., 2013). Nevertheless, when it comes to defining CSR, many authors refer to the definition proposed by Gray et al. (1987, p. 9) which describes CSR disclosure as “the process of communicating the social and environmental effects of organizations’ economic actions to particular interest groups within society and to society at large”.

Between 1999 to 2017, as shown in figure 3, CSR has grown significantly in participation globally, encompassing organizations of all sizes (Halkos & Nomikos, 2021):

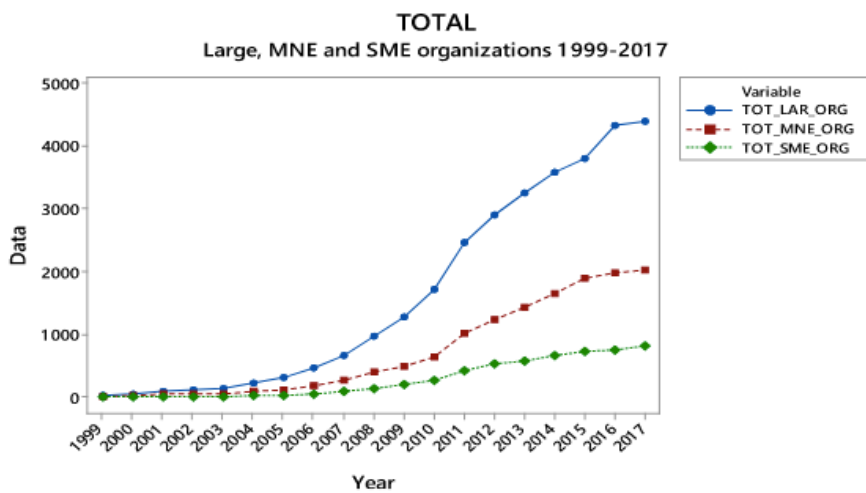


Figure 3: Evolution in the number of large, multinational and small medium enterprise with worldwide reporting initiatives.

Source: GRI Sustainability Disclosure Database (in Halkos and Nomikos, 202, p.111)<sup>4</sup>

According to a KPMG Report (2022), CSR kept the upward trend since 2017. Figure 4 below reveals the percentage of top 250 organizations worldwide and top 100 organizations in 58 countries that published their sustainability reports in 2022, compared to 2017:

<sup>4</sup> <https://linkinghub.elsevier.com/retrieve/pii/S0313592620304458>

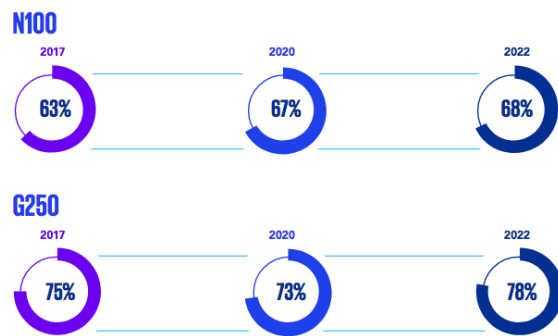


Figure 4 – Trend in Reporting from 1997 to 2022

Source: KPMG Report, 2022 (p. 24)<sup>5</sup>

In a study analyzing CSR within the automobile industry, Russo-Spena et al. (2018) found that the growth trend in CSR is evident not only through an increasing number of companies making disclosures but also in the expanding length of the documents. They observed a remarkable 42% increase in the use of top 100 words from 2010 to 2013. The authors also found that, in line with overall literature, the automobile industry focused more on seven themes with environmental, community, and labor issues consistently being the most prominent across all years of the study. Human rights, fair operating practices, organizational governance and consumer issues, respectively, were the other themes that appeared the most. This emphasis on environmental aspects is also true in the 2020's, as reported by KPMG Report (2022). The Report indicates there is a significant focus on the environmental dimension when compared to the social and governance dimensions of the TBL Framework (see figure 5). This focus is mostly attributed to domestic legislation (KPMG Report, 2022).

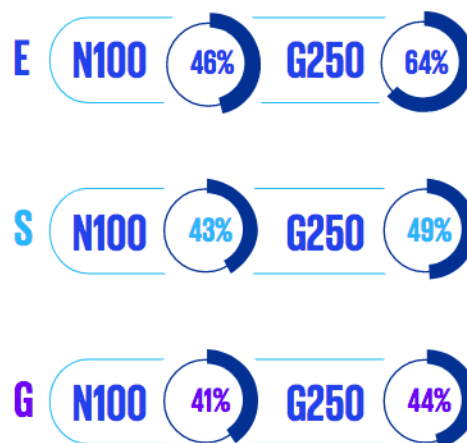


Figure 5 – Environmental vs Social and Governance Reporting

Source: KPMG, 2022 (p.62)<sup>6</sup>

<sup>5</sup><https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf>

<sup>6</sup> Base: 5,800 N100 companies and 250 G250 companies; <https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf>

According to the United Nations (2002), CSR is expected to improve companies' accountability and transparency. To ensure stakeholders' trust in corporate sustainability information, attributes like credibility, completeness, and reliability are of utmost importance. This can be achieved through independent verification of sustainability reports (Diaz-Sarachaga, 2021). However, the effectiveness of CSR in achieving the intended goals is a subject of debate. Russo-Spena et al. (2018) state that throughout literature there are several criticisms directed towards multinational corporations and organizations for using the CSR label to cover fraudulent or greenwashing practices. The authors also state that in literature there is a great deal of questioning whether voluntary CSR disclosure truly meets the increasing demand for social and environmental accountability. Bouten et al. (2011) emphasize that companies tend to report their intentions more than their actual actions and performance. They advocate for comprehensive reporting, suggesting that companies should not only disclose information about their aims and intentions but also provide evidence on their actions and subsequent corporate social responsibility performance. Diaz-Sarachaga (2021) points out that, due to the significant expansion, the lack of standardization emerges as another criticism in CSR. The author emphasizes that the wide-ranging criteria used in corporate reports make it difficult to compare and benchmark the sustainability performance of companies, often overlooking crucial interlinkages among indicators.

Disclosure issues remain a highly dynamic and controversial area of knowledge (Russo-Spena et al., 2018). Diaz-Sarachaga (2021) points to criticisms regarding CSR's lack of completeness and an unrealistic view of corporations' impacts. The author states that doubts about its reliability arise from several factors, including a broad range of information, an overemphasis on qualitative data, the opacity of reports, and the management's control over the information. Moreover, some critics claim that most corporate reports primarily focus on the environmental dimension of CSR, while others suggest that some companies may use reporting as a means to conceal unsustainability or provide limited quantitative disclosure (Diaz-Sarachaga, 2021). Despite the ongoing debates, studies on CSR disclosure are still fragmented, and as Mahoney et al. (2013) have noted, the companies' CSR approach as a whole is still often disconnected from true business and strategy discourse.

An ideal approach to CSR involves creating social and environmental value while nurturing the company's intangible capital (Landrum & Ohsowski, 2018). This practice directly influences the overall value of the company. In their study on corporate sustainability worldviews, Landrum and Ohsowski (2018) employed content analysis of CSR to categorize each company into different stages of corporate sustainability, namely weak, intermediate, strong, and very strong. According to the authors, on one end of the spectrum, weak and very weak sustainability emphasize technocentric approaches, advocating for increased production, consumption, economic growth, and the utilization of natural resources. These perspectives see human intervention as a means of controlling nature. On the opposite end, strong and very strong sustainability take an eco-centric approach, acknowledging environmental limits to economic growth, the necessity of preserving natural resources to sustain life, and the

importance of staying within ecological boundaries. In this view, humans are considered equal among other species in nature. Their findings not only reveal the presence of multiple coexisting worldviews regarding CSR, but also highlight that the prominent perspective centers around the business case for sustainability, which aligns with the weak sustainability paradigm.

Companies may have different understandings and implementation of sustainability, nonetheless there is a consensus that issuing a CSR is crucial (Landrum & Ohsowski, 2018). As a result, voluntary reporting efforts led to the development of several sustainability standards and frameworks such as the Global Reporting Initiative (GRI), the first standards developed in 1997, through collaboration between the United Nations Environment Programme (UNEP) and the non-profit Coalition for Environmentally Responsible Economies; the Integrated Reporting (IR); and Sustainability Accounting Standards Board (SASB) (Landrum & Ohsowski, 2018). Each standard/framework catering to an audience:

- The GRI adopts a multi-stakeholder approach.
- The IR prioritizes value creation.
- The SASB concentrates on addressing investors' needs.

The Global Reporting Initiative (GRI) Standards are the most widely used for corporate reporting across the world (Diaz-Sarachaga, 2021; KPMG, 2022; Landrum & Ohsowski, 2018; Russo-Spena et al., 2018). They aim to promote sustainability reporting and transparency in business practices and to ensure standardization by requiring participants to report on various aspects, including economic indicators, environmental compliance, labor practices, human rights, society, and product responsibility. Within these categories and subcategories, companies are granted flexibility to report on the most material issues for both the company and its stakeholders (Landrum & Ohsowski, 2018). The GRI Standards stand out as the only global standard specifically designed for impact reporting, covering a diverse audience of stakeholders (GRI, 2022, b). Impact reporting, as emphasized by this standard, involves assessing and communicating the positive and negative effects of an organization's activities on society, the economy, and the environment. This distinctive focus makes it a crucial element in shaping a comprehensive reporting framework.

In 2015, the UN<sup>7</sup> established a set of 17 Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. The SDGs are designed to address the world's most pressing economic, social, and environmental challenges and provide a blueprint for a better and more sustainable future for all. They encompass: 1. No Poverty, 2. Zero Hunger, 3. Good Health and Well-being, 4. Quality Education, 5. Gender Equality, 6. Clean Water and Sanitation, 7. Affordable and Clean Energy, 8. Decent Work and Economic Growth, 9. Industry, Innovation, and Infrastructure, 10. Reduced Inequality, 11. Sustainable Cities and Communities, 12. Responsible Consumption and Production, 13. Climate Action, 14. Life Below Water, 15. Life on Land, 16. Peace, Justice, and Strong Institutions, 17. Partnerships for the Goals. Each goal has specific targets and indicators to measure

---

<sup>7</sup> <https://www.undp.org/sustainable-development-goals>



progress and guide action. Governments, businesses, civil society organizations, and individuals all have a role to play in achieving these goals and creating a more sustainable and equitable world (UN, 2015).

Over the years, many standards, frameworks, rankings and ratings have been developed to measure organizations' development towards sustainability, especially concerning financial access, as it is discussed in the following subsection.

### **1.1.3. Sustainability and ESG Standards, Frameworks, Rankings and Ratings**

Between 1997 and 2022, there has been a proliferation of standards, frameworks, rankings and scorings, as shown in figure 6 (GRI, 2022, b), particularly with the rise of the Environment, Social and Governance (ESG) concept. First introduced by the UN in its 2006 publication Principles for Responsible Investing (KPMG, 2022), ESG has gained significant traction (Murray et al., 2017). As a result, an increasing number of companies now prioritize ESG as the foundation for their sustainability reporting. This trend is largely driven by investors who show a strong preference for companies that disclose their ESG scores before making investment decisions (XP Investimentos, 2020)<sup>8</sup>.

In response to a Financial Times article by Oliver & Fletcher (2022)<sup>9</sup>, criticizing the “myriad of ways that company’s sustainability performance is accounted for”, the GRI took the initiative to clarify the misinformation between standards, frameworks, rankings and their respective approach and purposes (Figure 6).

- *Standards*: set the accepted level of quality requirements for reporting entities to meet, including specific and detailed criteria for reporting on a variety of topics. Corporate reporting standards commonly prioritize public interest, independence, due process, and public consultation, contributing to the credibility and reliability of the information sought. These features collectively improve the credibility and reliability of the information being sought.
- *Frameworks*: provide a contextual structure for information, especially when well-defined standards are lacking. Unlike standards, frameworks offer flexibility in approach without specifying the exact method. They act as guiding principles that shape understanding of a topic but do not mandate specific reporting obligations.

Both standards and frameworks gain authority either by being legally mandatory or by receiving endorsement from a significant number of relevant stakeholders, often due to peer-group or investor pressure to adopt them.

- *Ratings and Rankings*: assess the maturity or ESG proficiency of organizations, represented by a 'score', for investors. A company's ESG rating combines a quantitative score and a risk category.

---

<sup>8</sup> <https://conteudos.xpi.com.br/esg/esg-de-a-a-z-tudo-o-que-voce-precisa-saber-sobre-o-tema/>

<sup>9</sup> <https://www.ft.com/content/ae78c05a-0481-4774-8f9b-d3f02e4f2c6f>

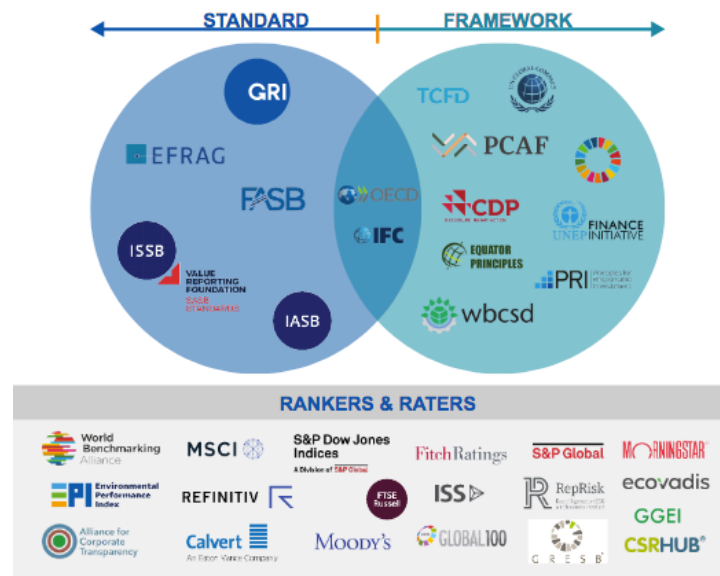


Figure 6: Standards, Frameworks, Raters and Rankers

Source: GRI (2022, b)<sup>10</sup>

Information disclosed through reporting standards and frameworks plays a crucial role in shaping the assessments made by rankers and raters. However, the specific components of the rating process often remain undisclosed. Nonetheless, the relevance of rankings and ratings, particularly concerning financial access, is on the rise (GRI, 2022, b).

Despite a multitude of frameworks focusing on sustainability, there are two prevailing reporting standards on a global scale: SASB and GRI. Each standard focuses on different audiences and scopes. However, the landscape of CSR is undergoing important changes (GRI, 2022, b). Two significant developments are currently shaping the sustainability reporting scene, aiming to address both, the information requirements of investors and other stakeholders (GRI, 2022, b).

- The European Union (EU) is developing the European Sustainability Reporting Standards (ESRS), which will incorporate double materiality and target a multi-stakeholder audience, including investors. GRI and the European Financial Reporting Advisory Group (EFRAG) are jointly leading the co-construction efforts for these standards.
- The International Financial Reporting Standards (IFRS) Foundation, specifically the newly established International Sustainability Standards Board (ISSB), is in the process of drafting standards for the disclosure of sustainability-related financial information. These standards will be focused on financial materiality and designed for an investor audience.
- It becomes mandatory for many companies to report environmental and social impact activities (above 250 employees; around 50 thousand companies).

<sup>10</sup> <https://www.globalreporting.org/media/jxkgrggd/gri-perspective-esg-standards-frameworks.pdf>

- The directive establishes a common framework of reporting: companies will no longer choose what to report or not. The framework will include indicators in the following areas: environmental protection, social responsibility and treatment of employees, respect for human rights, anti-corruption and bribery and diversity on company boards. It will take into consideration other frameworks such as TSFD, GRI and SASB. The reports will need to be audited by independent auditing firms.

This will enable the creation of a two-pillar structure, comprising both financial and sustainability standards, featuring a core set of shared disclosures, and granting equal importance to each pillar. These developments aim to improve confidence and credibility in companies' sustainability practices (GRI, 2022, b).

Another major development will shape the sustainability reporting landscape as from January 2025 on, and will tackle both critics towards corporate reporting: the new EU's Corporate Reporting Directive (CSRD). This Directive aims to ensure the reports will bring reliable and comparable sustainability information to re-orient investments towards more sustainable technologies and organizations. Currently, companies with more than 500 employees in Europe have to report according to the Non-Financial Reporting Disclosure (NFRD). However, for most of the organizations reporting is not mandatory. This will change radically from Jan 1, 2025 onwards, when the EU's CSRD (CSRD, 2023), comes into effect, impacting, approximately, 50 thousand companies. Here follow some of the changes the new CSRD will bring (European Commission, 2023):

- It becomes mandatory for many companies to report environmental and social impact activities (above 250 employees; around 50 thousand companies).
- The directive establishes a common framework of reporting: companies will no longer choose what to report or not to. The framework will include indicators in the following areas: environmental protection, social responsibility and treatment of employees, respect for human rights, anti-corruption and bribery and diversity on company boards.
- It will take into consideration other frameworks such as TSFD, GRI and SASB. The reports will need to be audited by independent auditing firms.

#### **1.1.4. GRI Standards, Material Topics and Disclosures**

GRI is an international, independent and non-profit organization that helps businesses and other entities take responsibility for their impacts (The GRI Standards, A Guideline for Policy Makers, 2021) and it is issued by the Global Sustainability Standards Board (GSSB). These standards are explicitly referred to in 168 reporting requirements across 67 countries, serving as widely used sustainability reporting guidelines. As it has been mentioned in subsection 1.1.2, these standards have been continuously developed since 1997 and are the most widely used standards in the world (KPMG, 2022; Threlfall & King, 2020). According to Threlfall & King (KPMG, 2020), 73% of the world's 250 largest companies

prepare their sustainability reports using the GRI Standards. GRI is freely available to all organizations, regardless of their size, type (private or public), sector, location, or reporting history.

It enables companies to report their impacts in a standardized and comparable manner, making sustainability reporting accessible and consistent for all (GRI, 2021). These standards are in line with internationally recognized frameworks for responsible business conduct, such as the UN Guiding Principles on Business and Human Rights, the International Labor Organizations (ILO) conventions, and the Organization for Economic Co-operation and Development Guidelines for Multinational Enterprises and allow organizations to report their impacts and progress towards the SDGs (GRI, 2021)

The GRI Standards consist of a collection of interrelated standards. They form a modular and interconnected system that allows organizations to disclose the impacts of their activities in a structured and transparent manner to stakeholders and other interested parties. These standards are organized into the following series (GRI, 2022, a): GRI 1 (Foundation) which establishes guidelines for report content and sustainability reporting practices; GRI 2 (General Disclosures) that offers a glimpse into the profile and scale of organizations, providing valuable context for understanding their impacts; GRI 3 (Material topics): in this stage, the organization assesses both its current and potential impacts on the economy, environment, and individuals, encompassing considerations of human rights; GRI 200 (economic dimension) assesses the broader economic impacts of an organization's activities on stakeholders and economic systems globally; GRI 300 (environmental dimension) evaluates the organization's effects on natural systems, emphasizing the need for environmental responsibility; GRI 400 (social aspect) focuses on the impact of company activities on people, communities, and society, emphasizing the importance of positive contributions and responsible practices.

The material topics within Economic, Environmental and Social Standards (GRI, 2021), can be seen in figure 7, below:

TOPICS		
<b>ECONOMIC (7)</b>	<b>ENVIRONMENTAL (8)</b>	<b>SOCIAL (18)</b>
Economic Performance	Materials	Employment
Market Presence	Energy 2016 - 2019	Labor/Mgmt Relations
Indirect Economic Impacts	Water & Effluents	Occupational Health & Safety
Anti-Corruption	Biodiversity	Training and Education
Anti-Competitive Behavior	Emissions	Diversity & Equal Opportunities
Tax	Waste	Non Discrimination
Procurement Practices	Environmental Compliance	Freedom and Association/Collective Bargaining
	Supplier Environmental Compliance	Child Labor
		Forced or Compulsory Labor
		Security Practices
		Rights of Indigenous Peoples
		Local Community
		Supplier Social Assessment
		Public Policy
		Customer Health&Safety
		Marketing and Labelling
		Customer Privacy
		Socioeconomic Compliance

Figure 7: GRI Economic, Environmental and Social Material Topics

Important to point out that Human Rights, which used to be a social dimension disclosure (GRI – 412), has been acknowledged in a substantial revision of the Universal Standards (2021). These standards now mandate that organizations utilizing the GRI Standards align their reporting with the intergovernmental expectations for human rights due diligence established by the UN and OECD.

Most reports from organizations use either the core or the comprehensive version of the GRI framework or uses GRI as a reference (Rudyanto & Wimelda, 2019).

- The “*comprehensive option*” requires additional disclosures concerning governance and all identified material topics.
- The “*core*” option includes only essential elements in CSRs
- Organizations also have the alternative to report making only reference to the GRI standards and disclosures. Referencing GRI means acknowledging the GRI framework without necessarily conforming to all its reporting requirements.

## **1.2. The Circular Economy**

### **1.2.1. The Industrial Linear Economy (LE)**

The industrial paradigm that has been operating in the carbon lock-in, often referred to as the LE or the “take-make-waste” model, is a system where resources are extracted to create products that eventually become waste (Ellen MacArthur Foundation, 2023, b). In this system, products and materials are not fully used, and they move in a one-way path from raw materials to waste. Often referred to as a “cowboy economy” by Boulding (Boulding, 1966, as cited in Murray 2017), the LE is highly polluting, contributing to environmental degradation, climate change, and biodiversity loss (Ellen MacArthur Foundation, 2023, b).

According to the EMF (2023, b), the origins of this LE can be traced back to the industrial revolution, which brought numerous benefits such as mass production and economic growth. However, it heavily relies on finite resources and has led to environmental damage and the loss of valuable materials across various industries like agriculture, construction, and transportation. This approach is eroding the natural capital essential for our economy, evident in degraded soils, polluted oceans, biodiversity loss, dwindling freshwater sources, and deforestation.

The lack of alternative business models to achieve sustainability raises the need to urgently identify viable alternatives and one such approach is the CE, which has been gaining traction as a strategy for companies to address sustainability challenges (Murray et al., 2017). The CE provides a conceptual framework for achieving sustainability by promoting resource efficiency, waste reduction, and closed-loop systems (Bocken et al., 2016). In contrast, the LE is one-directional model and differs from the CE concept:

*“The model of a linear economy, in which it is assumed that there is an unlimited supply of natural resources and that the environment has an unlimited capacity to absorb waste and pollution, is*

*dismissed. Instead, a circular economy is proposed, in which the throughput of energy and raw materials is reduced”* (Cooper 1999a, b, p. 10).

### **1.2.2. The Circular Economy Concepts**

The alternative to the LE is the CE, which aims to establish an economic model in which waste production is minimal and resources are utilized multiple times to create value (Ellen MacArthur Foundation, 2013, a). Businesses have embraced the CE concept as a potent framework to tackle escalating sustainability challenges (Bocken et al., 2021). This approach centers on decelerating, closing, narrowing, and rejuvenating resource cycles, effectively addressing urgent concerns related to human-induced climate change, biodiversity, and resource limitations (Bocken et al., 2021).

This model does not merely focus on mitigating the negative impacts of the LE, but aims to bring about a systemic change that fosters long-term resilience, generates economic and business opportunities, and provides environmental benefits (Bocken et al., 2019). It emerges as the most recent endeavor to deliver sustainable development (Murray et al., 2017).

The CE is gaining increasing attention among scholars, industries, and governments as it seeks to decouple economic growth and development from the consumption of finite resources (Padilla-Rivera et al., 2020). Circular Business Models (CBMs) include the ten “Rs” refute, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, and recover (Kichherr et al., 2017).

The term “circular” in the context of the CE has an additional implied meaning related to cycles that play a significant role in the concept of the circular economy: the biogeochemical cycle and the recycling cycle (Murray et al., 2017). They can be visualized in the “Butterfly Diagram” (see Figure 8), developed by the EMF (2019) to illustrate the essence of the concept. The Diagram distinguishes between what EMF called biological cycles and technical cycles and illustrates their relationship with processes in a LE:

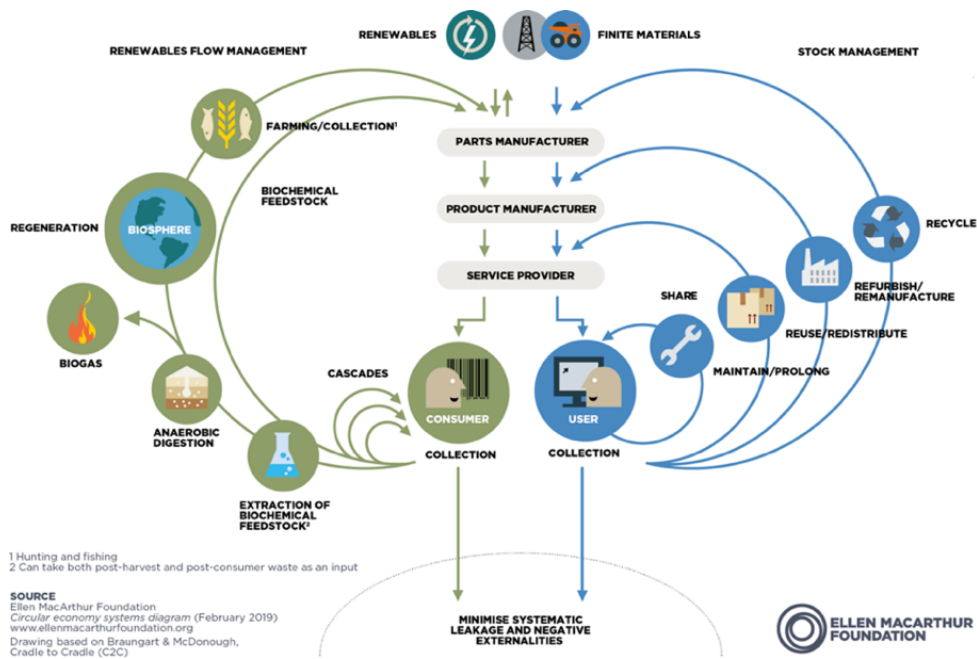


Figure 8: The Butterfly Diagram

Source: Ellen MacArthur Foundation (2019)<sup>11</sup>

Technical cycles involve materials that cannot re-enter the environment and must continually circulate within the system to preserve their value for as long as possible, maintaining and reusing products so that their value is preserved and its usage length is increased. Examples of such materials include metals and plastics. A good example of a successful technical cycle cited by the EMF (2019) would be repairing a car or arranging a carpool so that the car is shared between several people instead of building additional cars; or when the user no longer needs a product it might be used by others by reselling or redistributing it to other markets; once a product can no longer be used its value can still be retained by refurbishing or remanufacturing; if it is not possible to reuse, refurbish or remanufacture the parts of the product can be recycled; when recycled the value of the product itself is lost but the value of the materials is preserved.

On the other hand, biological cycles relate to materials that can safely return to nature. These materials are utilized in one or more cycles and biodegrade over time, contributing with nutrients back to the environment. Biodegradable materials such as food or wood-based products are renewable by nature and therefore can be recycled in biological cycles. However, further value can be created by upcycling for additional applications. A good example would be food waste or sewage sludge which can turn into valuable chemicals (Ellen MacArthur Foundation, 2019).

The three fundamental design-driven principles of CE are waste and pollution elimination, the circulation of products and materials for as long as possible, and nature preservation and regeneration

<sup>11</sup> <https://ellenmacarthurfoundation.org/circular-economy-diagram>

as illustrated in the Butterfly Diagram (Ellen MacArthur Foundation, 2019). The principle of waste and pollution elimination emphasizes the importance of enhancing system efficiency to eradicate these negative externalities. Therefore, waste is considered a problem of design instead of an inevitable by-product. The objective of maximizing the circulation of products and/or materials for as long as possible is to increase resource efficiency. This involves ensuring that products, components, and materials stay in use at their highest value and utility, thus avoiding their disposal in landfills. Achieving this goal requires the design of products that are easily reusable, repairable, or remanufactured. Preserving and regenerating natural capital relies on managing finite stocks and balancing the flows of renewable resources. Whenever possible, renewable resources should be prioritized, and non-renewable stocks should be preserved to avoid resource depletion. Circularity of nutrients flow is crucial to regenerate degraded soils and enhance the quality of natural resources.

In summary, a CE keeps materials and components in use at their highest value at all times ultimately seeking to decouple economic growth and development by distinguishing the technical and biological cycles (Ellen MacArthur Foundation, 2023).

*“The ‘waste-as-food concept’, in which unwanted outputs of one industrial process are used as raw materials in another industrial process, and the three “Rs” of Reduce, Reuse, and Recycle have become central to the concept of the Circular Economy”* (Murray et al., 2017, p. 371).

According to Murray et al. (2017), the EMF plays a central role in advocating for the CE and is responsible for adding this model to the agenda of governments and organizations. It has commissioned many reports on the concept from McKinsey and Company. The first report highlights the limitations of a linear economy and explores the potential of circular business models to create value. It identifies four sources of value creation within a circular economy: the power of the inner circle, circling longer, cascading use, and pure circles. The report presents case studies from various industries, illustrating how design alterations and improved reverse cycles can reduce costs, material inputs, energy consumption, and carbon emissions (Ellen MacArthur Foundation, 2013, a). Subsequent reports focus on different materials inputs and their treatment in manufacturing processes, emphasizing recycling potential, systematic reuse, by-products that displace virgin materials, and restorative design. The reports provide specific examples of how businesses can implement circular economy principles (Ellen MacArthur Foundation, 2013, a; 2014).

The concept of the CE has been gaining traction among policymakers, as evidenced by initiatives such as the European CE package and the Chinese CE Promotion Law (Geissdoerfer et al., 2017; Murray, 2017). Academic research on this model has also increased significantly, with an increasing number of articles and journals dedicated to the topic (Ellen MacArthur Foundation, 2013, b). Companies are also recognizing its value potential and its benefits for stakeholders (Ellen MacArthur Foundation, 2013, b). However, while there are already several success stories in this new paradigm (Ellen MacArthur Foundation, 2023, b), its widespread adoption is set back by the need for companies to fundamentally transform the pillars of their core business and challenge the dominant model, the LE



(Bocken et al., 2019). Innovative Sustainable and Circular Business Models are considered crucial tools for driving circularity (Bocken, 2019).

There are many criticisms to this new proposed model. Among them, the lack of standardization in its definition (Kirchherr et al., 2017; Geissdoerfer et al., 2017) and the absence of the social dimension of sustainability in its principles, which raises concerns about its genuine commitment to promote sustainable development (Bocken et al., 2019; Bocken & Short, 2021; Desiderio, 2022; Geissdoerfer et al., 2017; Kirchherr et al., 2017; Koumparou, 1992; Mies and Golden, 2021; Murray et al. (2017); Padilla-Rivera et al., 2020; Russo-Spena, 2018; Scarpellini, 2021; Ajmal et al., 2018; Walker et al., 2021).

### 1.2.3. CE Definitions

Kirchherr et al. (2017) analyzed 148 articles that mentioned “CE”, from 2012 to 2016, to evaluate conceptualizations of CE. Results showed that 114 articles provided a definition of the term and found 95 different definitions. Such a substantial variation in definitions can, according to the authors, compromise the integrity of the concept.

The definitions focused primarily on 3 of the 10 “Rs”: reducing, reusing, and recycling activities. Results also showed that the relationship between the CE and sustainable development is often not addressed explicitly in literature (only 12% of the definitions examined included notions of sustainable development) and CE often does not take a holistic view of the three dimensions of sustainability: environmental quality, economic prosperity, and social equity (only 13% of the definitions referenced all three dimensions). Findings reinforced the perception of the environmental and economic nature of CE: economic prosperity was mentioned in 46% of the definitions examined, and environmental quality follows closely behind, mentioned in nearly 38% of the definitions. Emphasis on economic prosperity is particularly noticed among practitioners, with 53% of their definitions highlighting its importance. This aligns with the argument that practitioners often see CE as a means to stimulate growth.

The definition provided by the EMF (2013) is the most commonly employed, appearing in eleven instances, including variations or shorter forms:

*“[CE] an industrial system that is restorative or regenerative by intention and design. It replaces the ‘end-of-life’ concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models.”* (Ellen MacArthur Foundation, 2013, a).

The most renowned definition, by EMF (2013), in shorter form: “An industrial economy that is restorative or regenerative by intention and design”.

Geissdoerfer et al. (2017) also found several different definitions for CE in the literature and aligns with Kirchherr et al. (2017) that together with the EMF is the most widely used. Other definitions include:

- “Realization of [a] closed loop material flow in the whole economic system”, the Chinese concept by Geng and Doberstein (2008);
- “The core of [the Circular Economy] is the circular (closed) flow of materials and the use of raw materials and energy through multiple phases”, by Yuan et al.’s (2008);
- “A circular economy is one that is restorative by design, and which aims to keep products, components and materials at their highest utility and value, at all times” by Webster’s (2015);
- “Design and business model strategies [that are] slowing, closing, and narrowing resource loops”, by Bocken et al. (2016)

After this revision process, Geissdoerfer et al. (2017, p. 766 ) propose the following definition: “As a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling”.

#### **1.2.4. Social Sustainability within the Circular Economy**

While CE emerges as the most recent effort to deliver sustainable development, it is crucial that it integrates people, planet and profit in its concepts (Murray, 2017). As stressed above, the majority of authors focusing on the CE tend to prioritize environmental and economic performance improvements, neglecting the comprehensive consideration of all three dimensions of sustainability. Many authors agree that there is a lack of presence of the social dimension of sustainability in the CE definitions, concepts, principles (Ajmal et al., 2018; Bocken et al., 2019; Bocken & Short, 2021; Desiderio, 2022; Geissdoerfer et al., 2017; Kichherr et al., 2017; Koumparou, 1992; Mies and Golden, 2021; Murray et al., 2017; Padilla-Rivera et al., 2020; Russo-Spena, 2018; Scarpellini, 2021; Walker et al., 2021). These authors align that the lack of consideration for all dimensions of sustainability prevent this model to deliver sustainable development.

Geissdoerfer et al. (2017) point out that social considerations in CE discussions are very much limited to job creation, lacking a deeper exploration of how the CE might influence individuals' subjective well-being. They highlight that although some authors suggest including more social dimensions, the actual integration of these dimensions often remains unclear. Mies and Gold (2021) state that key texts concerning CE concepts initially emphasized the importance of addressing human needs. However, this emphasis appears to have diminished in the practical implementation of these concepts. Instead, most studies have adopted an instrumental approach, concentrating on factors such as job creation, worker safety, or manufacturers' recycling intentions when assessing social sustainability.

Kichherr et al. (2017) state that by neglecting the fundamental systemic transformation that the concept requires can pose challenges in implementing CE effectively. Murray et al. (2017, p. 376) argued that “only if societal needs are defined and included in the basic formulation, can we hope to build on all three pillars of sustainability. This needs urgent attention in the CE conceptual framework.

The GRI also states that “the social dimension of sustainability concerns an organization’s impacts on the social systems within which it operates” (GRI Sustainability Reporting Guidelines 2002, p. 51).

In an attempt to enhance the coherence of its concept, Kirchherr et al. (2017) proposed a revised definition of CE, supported by Mies and Gold (2021):

*“A circular economy describes an economic system that is based on business models which replace the ‘end-of-life’ concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes, thus operating at the micro level (products, companies, consumers), meso level (eco-industrial parks) and macro level (city, region, nation and beyond), with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations”.* (Kirchherr et al., 2017, pp. 224 - 225).

The transition to CE is not without its challenges. Besides the externalities and temporal dependencies associated with the prevailing linear economy, conflicts can arise when trying to address all aspects of sustainability simultaneously (Vayona and Demetriou, 2020). Mies and Gold (2021) address the importance of including social aspects within the CE framework, but also acknowledge the challenges and complexities associated with achieving this integration. These challenges include the blurry boundaries in distinguishing and defining the boundaries between the economic, environmental, and social dimensions; operationalization problems such as issues related to creating practical indicators or measures for social sustainability; and, the prevalent approach to the CE, which may prioritize instrumental or practical aspects over social sustainability, making it challenging to integrate social concerns effectively. The authors also emphasize the importance of identifying the elements of social sustainability that are considered crucial for a successful transition to a CE, ones that go beyond job creation and worker safety.

### **1.2.5. Social Sustainability Themes within CE Literature**

As it has been mentioned above, job creation and worker safety are the most commonly social indicators cited as a social benefit of CE (Mies & Gold, 2021). Padilla-Rivera et al. (2020), in a literature review undertaken to identify all the social indicators that appeared in articles that had CE or its associated concepts (green economy, cradle-to-cradle, industrial ecology and bioeconomy) as a core, support that employment is the most frequently mentioned social indicator in CE literature. The study revealed a list of other social thematic areas and aspects that appeared in the articles at least once (Table 1):

Table 1: Thematic areas and aspects for social dimension within CE<sup>12</sup>

Thematic Areas *	Labor Practices and Decent Work	Human Rights	Society	Product Responsibility
Social Aspects	1. Employment	8. Investment	15. Social inclusion (equity)	
	2. Labor/Management Relations	9. Non-discrimination	16. Social networks	
	3. Occupational Health and Safety	10. Freedom of Association and Collection Bargaining	17. Social cohesion	
	4. Training and Education	11. Child Labor	18. Participation and Local Democracy	26. Customer Health and Safety
	5. Diversity and Equal Opportunity	12. Forced or Compulsory Labor	19. Anti-corruption	27. Product and Service Labelling
	6. Fair distribution of income	13. Security Practices	20. Public Policy	28. Marketing Communications
	7. Quality and Well-being	14. Human Rights Mechanisms	21. Compliance	29. Costumer Privacy
			22. Supplier Assessment for Impacts on Society	30. Compliance
			23. Cultural Traditions	31. Anti-competitive behavior
			24. Tourism and Recreation	
			25. Local Communities (Sense of community and belonging)	

### 1.2.6. CE and Sustainability

The CE emerges as the most recent endeavor to deliver sustainable development (Murray, 2017) and many times the terms CE and Sustainability are used interchangeably (Padilla-Rivera, 2020). However, besides the fact that there is a silence related to social sustainability in the CE concepts, the literature uncovers several distinctions between these terms' concepts, "encompassing their origins, objectives, motivations, system prioritizations, institutionalizations, beneficiaries, timeframes, perceptions of responsibilities, and underlying commitments" (Geissdoerfer et al., 2017, p. 757).

In their extensive literature review, Geissdoerfer et al. (2017) conclude:

- The CE focuses primarily on individual economic benefits, emphasizing resource input reduction, efficiency gains, and waste avoidance, and it aims for immediate results compared to sustainability, which includes long-term viability considerations;
- Sustainability originated from environmental movements, NGOs, and non-profit organizations, while the CE has diverse origins, including cradle-to-cradle principles and regulatory implementation;
- Sustainability aims for a triple bottom line, prioritizing the environment, economy, and society, in contrast, the CE gives more priority to the economic system and its benefits are centered around economic players;
- While sustainability provides a vague framework adaptable to different contexts, the CE is seen as more narrowly framed, offering clearer directions for implementation;
- CE emphasizes influencing organizational actors and consumers through incentives, while sustainability approaches often focus on behavior change through engagement and education.
- There are different perceptions of responsibilities in both concepts, with sustainability emphasizing shared responsibilities and the CE involving private businesses and regulators/policymakers.

<sup>12</sup> Source: Padilla-Rivera et al. (2020, p.6)

- Results reveal that the use of the term CE is driven by economic/financial advantages for companies and environmental benefits such as reduced resource consumption and pollution while the concept of sustainable development emphasizes equity across present and future generations and within different populations (Brundtland & WCED, 1987).

Murray et al. (2017) raise concerns about the CE's silence on social issues such as inter-generational equity, diversity, financial equality, and social opportunities. They argue that incorporating societal needs is essential for building upon all three pillars of sustainability. The CE, however, concentrates on the redesign of manufacturing and service systems to benefit the biosphere. While ecological renewal and survival, and reduction of finite resource use clearly benefits humankind, there is no explicit recognition of the social aspects inherent in other conceptualizations of sustainable development (Murray, 2017).

In fact, CE concepts have been criticized by many authors for excluding relevant aspects of the social dimension emphasizing economic benefits, and oversimplifying the environmental perspective (Bocken et al., 2019; Bocken & Short, 2021; Desiderio, 2022; Geissdoerfer et al., 2017; Kichherr et al., 2017; Koumparou, 1992; Mies and Golden, 2021; Murray et al. (2017); Padilla-Rivera et al., 2020; Russo-Spena, 2018; Scarpellini, 2021; Ajmal et al., 2018; Walker et al., 2021). Padilla-Rivera et al. (2020) state that CE perspectives have primarily emphasized economic solutions as the means to address material and energy-related challenges, rather than adopting a comprehensive sustainability paradigm and that while the main goal of sustainability is to benefit the environment, the economy, and society, it seems that the current beneficiaries of CE are primarily economic actors involved in its implementation. This narrow focus makes the concept more appealing to policymakers and private businesses compared to competing approaches. Many authors (Bocken et al., 2019; Bocken & Short, 2021; Desiderio, 2022; Geissdoerfer et al., 2017; Kichherr et al., 2017; Koumparou, 1992; Mies and Golden, 2021; Murray et al. (2017); Padilla-Rivera et al., 2020; Russo-Spena, 2018; Scarpellini, 2021; Ajmal et al., 2018; Walker et al., 2021) point out that this preference can hinder the transition to a truly sustainable economic system by diverting attention and resources away from more comprehensive and holistic approaches. A true sustainability approach would entail considering all three dimensions of sustainability.

The potential impact of the CE on social issues remains uncertain, particularly regarding inter- and intra-generational equity, gender, racial and religious equality, diversity, financial equality, and social opportunities (Murray, 2017). Padilla-Rivera et al. (2020) also conclude, from their systematic literature review, that the CE's framework's potential to enhance social well-being for current and future generations is still uncertain. It remains unclear whether the CE can outperform the linear economy model in terms of sustainability. Their study acknowledges the relevance of the social dimension within the CE and sustainable development domains. It notes that academia, governments, and businesses are increasingly striving to comprehensively grasp and effectively measure this dimension to facilitate the

successful adoption of the CE as a means to achieve sustainable development goals (Padilla-Rivera et al., 2020).

### 1.2.7. Social Sustainability Disclosures within CE Measurement Tools

Several frameworks have been proposed to measure the circularity and sustainability of circular economy-related projects, nevertheless, it is noteworthy that these frameworks generally do not include indicators for the social dimension (Mies & Gold, 2021).

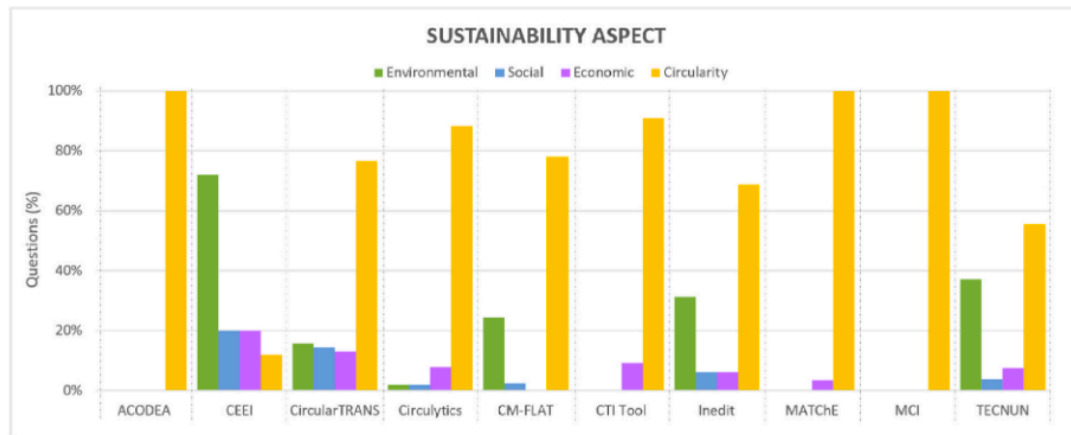


Figure 9: Classification of questions according to the sustainability aspect, by each analyzed tool

Source: Valls-Val et al., (2022, p. 6)<sup>13</sup>

Despite the long list of themes cited in the previous subsection, an analysis of the 10 available tools to measure CE conducted by Valls-Val et al. also highlights the absence of social sustainability indicators in CE measurement tools. And “If you can’t measure it you can’t manage it” (sentence attributed to Peter Drucker). Valls-Val et al.’ study reveals a significant increase in the availability of circular assessment tools designed for measuring the level of circularity in organizations, products and services, in recent years (70% from 2020 onwards) but out of 10 tools investigated, only a few include questions regarding social sustainability (figure 9): 70% have at least 75% of the questions directly related to circularity; environmental questions are considered in 50% of them; economic and social questions represent below 20%. Some tools focus only on the environmental dimension.

Circulytics™, launched by EMF, in 2020, is one of the tools that measure the progress and maturity of companies as they transition towards a CE approach; it allows organizations to assess how circular they currently are via a broad set of metrics which deliver a company-level score (Vayona & Demetriou, 2020). Despite its relatively short existence, it is the mostly widely used to measure circularity (Valls-Val et al., 2022). It has already been embraced by 1,884 companies (Ellen MacArthur Foundation, 2023,

<sup>13</sup> <https://linkinghub.elsevier.com/retrieve/pii/S0959652622012938>

a), reinforcing the urgent need for effective measurement tools in the field of CE. Circulytics consists of 33 questions/enabler indicators divided into seven thematic areas, theme 3 being the one specifically focused on people and skills, aspects of the social dimension of sustainability (10% of the questions) as follows (Vayona and Demetriou, 2020, p. 1):

(1) *“To what extent are your circular economy strategy and implementation plans communicated internally?”*

(2) *“To what extent do you offer circular economy related training?”*

(3) *“In which functions do you have at least half a full-time equivalent role dedicated to circular economy implementation.”*

Vayona and Demetriou (2020) argue that even though these questions can address the company's intentions and engagement in a CE strategy, they do not assess the actual effectiveness of its adoption or the level of acceptance among employees. They state that even if answered in the same manner across different organizations, the answers would not necessarily reveal any information on the successful adoption of the CE policy. The authors claim that the questions would be more effective if they checked workers' collaboration, acceptance and adoption since these are the crucial variables for them to carry out the transitioning to CE successfully.

Moreover, despite the CE's frequent association with sustainability, most of practices within this economic system have yet to prove their genuine contribution to the attainment of the Sustainable Development Goals (SDGs), due to the absence of the social dimension (Murray et al., 2017).

### **1.3. Addressing Social Sustainability within the Context of the CE: drawing insights from the ST**

Padilla-Rivera et al. (2020) point out that researchers find complex decisions in the field of CE when studying social aspects, such as how society, communities, and stakeholders interact with and are affected by CE practices. Therefore, in order to develop the social dimension of sustainability within CE, they often rely on theories, frameworks, methods, and approaches. According to the authors, the main theories used to help understand and analyze the social sustainability of CE practices: ST, Socio-Technical Transition Theory, Network Theory, Giddens' Structuration Theory, Social and Solidarity Economy Theory, Social Embeddedness and Capital Theory, Institutional Theory and Resource-Based View of the Firm.

This study draws from ST framework to address social sustainability within the CE context. After establishing the scope and the lack of relevance of the social dimension in the CE concept through the literature review presented, it proceeds to explore in the academic and gray literature how this dimension should be incorporated into the CE framework.

The ST came in contrast to Milton Friedman's Shareholder Theory (1962), also known as stockholder theory. While “Friedman's Shareholder Theory assumes that the profit generation is the sole responsibility of a business as the core interest of business owners is the profit maximization”

(Horúcková & Baudassé, 2017, p. 33), Freeman and Reed's ST (1983) underscores the company's responsibility to a broader range of stakeholders. The authors defined stakeholders as "groups who can affect or are affected by the achievement of an organization's purpose" (Freeman & Reed 1983, p. 91). The ST "combines morals and values, often neglected by shareholders, with organizational management and business ethics" (Horúcková and Baudassé, 2017, p. 33).

Mies and Gold (2021) claim that the social dimension of sustainability becomes especially relevant within the CE context because it calls for a high degree of cooperation and interdependence among several stakeholders, well beyond the typical supply chain or network relationships. Labuschagne et al. (2005) include the company's relationship with its various stakeholders in their definition of social sustainability. Padilla-Rivera et al. (2020) state that the ST can be seen as a tool for assessing and improving the implementation, scope and quality of social performance measurement within the CE context.

Padilla-Rivera (2020) points out some leverage points that can drive a comprehensive transformation towards a CE approach that incorporates all three sustainability dimensions:

- *Society and Local Community*: Promoting participation and local democracy is vital for allowing society to voice their perspectives and influence decision-making, especially concerning CE initiatives. Achieving social acceptance, often referred to as community approval, is a key factor in the success of CE projects. The 'Not in My Backyard' (NIMBY) concept, although associated with public opposition, has faced criticism for its negative implications. Education and awareness campaigns can help shift this opposition and foster community cohesion in support of circular economy efforts. Further research is necessary to comprehend the interplay between the NIMBY phenomenon and circular economy strategies affecting local communities. Enacting measures for citizen engagement and ensuring access to decision-making information are crucial steps in the transition to a circular economy (Padilla-Rivera et al., 2020, p. 10).
- *Health and Safety (Occupational and Consumer)*: Transitioning to CE has a significant impact on human health as for example reducing air pollution through circular mobility and production, and cost-saving measures in public health services. However, it also points out potential negative consequences if hazardous chemicals are not managed properly. The author notes that the connection between the CE and health has not been adequately addressed. While there have been efforts to evaluate health effects in specific areas like chemicals, e-waste, and food safety, a comprehensive framework is needed to assess how CE models can impact human health and well-being. This framework should consider the nature of these effects (positive/negative, direct/indirect) and their distribution across economic sectors and social groups. Drawing from existing frameworks in environmental and health literature is essential for analyzing how CE practices can mitigate or contribute to environmental health risks for vulnerable populations.



While mapping the social dimension within the CE discourse, Mies and Gold (2021) also identified leverage points that can be used to drive a comprehensive transformation towards a CE that incorporates all three sustainability dimensions:

- *Internal Organizational Processes*: changing societal and industrial perspectives on the CE have a two-way influence, shaping organizational transformations and impacting consumer preferences. This includes how the public perceives a corporation's image and reputation. Both internal and external educational efforts related to sustainability and the CE, targeted at the general public, customers, and business partners, were frequently identified as effective strategies for promoting successful CE adoption and encouraging improvements in customer demand and end-of-life behavior.
- *Workers*: the organization's role in addressing social factors related to workers' well-being is crucial, with contractual arrangements, work conditions, recognition, and motivation being key leverage points for promoting social justice, human rights, and workers' overall satisfaction.
- *Customers*: customer incentives, education, and awareness-raising efforts are strong leverage points for governments and organizations to promote circular practices and close material cycles effectively.
- *Local Community*: within the context of the CE, engaging the local community in the early planning stages empowers them and influences their attitude and commitment to CE measures; this involvement fosters social inclusion and equity within the community, benefiting marginalized groups. Social cohesion and positive relationships with adjacent companies and governments are outcomes of community participation. Municipal support, consistent policies, and effective communication play important roles in community engagement. Educational initiatives strengthen local empowerment and social cohesion. Access to resources, improved infrastructure, safe living conditions, and transparency enhance community well-being and development. Local employment opportunities contribute to economic welfare, poverty alleviation, and overall community development.
- *Society*: governmental involvement through regulations, incentives, and financial measures is essential for circular economy transformation. Public knowledge and awareness of circular economy issues are fundamental for public attitudes, commitment, and participation. Education and empowerment campaigns can change public opinions and behaviors, fostering acceptance and participation. Societal transformation toward a CE can reduce social costs and conflicts among stakeholders. The balance between social costs and the perceived positive impacts drives public acceptance. A CE can lead to social benefits like cohesion, health, safety, education, and overall societal well-being. Social justice and equity are critical for long-term growth and economic welfare. Economic inequalities can undermine these social benefits. Public pressure and policy measures encourage companies to adopt circular economy practices.

Governmental commitment, societal awareness, and improvements in social and economic justice are essential leverage points for societal transformation toward a circular economy.

In summary, community involvement and government engagement are crucial in local and societal contexts, with education and awareness playing significant roles in fostering circular economy practices and promoting overall well-being.

While Mies and Gold, as well as Padilla-Rivera et al., provide valuable insights in their articles, the latter highlight the need for additional research to establish clear definitions and methodologies for measuring social indicators. They also emphasize the importance of demonstrating how CE practices can effectively contribute to societal well-being. Mies and Gold state that future research in CE should expand its focus by including diverse social factors, not limited to economic or ecological aspects, using quantitative social indicators.

## Chapter 2

### METHODOLOGY

This study aimed to explore and compare social sustainability indicators reported by organizations following CE and LE models. To address the research question—“Will there be differences in social sustainability practices among organizations at different stages in the journey towards the CE?”—the study collected and analyzed both qualitative and quantitative secondary data. It involved the following key steps: first, determining the sectors and size of companies (described in section 2.1); second, selecting the organizations within each sector (described in section 2.2); third, establishing the Sustainability standard framework as the most appropriate to use as the base for the analysis (described in section 2.3); fourth, evaluating the companies’ progress in their CE journey to differentiate between those closer to achieving the CE model and those closer to the LE approach (described in section 2.4); and finally, collecting and analyzing data from the selected organizations’ Sustainability Reports (described in section 2.5).

#### **2.1. Determining Company Sizes and Sectors:**

The criteria for selecting the sample were the inclusion of the following i) companies with more than 500 employees with global presence, ii) operating in related to waste management and/or manufacturing, and iii) on the technical cycle side of the Butterfly Diagram (figure 8). The decision of which sectors and companies to include in the study was influenced by several factors.

First, the academic literature supports the hypothesis that there is a positive relationship between firm size and the level of CSR (Vitolla et al., 2023). It emphasizes that larger companies tend to have a greater level and quality of disclosure. This positive influence is rooted in ST, where larger firms experience more significant pressures due to their visibility, broader stakeholder base, and increased risks, including reputational risks and potential government intervention in cases of social contract non-compliance (Vitolla et al., 2023). Besides, CSR has gained significant prominence in global companies. They are putting more and more effort into demonstrating their commitment to corporate social responsibility, by providing transparent and verifiable data in accordance with standardized assessments similar to how they report conventional financial documents (Russo-Spena et al., 2018). This led to the decision to focus the research on large companies.

Second, most of the CE works have a primary focus on waste industry, aiming to minimize waste and enhance its use (Padilla-Rivera et al., 2020). In a systematic literature review conducted by these authors, it was possible to distinguish the CE sectors of activity and the most relevant ones were found to be waste management (14%) and manufacture (7%). Therefore, taking this into account, the present study examined reporting practices within two sectors known for generating substantial waste and consuming significant natural resources (source): Fashion and Tech/Electronics.

Third, to ensure comparability, this research specifically targets organizations implementing the technical cycle of the CE as opposed to the biological cycle, so as to make it possible to compare companies that face similar challenges and employ similar strategies.

Lastly, another factor that impacted on the organizations' selection process was whether it was founded within the CBM, even it did not fill all the requirements described above. The researcher considered relevant to shed light on these companies' social practices.

## **2.2. Selecting Companies within each Sector**

Although this study is not aimed at creating a statistically representative sample from specific countries or continents, it has taken into consideration the inclusion of companies from a diverse range of regions, including the European Union, the USA, and from Asia, in its selection. Companies selected are:

- Fashion Segment: Inditex, H&M and Vestiaire Collective (European Union), Gap and ThredUP (USA), Uniqlo (The Fast Retailing) and Shein (Asia).
- Tech/Electronics: Apple and HP (USA), Fairphone and Electrolux (European Union), and Samsung (Asia).

### **Fashion Segment<sup>14</sup>:**

#### **GAP:**

Gap Inc. is a global apparel retail company, providing a range of apparel, accessories, and personal care products for men, women, and children. Operating through segments such as Gap Global, Old Navy Global, Banana Republic Global, Athleta, and Intermix, the company covers diverse fashion needs. It was founded in 1969, in the USA, and in 2022, Gap operated 2,685 stores, employed directly 95,000 people and generated a revenue of \$15,6 billion. The company's report adheres to the GRI comprehensive version.

#### **H&M Group:**

The company is in the retail of clothing, accessories, footwear, cosmetics, and home textiles business. It has a diverse portfolio of brands including H&M, COS, Monki, Weekday, & Other Stories, Cheap Monday, H&M Home, and ARKET (Forbes, 2023, b). Founded in 1947, H&M is based in Stockholm, Sweden. The group employs 150,000 people full-time, it operates 4,465 stores in 79 markets, and its revenue was \$22.2 billion, in 2022. The company's report adheres to the GRI comprehensive version (CSR, 2022).

#### **Inditex Group:**

As the largest fast fashion conglomerate globally, Inditex, founded in Spain, in 1985, manages a network of 5,815 stores across 213 markets worldwide. Zara stands as the company's flagship store,

---

<sup>14</sup> For description of company's profiles this study used Forbes Profile (2023) as a source, except for Fairphone. Other information used CSR as a source.

among several other brands including Zara Home, Bershka, Massimo Dutti, Oysho, Pull&Bear, Stradivarius, Uterqüe, and Lefties. With a direct workforce of 164,997 of 182 nationalities, it has 1,729 suppliers, 8,271 factories, and the group achieved a revenue of EU\$32.6 billion in 2022. The company's report adheres to the GRI comprehensive version.

### **Shein**

Shein is a private global e-retailer of fashion garments, founded in China 2012. Its revenue in 2022 is estimated in US\$24 billion, having previously increased more than 3times from 2019 to 2020 (Buck, 2023). According to Dawkins & Mayers (2023), the brand has turned highly popular, the most feared in the fast fashion business, and it is potentially being considered for sale in Forever 21 stores. Currently, the company has 11.000 employees. The report covers 2022 and references the GRI 2021 standard in specific sections. It incorporates the Materiality Matrix (addressing risks for the planet, people, and business) that was discontinued out in the GRI 2021 version. The company's report adheres to the GRI core version.

### **ThredUP**

ThredUP is a company specializing in the fashion resale sector. Serving as an online consignment and thrift store, it provides a diverse selection of high-quality secondhand clothing from several brands. With a primary focus on the recommerce industry, the company was established in 2009 and is headquartered in Oakland, California. It also positions itself as a tech brand: it offers retail partners a scalable resale platform so they can achieve their circularity objectives. In 2022, the company became the first consumer company listed on the Long-Term Stock Exchange (LTSE), signaling a commitment to focus on impact. ThredUP's 2022 Impact Report is the brand's second annual report, covered full year of 2022 and adhered to GRI framework, core version. In the period, the company, with a workforce of 1,769 employees, reached 172.3 million secondhand items processed, and \$288.4 million total revenue. It was founded within CBM.

### **Uniqlo (Fast Retailing):**

Uniqlo is a clothing apparel company, which was originally founded in Yamaguchi, Japan in 1949 as a textiles manufacturer. Now it is a global brand with over 1000 stores around the world. Besides Uniqlo, Fast Retailing's global brands include various clothing operations such as GU, Theory, Helmut Lang, Comptoir des Cotonniers and Princesse tam.tam. The company's report adheres to the GRI core version.

### **Vestiaire Collective**

Vestiaire Collective was founded in 2009 and is headquartered in Paris, France. It is a private company that owns and operates an online platform that allows users to buy and and sell pre-owned luxury fashion items. The platform encompasses a diverse range of products, including shoes, clothing, accessories, jewelry, bags, and watches for individuals of all ages and genders. It has 800 employees of more than 67 nationalities, it is a B Corp. It was founded within the CBM.

## **Tech/Electronics Segment:<sup>15</sup>**

### **Apple:**

Apple Inc. is a technology that designs, manufactures, and markets a wide range of products, including smartphones, computers, tablets, wearables, and accessories. Their diverse product lineup includes iPhone, Mac, iPad, AirPods, Apple TV, Apple Watch, and more. Operating platforms like the App Store, Apple provides customers with access to applications and digital content. In addition to hardware, Apple offers subscription-based services such as Apple Arcade, Apple Music, and Apple TV+, alongside other services like AppleCare and Apple Pay. Apples's supply chain encompasses more than 3 million people in 52 countries, and thousands of business facilities (Financial Times, 2023). The report leverages reporting framework GRI, comprehensive version, and focuses on fiscal year of 2021, 52- or 53-week period that ends on the last Saturday of September of 2022 .

### **Electrolux Group:**

Founded in 1919, Electrolux AB, a key player in the appliance sector, operates in two segments: Consumer Durables and Professional Products. In the Consumer Durables segment, Electrolux offers a range of appliances, including refrigerators, cookers, washing machines, and more. The Professional Products segment caters to hotels, restaurants, and institutions with food service and laundry equipment. The company's had a direct workforce of 46.535 employees and a revenue of \$14 billion, in 2022. The sustainability report has been prepared in accordance with the GRI Standards, comprehensive version, and has been reviewed by a third party to ensure reporting accuracy and completeness.

### **Fairphone**

Fairphone, a Dutch electronics manufacturer specializing in smartphone design and production, strives to reduce its environmental footprint. This goal is achieved by minimizing the use of conflict minerals, ensuring fair labor conditions for both its workforce and suppliers, and enabling users to self-maintain their devices. Founded in 2013, operating within a circular business model, in 2022, the company directly employed 131 people and extended support to many more indirectly through its supply chain for sourcing, production, and distribution of its products and generated a revenue of \$62.3 million.

The report uses Fairphone's Impact Key Performance Indicators (KPIs) aligned with the company's theory of change: raising awareness, providing proof, and creating followers. These KPIs are designed to measure Fairphone's impact in driving the electronics industry towards increased fairness. Additionally, it applies these KPIs to assess their contribution to the Sustainable Development Goals (SDGs), both directly and indirectly. It was also chosen to be part of this study for its innovative CBM.

### **HP:**

---

<sup>15</sup> For description of company's profiles this study used Forbes Profile (2023) as a source, except for Fairphone. Other information used CSR as a source.

HP Inc., a notable information technology company renowned for personal computers and printers, emerged in 2015 following the split of the original Hewlett-Packard Company. This restructuring separated the personal computer and printer divisions from the enterprise product and business services divisions. The company operates in 180 countries, employs a workforce of 58,000 and its revenue was of \$63 billion in 2022. The company's report adheres to the Global Reporting Initiative (GRI) comprehensive version.

### **Samsung**

Samsung, founded in 1938, in South Korea, operates under two core divisions: DX (Device eXperience) covers Visual Display, Digital Appliances, Mobile eXperience, Networks, and Health & Medical Equipment, while DS (Device Solutions) focuses on Memory, System LSI, and Foundry businesses. The company incorporates various industry sectors such as Semiconductors, Electronics, Electrical Engineering, and Technology Hardware & Equipment. It employs 270,372 people worldwide and has a revenue of \$220.1B billion. It is number 1 in “World’s Best Employers” and “America’s Best Employers”, in Forbes’ 2023 list. It follows GRI standards, comprehensive version, and CSR encompasses year 2022.

<https://www.forbes.com/companies/samsung-electronics/>

## **2.3. Establishing the Sustainability Standards Framework**

A comprehensive review of the reporting standards was carried out to determine the GRI standards as the most appropriate to use as the base for the analysis considering the specificities of this study. This choice was influenced by the fact that GRI is the most globally adopted framework (KPMG, 2022).

## **2.4. Assessing the progress of companies on their CE journey**

There is no definitive source of information that offers a comprehensive list of companies classified under the CE. Despite the existence of numerous associations, foundations, labels, and intergovernmental organizations that provide concepts, business models, and tools for measuring or certifying circularity, such a comprehensive list remains difficult to grasp.

On 05/04/23, an email exchange was initiated with the EMF, a leading advocate of the CE (Murray et al., 2017), to request a list of CE circular organizations (Annex C). The foundation's response on the same date was as follows: "We do not categorize companies as strictly circular or linear; instead, we assess their progress along the circular economy journey and assign scores accordingly" (Annex C).

An additional inquiry was submitted to the EMF on 07/18/23 (Annex D), requesting information on organizations utilizing Circulytics, a tool used to assess a company's maturity level in the Circular Economy since it has already been adopted by 1,884 organizations (Ellen MacArthur Foundation, 2023, a). On 07/26/23, EMF replied saying (Annex D):

*“Unfortunately we cannot share the names of companies that participate in a Circulytics assessment. The company data, results, and the fact that they participated in Circulytics is confidential, unless such a disclosure is made or authorized by a company itself”.*

Furthermore, an inquiry was directed to GRI on 07/18/23 (Annex E) and received an automatic answer on the same date (Annex F). Researcher sends a follow-up email on 08/04/23 (Annex G), seeking insights into which disclosures in GRI Reporting might indicate whether an organization is engaged in Circular Economy practices. The response on 08/24/23 (Annex H) was:

*“You can refer to GRI 306: Waste 2020 for disclosures relating to circularity, which includes the following definition on circularity measures: ‘Measures taken to retain the value of products, materials, and resource and redirect them back to use for as long as possible with the lowest carbon and resource footprint possible, such that fewer raw materials and resources are extracted and waste generation is prevented’”.*

As of my inquiry to GRI on 08/04/23 whether they had any recommendation, besides the EMF, where a list of companies that were committed or practiced the CE as opposed to LE could be found, this was their answer: “No specific databases come to mind beyond the EMF” (Annex H).

Therefore, this research assessed the stage in which each company is in the journey towards to the CE (degree of circularity). This requires an assessment of its business practices, policies, and operations. Several practices can help evaluate a company's commitment to circularity including circular business models, closed loop systems, resource efficiency, product life extension, circular supply chain, circular product design, waste management and recycling, reporting and transparency, certification and labels, circular partnerships and initiatives, long-term strategy among others (Ellen MacArthur Foundation, 2023, a). In order to ensure that companies were truly in the journey to the CE model, it was essential for them to have reported these practices in their sustainability reports, whether standalone or integrated.

Thus, to assess the degree of circularity within organizations—whether they are at a beginning, intermediate or advanced stage—this study:

- Collected the data from CSR, CSR Executive Summary, and GRI Index (when it was available) from the sections that covered Material Topics, Materials and Waste disclosure, and whatever data available in the same sources regarding practices of circular business models.
- Employed a scoring system ranging from 0 to 50 points.

The scoring was based on the evaluation of the following variables:

1. *Circularity Commitment*: Earn up to 1 point by recognizing "Materials" (GRI – 301) and "Waste" (GRI – 306) as Material Topics in the report or through a documented partnership with organizations like EMF.
2. *Disclosures on Reported Topics*<sup>16</sup>: Achieve a maximum of 3 points for disclosures on "Materials" (GRI 301 - 1 to 3) and a maximum of 5 points for disclosures on "Waste" (GRI

---

<sup>16</sup> See Annex A for the description of each disclosure within material topics “Materials” and “Waste”.



306 - 1 to 5), resulting in a total of 8 points (see Annex A to understand what each “Material” and “Waste” disclosure entails).

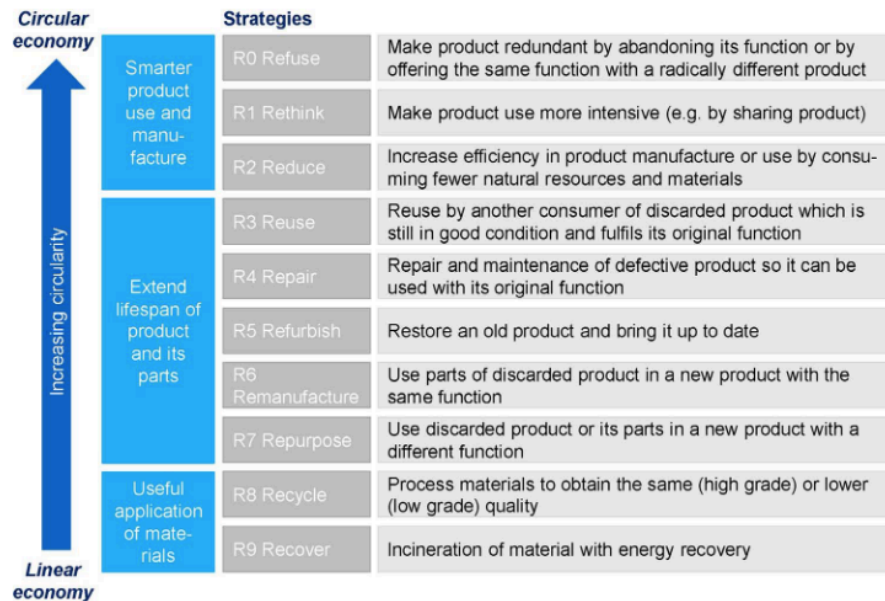


Figure 10: The 10R Framework

Source: Kichherr et al. (2017, p.224)

3. *Circularity Hierarchy*: attain up to 21 points. Referring to Kichherr et al. (2017) model of the 10 “Rs” of circularity (see Figure 10), the scoring ranges from 3 to 12, adding up to a total of 21 points. To evaluate the integration of Rs practices by organizations, the researcher used the CSR search engine, excluding those Rs that did not explicitly refer to circularity. For instance, “Reduce” is used many times across the report but not necessarily referring to circularity or resources. The researcher also omitted redundancies in the GRI Index. The scoring criteria are as follows:
  - If the company systematically implemented at least 2 out of the top 3 Rs (Refuse/Refute, Rethink and Reduce) as part of a strategic approach and not as isolated initiatives), it scored a total of 12 points.
  - If the company systematically practices at least 3 out of the intermediate 5 R’s (reuse, repair, refurbish, remanufacture, repurpose) as part of a strategic approach and not as isolated initiatives, it scored a total of 6 points.
  - If the company reported to practice at least 1 out of the bottom circularity Rs (recycle and recover) in a systematic way as part of a strategic for the organization and not one isolated initiative, it scored a total of 1 point.
4. *Circular Business Model (CBM)*: to achieve circularity, organizations must undergo a transformation of their core businesses, challenging the dominant LE model (Bocken et al., 2019). This researcher considered core business model as an indicator of how advanced a

company is in the circularity journey. Companies that incorporate Innovative and CBM as core business scored 20 points.

Based on the value of the score, organizations progress in the circularity journey were classified in three stages:

- a) *Initial Level (0 – 15 points)*: companies that predominantly practice the “take-make-dispose” model of the LE
- b) *Intermediate Level (total score between 16 and 30 points)*: organizations in the middle of the journey to circularity
- c) *Advanced Level (total score above 30 points)*: Circular Business Model as Core

For all organizations, this study took into account Materials and Waste in the core product and production processes. However, for the two Aftermarket Businesses specializing in Second-Hand clothing, the researcher focused on packaging under Material disclosure. This decision stems from the fact that these companies engage in the reuse of pre-owned garments rather than the manufacturing of new ones, as the definition of Material by GRI entails:

*“Inputs used to manufacture and package an organization’s products and services can be non-renewable materials, such as minerals, metals, oil, gas, or coal; or renewable materials, such as wood or water. Both renewable and non-renewable materials can be composed of virgin or recycled input materials.”* (GRI, 2022, a).

It is noteworthy to emphasize that companies had to report data and demonstrate practices qualitatively and/or quantitatively. Qualitative data alone without evidence of being in fact implemented as well as declarations of intentions and road maps were not sufficient.

## **2.5. Collecting and analyzing secondary data from CSRs to compare Social Disclosures in each stage of the Circularity Journey**

To answer the research question “Will there be differences in the social sustainability practices among organizations at various stages in the journey towards the CE?”, the study collected and analyzed secondary qualitative and quantitative data.

Data collection encompassed a desk research conducted between June and October, 2023, focusing on the most recent CSR of selected company, published between 2021 and 2023. These reports typically covered the fiscal year preceding their publication and were accessed on the companies’ websites. The reports were available in the following formats: Corporate Sustainability Report (standalone); Annual and Sustainability Report (integrated to the financial report); ESG Report; and Impact Report.

In the context of assessing differences in the implementation of the social dimension of sustainability between LE and CE organizations, this dissertation initially sought to integrate its analysis of GRI-based reports, whether in core, comprehensive, or as a reference version. The objective was to leverage the Report Executive Summary and GRI Index to evaluate a company’s number of

social disclosures. This evaluation involved counting the number of total social sustainability disclosures in GRI Framework (see Annex B to understand what each social disclosure entails) and out of those, how many were reported by the chosen companies. There are 37 disclosures in the comprehensive version. The sampled organizations can earn up to 37 points, 1 point for each disclosure reported. However, in the process of data gathering, the following findings led to a shift in focus:

- The lack of a standardized approach in filling out GRI Indexes as well as in the Report Executive Summary content.
- Some organizations did not adhere to GRI, not even as a reference.
- Upon examining the complete reports, this study identified more content on social and environmental dimensions than what was reported in the GRI indexes.
- The fact that by relying only on counting points from environmental and social dimension disclosures in the GRI Index ended up being limiting, requiring a deeper examination of information.

Therefore, a comprehensive analysis of the content related to Material, Waste, Circularity and the Social Dimension of sustainability in the full CSR, Annual Report or Impact Report, was added to this study.

## RESULTS AND DISCUSSION

### 3. Assessing the social dimension of sustainability

#### 3.1. Sampled Organizations Sustainability Reports

Aligning with concerns highlighted in the literature review, the diverse criteria employed in CSR pose a challenge for comparing and benchmarking the sustainability performance of companies. A common thread among the CSRs was the significant variability observed, both in practices and conceptualizations, as Russo-Spena (2018) had already pointed out. It is not new that each company shapes the narrative to strengthen its positioning, emphasizing what they considered significant to them, capitalizing on perceived positives while sometimes strategically sidestepping what was unfavorable. This can be illustrated by the fact that companies like Apple, H&M, Inditex, Electrolux proudly highlight their low or zero Green House Gases (GHG) emission in scopes 1 and 2 as if they were not aware that most of their emissions fell under scope 3. Nevertheless, it is quite positive that they are currently reporting on scope 3, a disclosure they did not even mention a few years back.

Differences identified through the content analysis can be categorized under the following topics:

- Management orientation focused on the long term, potentially fostering innovation and identifying market opportunities, in contrast to short-term orientation, in line with Russo-Spena, (2018).
- Reports used as a marketing tool to gain, maintain or repair legitimacy or to reduce threats of regulation (Diaz-Sarachaga, 2021; Russo-Spena, 2018), in contrast to reports that showed companies were actively contributing to create environmental and social value (Landrun and Ohsowski, 2018).
- Reporting to gain, maintain and repair legitimacy, already mentioned by Diaz-Sarachaga (2021).
- Reporting to reduce threat of regulation, previously recognized by Russo-Spena (2018).
- Different levels of completeness, credibility and reliability, in accordance with the results of Diaz-Sarachaga (2021)
- Commitment to decouple growth and profits from natural resources resulting in new value propositions for the customers and brands.
- Level of advocacy and actions tackling structural problems to foster human rights, environmental and social practices in the community or society in general.
- The degree to which companies sought to shape industry by encouraging the adoption of sustainable practice, as well as sharing innovative solutions.
- The level of level of Circularity - The degree of quantitative data, emphasizing specific actions and performance, as opposed to qualitative information centered around goals and intentions.

The researcher qualitatively assessed the strength of the described characteristics in each company's report, to indicate whether the organization exhibits weakness, strength, or falls at an intermediate level. Refer to Table 2 for more details.

Table 2: Levels of strength of each characteristic

STRONG  
INTERMEDIATE  
WEAK



REPORTING: CHARACTERISTICS	AUTHOR	FASHION							TECH/ELECTRONICS				
		INDITEX	H&M	GAP Inc.	UNIQLO*	SHEIN	VESTIAIRE COLLECTIVE	THEADS UP	APPLE	HP	FAIRPHONE	ELECTROLUX	SAMSUNG
LONG-TERM ORIENTATION OF MANAGEMENT AND POTENTIALLY INNOVATION AND MARKET OPPORTUNITIES	RUSSO-SPENA, 2018	●	●	●	●	●	●	●	●	●	●	●	●
CREATE ENVIRONMENTAL VALUE WHILE NURTURING THE COMPANY'S INTANGIBLE CAPITAL	LANDRUM AND OHSOWSKI, 2018.	●	●	●	●	●	●	●	●	●	●	●	●
STATEMENT COMMITTING TO DECOUPLE GROWTH AND PROFIT FROM NATURAL RESOURCES	IDENTIFIED IN THE STUDY	●	●	●	●	●	●	●	●	●	●	●	●
CREATE SOCIAL VALUE WHILE NURTURING THE COMPANY'S INTANGIBLE CAPITAL	LANDRUM AND OHSOWSKI, 2018.	●	●	●	●	●	●	●	●	●	●	●	●
ADVOCACY TO FOSTER HUMAN RIGHTS, ENVIRONMENTAL AND SOCIAL PRACTICES OUTSIDE THE COMPANY (COMMUNITY)	INCLUDED BY THE AUTHOR OF THIS DISSERTATION	●	●	●	●	●	●	●	●	●	●	●	●
TRY TO INFLUENCE THE INDUSTRY TO ADOPT BEST AND SUSTAINABLE PRACTICES; SHARE SOLUTIONS	INCLUDED BY THE AUTHOR OF THIS DISSERTATION	●	●	●	●	●	●	●	●	●	●	●	●
LEVEL OF CIRCULARITY	LANDRUM AND OHSOWSKI, 2018.	●	●	●	●	●	●	●	●	●	●	●	●
QUANTITATIVE (CONCRETE ACTIONS AND PERFORMANCE) VS QUALITATIVE (AIMS AND INTENTIONS)	BOUTEN, 2011	●	●	●	●	●	●	●	●	●	●	●	●
REPORT TO GAIN, MAINTAIN OR REPAIR LEGITIMACY	RUSSO-SPENA, 2018	●	●	●	●	●	●	●	●	●	●	●	●
REPORT TO REDUCE THREATS OF REGULATION	RUSSO-SPENA, 2018	●	●	●	●	●	●	●	●	●	●	●	●
COMPLETENESS	UN 2002; DIAZ-SARACHAGA, 2021	●	●	●	●	●	●	●	●	●	●	●	●
CREDIBILITY/RELIABILITY (concrete data; external verification)	UN 2002; DIAZ-SARACHAGA, 2021	●	●	●	●	●	●	●	●	●	●	●	●

\*THE FAST RETAILING GROUP

Certainly, organizations bear a substantial responsibility for the challenges in comparing environmental and social practices among them. However, additional factors can contribute to these variations. On the one hand, the GRI incorporates an extensive set of criteria and offers flexibility for each company to identify the material issues more relevant for its diverse group of stakeholders (refer to figure 7). This could be advantageous as it allows more companies to identify aspects that align most closely with their needs. Nevertheless, the framework's intentional design, allowing different interpretations and reporting possibilities (see figures 11 and 12), may pose a significant challenge in comparing sustainability progress across companies. On the other hand, the disclosures themselves may introduce confusion (figure 7) due to its interconnectedness as they mix vertical components, such as stakeholders (employees, supply chain, local communities, customers) and transversal components including occupational health & safety, D&I, non-discrimination, freedom of association, training and education, security practices, public policy.

The intricate interconnections among these aspects suggest a need to shift focus from questioning differences to addressing the complexity of these relationships, aiming to enhance comparability in

reports. Apple's and Inditex's CSRs stand out as a potential benchmark for social disclosures due to its clear and straightforward identification of social practices, facilitating easy comparisons if other companies adopted a similar reporting approach. These two companies center its reporting on stakeholders, outlining interconnected social actions and detailing positive impacts on employees, the supply chain, communities, society, and consumers. In contrast, Electrolux organizes its material topics under "Better Company", "Better Solutions", and "Better Living", adopting a marketing-oriented narrative that poses challenges in discerning social impact (refer to figures 12).



Figure 11: Fashion Organizations - CSR Social Disclosure Structure



Figure 12: Tech/Electronics - CSR Social Disclosure Structure

### 3.2. Organizations' levels in the circularity journey

The CE, as highlighted by Bocken et al. (2016) and Murray et al. (2017), serves as a conceptual framework that promotes resource efficiency, waste reduction, and closed-loop systems. The findings of this research reveal that the CE is not merely an academic concept but is gaining practical traction within the sampled organizations, particularly in the sectors investigated. The analysis of organizations' circularity levels validates the literature's assertions, indicating a growing commitment to circularity. All companies reported "Circularity" or "Waste" or "Materials" as a Material Topic, and the incorporation of terms related to the 10Rs and Circularity in their reports reflects a conscious effort to address circularity in their operations (figure 13). The emphasis on circularity terms is higher in the Tech/Electronics sector, suggesting a heightened concern for circularity progress in this industry.

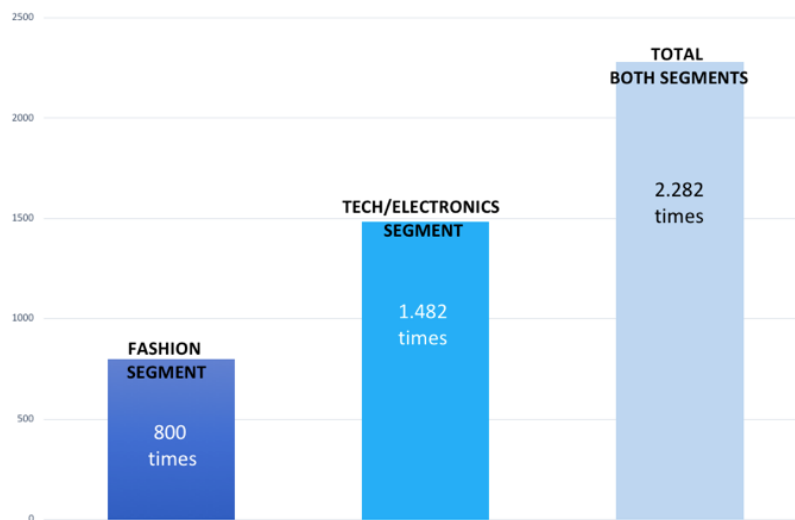


Figure 13: Circularity-related terms

Highlight for HP for incorporating circularity and the "10R" vocabulary-related 567 times, Fairphone, 274 times, and Inditex and H&M, 190 times each<sup>17</sup>. This suggests the evident concern these organizations have in providing answers to their stakeholders regarding circularity progress.

As mentioned above, Kichherr (2017) observed that definitions of CE primarily emphasized three out of the ten "Rs": reducing, reusing, and recycling. It's worth noting that while this study didn't gather or analyze information on CE definitions within reports, it has applied the "Rs framework" and found a similar pattern in the Tech/Electronics segment (figure 14). In this context, recycling, reducing, and reusing were the three most frequently mentioned "Rs," in a different order (recycling first).

---

<sup>17</sup> Annex I.

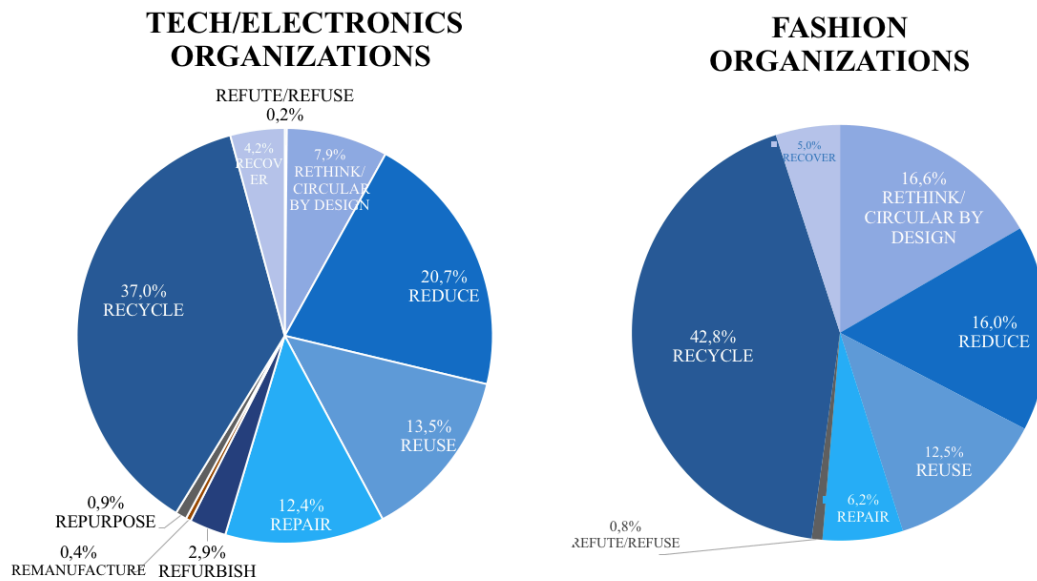


Figure 14: % Mix of 10Rs within each segment

The main differences between Sectors are (figure 14):

- The share of “recycling” is higher in Fashion, 42.8%, than in Tech/Electronics, 37%, suggesting sector-specific priorities and that the tech/electronics segment is progressing towards an increased level of circularity in Kichherr’s 10R Framework.
- Rethink/Circular by Design scores higher in Fashion, suggesting that tangible and effective outcomes may become evident in a near future.
- Excluding “recycling”, the 3 top Rs in Fashion are “Rethink/Circular by Design”, “Reduce” and “Reuse” (45.1%), while in Tech/Electronics, “Reduce”, “Reuse” and “Repair” (46.6%).



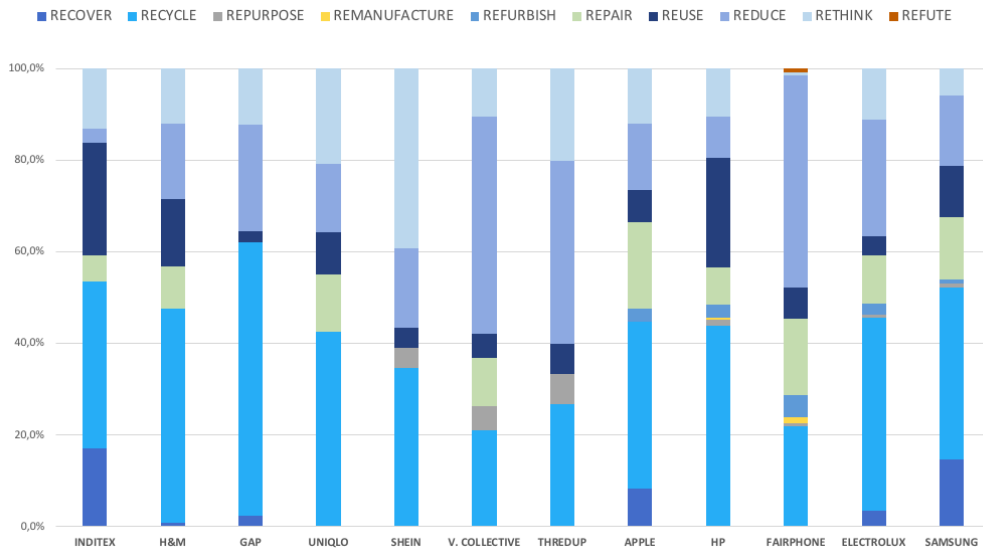


Figure 15: % Mix of Rs within each Company

Except for Shein, Fairphone, Vestiaire Collective and ThredUP, “Recycling” has consistently ranked as the most common “R” across all companies (figure 15).

The exploration of individual companies’ progress towards circularity reinforces the practical application of circular economy principles. Most sampled organizations have progressed to an *intermediate level* of circularity, as illustrated in figure 16. Companies like Apple, HP, and Samsung stand out in achieving the highest level in the intermediate stage of the circularity journey, leveraged by their comprehensive scores across all three “R” categories<sup>18</sup>. This may suggest a concerted effort to embrace a transformative circular business model.

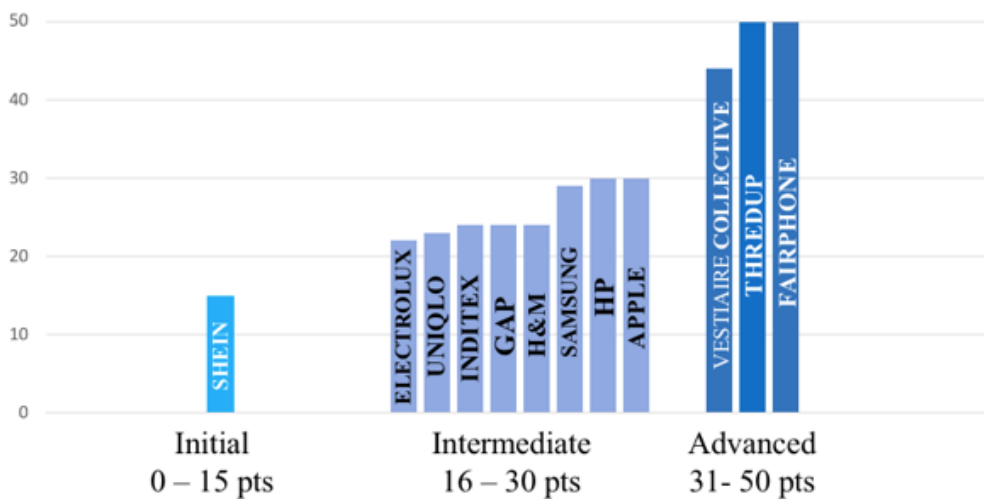


Figure 16: Level in the journey towards circularity<sup>19</sup>

<sup>18</sup> Annex K.

<sup>19</sup> Refer to Annex L to assess scores by company and variable that defined circularity level.

On the contrary, companies like Electrolux, Uniqlo, Inditex, Gap, and H&M lag behind, particularly in “extending the lifespan of the product and its parts.”<sup>20</sup> This highlights specific areas where these companies need to focus their efforts to advance in their circularity journey.

The inclusion of Fairphone as a standout performer, committing to and practicing “Refute/Refuse”<sup>21</sup>, showcases the diversity of approaches in the journey toward circularity. This indicates that companies are exploring innovative sustainable and circular business models, aligning with the insights provided by Bocken (2019). While the literature review acknowledges criticisms of the CE, such as the lack of standardization in its definition and the absence of the social dimension of sustainability, the practical implementation of circularity principles by sampled organizations adds a layer of complexity to the ongoing debates. The companies’ efforts in the intermediate and advanced level, as reflected in their reports, suggest a commitment to addressing circularity challenges to achieve the new transformative model.

The analysis of organizations’ circularity levels provides a tangible link between the theoretical underpinnings of the CE and its application in real-world business practices. This connection reinforces the relevance and practicality of adopting circularity principles as a strategy for addressing sustainability challenges and fostering long-term resilience in diverse industries. However, most companies’ report on their circularity achievements either suggest a considerable distance yet to cover or fail to provide a clear indication of the extent needed to achieve a transformation in the business model. To illustrate, the Fashion companies emphasize on “Rethink” and “Redesign for Circularity” but they do not report the percentage of the total production that was designed for circularity or that needs to be designed for circularity. The global economy’s circularity has declined from 9.1% in 2018, to 8.6% in 2020 and now it stands in 7.2%, reflecting a concerning trend by increased material extraction and utilization (Circular Economy Foundation, 2023). This indicates that more than 90% of materials used are wasted. Therefore, the critical analysis of the results of this research suggests that companies should make an effort to ensure that their reports make it possible to track data on all practices and monitor progress towards the targets.

### **3.3. Social Dimension Disclosures**

On the contrary to what the literature suggested, organizations in both segments went way beyond the traditional reporting of “employment” and “health and safety” in the context of the social dimension disclosures.<sup>22</sup> In addition to “employment” and “health and safety”, the disclosed material topics

---

<sup>20</sup> Annex J and K.

<sup>21</sup> Ibid.

<sup>22</sup> Refer to Annex B for more details on all the social material topics disclosures.

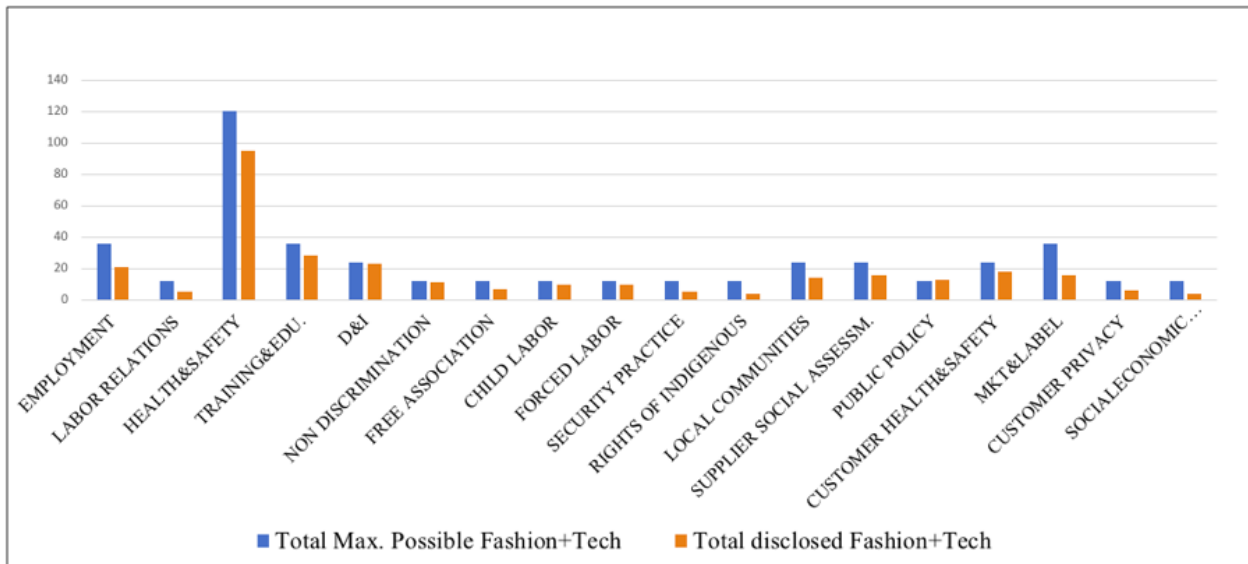


Figure 17: Variety of disclosures reported by sampled companies

showcased a significant emphasis on “diversity and inclusion” (D&I), “child labor”, “forced labor”, “local communities”, and “supplier social assessment”. Refer to figure 17 to see the variety of disclosures reported compared to the existing 18 social material topics, and to figure 18 to identify the top seven social material topics<sup>23</sup> and the corresponding companies that reported each of them.

SOCIAL MATERIAL TOPICS							
EMPLOYMENT	OCC. HEALTH & SAFETY	D&I	CHILD LABOR	FORCED LABOR	LOCAL COMMUNITIES	SUPPLIER SOCIAL ASSESS.	
INDITEX	INDITEX	H&M	SHEIN	INDITEX	INDITEX	INDITEX	
H&M	H&M	GAP	INDITEX	UNIQLO	UNIQLO	UNIQLO	
SHEIN	GAP	SHEIN	APPLE	SHEIN	THEDUP	APPLE	
THREDUP	UNIQLO	THEDUP	HP	APPLE	V. Collective	HP	
APPLE	THREDUP	V. COLLECTIVE	FAIRPHONE	HP	APPLE	FAIRPHONE	
HP	SAMSUNG	APPLE	SAMSUNG	FAIRPHONE	FAIRPHONE	ELECTROLUX	
FAIRPHONE		HP		ELECTROLUX	SAMSUNG	SAMSUNG	
		FAIRPHONE		SAMSUNG			
		ELECTROLUX					
		SAMSUNG					

Figure 18: Most reported Social Material Topics and companies that reported them

### 3.3.1. Assessing differences in the social sustainability practices among organizations at different levels in the journey to Circularity

<sup>23</sup> Vestiaire Collective and ThredUP did not employ the term “material topic”. The researcher embraced the actions reported within each disclosure. Fairphone’s material topics are their KPIs. The researcher listed the material topics included in the KPIs.

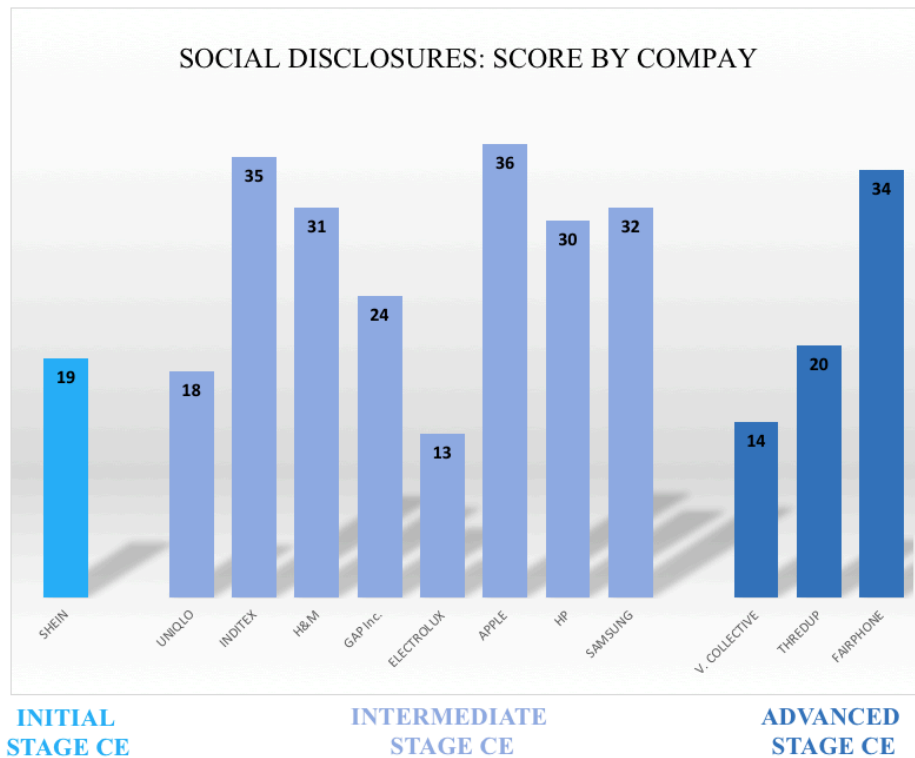


Figure 19: Social Disclosures by company (maximum possible: 37 points)

The findings of this study reveal that the number of social disclosures reported by sampled organizations does not necessarily correlate with the reported progress in the circularity journey (figure 19). Apple, positioned in the intermediate stage of circularity, stands out with the highest score of 36 out of 37 points, and Fairphone, in the advanced stage, stands out with 34 points. The main difference between the two seems to be in the approach to sustainability. In Fairphone, a company originally founded within the CBM, the social, environmental and economic dimensions are intertwined and the company employs a multi-stakeholder approach to tackle systemic issues. While in Apple, a company originally founded in the LE and on its way to advanced circularity, the three dimensions of sustainability are more verticalized and there is less participation of stakeholders in the decision-making process. The same can be said about all the other companies originally founded in the LE. This can be illustrated in the following example.

Apple, HP, Samsung, Fairphone, Electrolux, Gap, Uniqlo, Inditex, and H&M, all scoring above 30 points, have a shared concern: their extensive supply chains, which present a risk to their reputation owing to potential human rights violations. As a result, many of their social practices concentrate on ensuring labor rights within the supply chain, prioritizing health and safety, eradicating child and forced labor, and contributing to the development of communities not only in their operational sites but also locations and supply chain areas. All of them have Codes of Conduct for aligned suppliers, developed according to the International Labor Organization. The supplier evaluation process starts before signing the contract and is an ongoing process conducted by either external or internal entities, or both.

Additionally, many of these companies provide a confidential Hotline for any employee to call and report discrepancies discreetly. Fairphone shares the same supply chain challenge, however, it goes beyond auditing suppliers to deliver its KPIs. The company reports that acknowledges the positive impact of suppliers audits, a common practice in the industry, especially in improving basic health and safety conditions. However, it argues that auditing falls short in addressing underlying systemic problems such as inadequate wages, absence of worker representation, and prolonged overtime. Additionally, it believes these audits fail to encompass subjective aspects of factory workers' well-being, such as their satisfaction levels or exposure to discriminatory behavior in the workplace. Therefore, instead of treating the supply chain as a risk to be avoided for reputation protection, the company actively identifies problematic areas and adopts a multi stakeholder approach which involves businesses, governments, NGOs, and local organizations working collaboratively for systemic change.

Sampled businesses in the After Market Second-Hand garment sector do not face challenges associated with extensive supply chains, allowing them to focus their social dimension initiatives primarily on employees. Within this group, their practices align closely with GRI social dimension standards, encompassing: employment benefits such as parental leave, and living wage vs minimum wage; efforts to achieve equal pay between men and women by contributing to market structural change, for instance, increase women in tech; more participation of women and diversity on the boards; occupational health focused on wellness; diversity, equity, inclusion (DE&I) and belonging; non-discrimination policies; training and education to help employees grow in their career and become socially and environmentally more sustainable; volunteering hours. They argue that their primary social role is to educate consumers and encourage a shift in purchasing habits toward what they term "pre-loved" (pre-owned) items. In their reports, especially that of Vestiaire Collective, they illustrate how buying second-hand enables consumers to reduce CO<sub>2</sub> emissions and conserve natural resources. These two businesses and Fairphone, highly advanced in circular practices, demonstrate a commitment to both the social and environmental aspects of sustainability, even though CE's principles does not inherently include the social dimension.

A key distinction between companies in the intermediate stage towards the journey to sustainability and these fashion ones grounded in the CBM models lies in the quantitative social impact they generate for stakeholders including employees, supply chain and community. Notably, their workforce is significantly smaller in comparison to fashion and tech industry giants. For instance, companies like Inditex, H&M, Gap, Uniqlo, Inditex, Apple, HP, Electrolux and Samsung, employ over 50,000 direct workers each, with millions more in indirect employment. Fairphone, though having fewer direct employees, contributes significantly to indirect jobs in the supply chain. In contrast, Vestiaire Collective and ThredUP combined have a workforce of less than 5,000 individuals. This pattern extends to their efforts in the supply chain and community engagement. All companies, except for Vestiaire Collective and ThredUP, face reputational risks if their supply chains violate human rights. Consequently, these companies actively invest in and strive to engage with partners in their supply chains and communities.

However, Vestiaire Collective and ThredUP, while emphasizing community engagement, appear not to align their reported levels of investment with their revenue.

In contrast to Shein's environmental and circularity disclosures, which, as previously noted, seem more like statements of intent, the company's social disclosures in its report showcase concrete actions. This case stands out, as the report content reveals more actions than the GRI Index. Shein, the only company in the initial stage of circularity, was founded under the LE model. It exhibits both similarities and differences compared to the After Market Second-Hand garment businesses and to the other fashion organizations in the intermediate stage. Operated through an online platform, the organization has a direct workforce consisting of eleven thousand employees, relatively small as in the After Market Second-Hand garment companies. However, it has an extensive indirect workforce supply chain similar to that of Gap, Uniqlo, Inditex, and H&M. Shein emphasizes its capacity to align production with demand, positioning itself as more advanced in the journey towards circularity when contrasted with counterparts at the intermediate level, which generate a significant surplus of items. While this may be true in this aspect, it contradicts the information outlined in Shein's CSR, ultimately resulting in a low scoring system's criteria. As of the social material topics, Shein reported on 19 disclosures, and its actions in the social supply chain align with what other companies in the segment reported, mainly focusing on auditing suppliers. Notably, it's important to mention that the only disclosures audited by an external institution were scopes 1 and 2 in GRI – 305 (emissions).

The Tech/Electronics segment is not only more circular but it is also more people oriented. The sector reported 79% of social disclosures compared to 62% in Fashion (figure 20). The result in the Fashion segment was impacted by the fact that the After Market companies did not report on supply chain and related disclosures. However, even if when these businesses were excluded from the sample, the Fashion segment lagged behind the Tech sector in 10 percentage points (79% vs 69%). With the exception of D&I (GRI 405-2), Local Communities (GRI 413-2), and Social-economic Compliance (419-1), the Tech/Electronics Sector outperformed the Fashion segment in all other disclosures.

The study infers that, given their sizes, all companies adhere to socioeconomic laws. However, the use of the negative phrasing such as “non-compliance with laws and regulations in the social and economic area” leads many companies to assume that disclosure is unnecessary. As highlighted in section 1.1.4., “Human Rights” was previously categorized as a social disclosure (GRI 412). However, in the updated version of GRI (2021), it has been incorporated into the Universal Standards, making it mandatory for reporting and not optional as the social disclosures. Yet, under social disclosures, there are still indicators associated with Human Rights, such as “child labor (GRI 408)”, “forced labor” (409), and “indigenous people rights” (GRI 411). Only Samsung reported on 411 (annex N). Here again, this study infers that this might also be due to the negative framing of the disclosure, focusing on “incidents of violation involving rights of indigenous peoples.” Companies without such incidents are more likely not to disclose it.

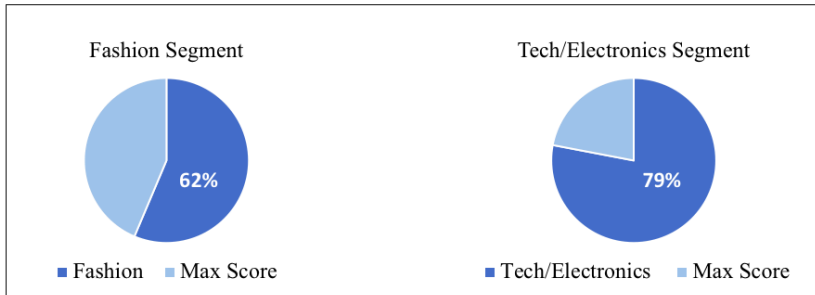


Figure 20: % Mix Social disclosures reported by segment

### 3.3.2. Social disclosures interconnectedness

This study aligns with Diaz-Sarachaga (2021) when he states that the wide-ranging criteria in CSR make it difficult to compare company’s sustainability performance and that organizations often overlook interconnections among indicators. Yet, it was within the web of interconnected disclosures that this research endeavored to identify and compare social practices. As mentioned in the previous session, considering that the “supply chain” was a shared concern for the majority of organizations, a clear correlation was observed. The material topic “supplier social assessment” (stakeholder Supplier) appeared for most companies, featuring specific disclosures related to this stakeholder, including “child labor”, “forced labor”, “health and safety,” “labor management”, “free association”, public policy” “D&I”, “non-discrimination”, “training and education”, “public policy”, and stakeholders “community, customer, employees” (see figure 21 – stakeholders in orange; transversal disclosures, in blue).

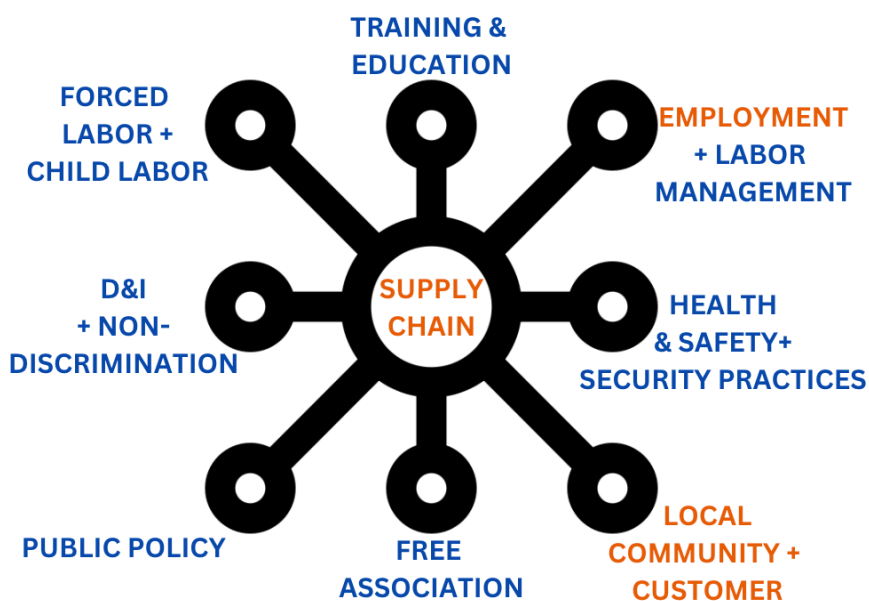


Figure 21: Social disclosures interconnectedness

### **D&I and direct employees**

Another strong correlation was observed between the material topics “employment”, “D&I” and “non-discrimination”, with related disclosures including equal pay, hiring from different nationalities, women in leadership positions, and diversity in the board of trustees. All reports underscored the importance of D&I (GRI 405-1) in new employment. Here once again it is evident that organizations not only did not report exclusively on “employment” and “health and safety”, but also introduced an important element to their hiring practices: the “D&I” and “non-discrimination” disclosures. Two additional observations on this topic:

First, “D&I” and “non-discrimination” receive more emphasis in the company's direct hiring, except for Fairphone, which extends this focus to the supply chain. Second, “training & education” demonstrates correlation, either with “supplier social assessment” to educate workers on sustainability issues, new skills, health and safety, human rights, and codes of conduct; or with direct employment, also aiming to train employees in skills conducive to their career growth. This also includes education on diversity, inclusiveness, equity, belonging, and non-discrimination within the working environment. Apple goes beyond by extending “training & education” to “local community” as well. The company offers courses to enhance digital literacy among low-income individuals and it invests in universities that prioritize non-dominant groups. Fairphone also goes beyond when it includes “training and education” to prepare leaders for “free association and collective bargaining”, in the supply chain.

### **Advocacy and Volunteering:**

In the category “local community/society” interconnected with “employees” and “D&I” and “non-discrimination”, there are two themes that appeared in Padilla-Rivera et al. (2020) literature review on the social dimension that are worth reinforcing. One is “advocacy” and the other refers to employees being empowered to do volunteering work in the community or in advocacy groups that defend causes aligned to the companies’ or employees’ values. Since this study has analyzed only the most recent sampled organization’s reports, it is not possible to state if this segment has been gaining traction along the years. Nonetheless, the reports gave an important emphasis on these themes, especially the After Market Businesses. Some companies donate a number of hours monthly for their employees to take action, and others also create funds so that both employee and organization can invest in causes they believe.

This research considers an organization’s involvement to defend societal causes highly significant. It goes on the opposite direction of Milton Friedman’s (Friedman, 1970) doctrine, in which he affirms that the only responsibility of organizations is to its shareholders. On the other hand, it aligns with the ST defended by Freeman et al. (2018). Yet, upon thorough examination of what the sampled organizations disclosed about their advocacy efforts, it appears that motivations are not always driven by a genuine desire to benefit society but rather seem more aligned with marketing strategies.



Shein, for example, has committed to CanopyStyle and Pack4Good pledges to combat deforestation in fabric and paper packaging supply chains. Working with Canopy's experts, the company is developing strategies and exploring next-gen fibers to reduce environmental impact. Their objective is to eliminate the use of critical forests in fabrics and packaging by 2025. What calls the attention of the researcher is the fact that the company does not explicitly commit to eliminating the use of forests but only those forests deemed critical. A similar approach was adopted by Electrolux. The company reported its efforts to reduce water consumption in areas with water scarcity, while it should reduce the usage even in areas where there is no water scarcity.

Athleta (Gap) provides another example of dubious advocacy. In 2022, Athleta collaborated with Allyson Felix (retired athlete) to empower mom athletes by offering free and accessible child care in partnership with the nonprofit organization & Mother. The program debuted during Allyson's final championship race in Oregon in June 2022. As a part of Athleta's ongoing efforts to promote equity for women, the Power of She Fund, in conjunction with Felix and the Women's Sports Foundation (WSF), has initiated a third round of child-care grants. These grants provide female athletes with \$10,000 each to support essential child-care resources while training and competing. No doubt the initiative benefits the targeted public, however, it does not help solve the structural problem of lack of child care centers. It is more like a marketing campaign for brand building.

There are three cases that seem to illustrate a genuine and effective advocacy action, by Fairphone, Apple and Vestiaire Collective. In 2022, Fairphone actively engaged in legislative advocacy, initiating a campaign urging the EU to incorporate living wages and income as a human right in the EU Corporate Sustainability Directive. A letter, endorsed by 64 companies, investors, and NGOs, was dispatched to key EU Parliament members, the EU Commission, and member states. Fairphone not only advocated for the inclusion of living wages and income as a human right in the EU Corporate Sustainability Directive but also proposed specific amendments. In addition, they initiated a Change.org petition, signed by over 9,500 people, urging EU member states and the EU Parliament to recognize a living wage as a human right.

Apple invests time and money to help dismantle systemic racism and support opportunities for Black, Hispanic/Latinx, and Indigenous communities in the USA. Their Racial Equity and Justice initiative is focused on three key areas: expanding access to education, supporting criminal justice reform, and removing economic barriers for communities of color. The initiative began in June 2020 with an initial commitment of \$100 million, followed by an additional \$30 million commitment in August 2021, to help elevate equity-focused solutions across the academic and advocacy landscapes, and a \$25 million commitment in May 2022 to expand access to capital for community financial institutions supporting communities of color. The Racial Equity and Justice initiative has generated new partnerships and projects, weaving a focus on equity and justice throughout the company's culture, including existing community programs and business operations. Besides this project, Apple has invested more than \$3 billion since 2018 in the development of programs, in contributions to nonprofit

partners, and in values-driven investments that extend beyond financial returns, aiming to foster positive social and environmental outcomes.

Vestiaire Collective showcases a diverse workforce of 67 different nationalities and actively promotes diversity at all organization levels. Committed to fostering a safe and respectful environment, the company conducts training programs on discrimination and harassment, implements measures to mitigate bias in recruitment processes, and establishes “whistleblowing processes” for harassment reporting. Acknowledging the challenge of gender pay equality, Vestiaire Collective focuses on increasing women's representation in leadership and tech roles and for that they need more women in tech. To influence and change this structural problem, the company has partnered with the "World Economic Forum in Tech" to attract more women to the tech industry among other public commitments. Additionally, they launched the Women in Tech Lab and Speakers Program to inspire young women. Vestiaire Collective aims to elevate women leaders from 32% to 50% by 2026 and ensure a minimum of 40% women on the company's board by 2028.

Essentially, the practice of social disclosure highlights the intricate network of interconnected social information, revealing the diverse approaches companies adopt to address social issues (sessions 3.3., 3.3.1. and 3.3.2.). Moreover, the absence of examples highlights the disconnection between social and environmental aspects stemming not only from organizations’ choice not to report but also from the structural framework of GRI. For instance, within the material topic “Customer Health and Safety” (GRI 416-1-2), GRI requires companies to disclose the health and safety impacts of products and services. However, the lack of inclusion of production process impacts demonstrates a gap. If extended to cover such impacts, organizations would need to address their contributions to greenhouse gas emissions, the generation of microplastic waste, and other environmental consequences for specific stakeholders. This underscores the need for a reassessment of GRI standards, promoting the integration of environmental, social and economic disclosures with a focus on stakeholders. In the view of this study, it is imperative for GRI and other standards to revisit their current models. The researcher infers that this would make it more feasible for the CE to include the social dimension in its principles and practices.

## Chapter 4

### CONCLUSION

The examination of organizations' stages in the circularity journey confirms the growing traction of the CE, in the sampled sectors. Standout companies like Apple, HP, and Samsung demonstrate commitment to the 10R framework, while Fairphone exemplifies a holistic approach to sustainability across social, environmental, and economic dimensions.

The study sheds light on the diverse landscape of social sustainability practices in organizations at different stages of the circularity journey. It shows that organizations' reporting extends beyond traditional reporting of "employment" and "health&dafety", encompassing areas such as "D&I", "non-discrimination", "training and education", "child labor", "forced labor", and "supplier social assessment", and that the interconnectedness of these indicators, particularly in the supply chain context, underscores the transversal nature of social sustainability efforts.

Despite the positive trend in the transition to circularity and the substantial implementation of social actions, the study reveals a lack of correlation between the number of social disclosures and progress in the circularity journey. Apple and Fairphone, positioned at different circularity stages, both excel in social sustainability, emphasizing the need for a nuanced understanding of the interplay between circularity and social impact.

While providing actionable insights for organizations navigating the intricate intersection of circularity and social responsibility, it is crucial to acknowledge the study's limitations. The analysis of sustainability reports exposes significant variability in approaches, conceptualizations, and motivations for social disclosures, often used by companies as a marketing tool. The wide range of criteria allowed by GRI make it challenging to compare organizations' advancement and predict the time required for them to overcome challenges associated with embracing the transformative CBM. Moreover, the absence of examples among most highlights the disconnection between social and environmental aspects stemming not only from organizations' choice not to report but also from the framework design of GRI.

In light of these complexities, the study suggests assessing the broader landscape of sustainable development within the CE. As this model gains relevance as a transformative force integrating economic activity and environmental well-being, the research reinforces the critical need to bridge the gap among sustainability practices and raises the question: "How can organizations effectively integrate social sustainability into the CE, ensuring interconnectedness among economic, environmental, and social dimensions essential for sustainable development?" The need for a nuanced understanding of the interplay between circularity and social impact, especially among companies founded under the LE principles, is emphasized, urging a deeper exploration of strategies, frameworks, and collaborative efforts.

## Sources

- 2023 Vestiaire Collective Impact Report*. (2023). Retrieved September 29, 2023, from <https://fashion-sustainability-report.vestiairecollective.com/media/site/eddac7b178-1687355851/23-vc-023.pdf>
- 2022 Apple ESG Report*. (2022). apple.com. Retrieved July 1, 2023, from [https://s2.q4cdn.com/470004039/files/doc\\_downloads/2022/08/2022\\_Apple\\_ESG\\_Report.pdf](https://s2.q4cdn.com/470004039/files/doc_downloads/2022/08/2022_Apple_ESG_Report.pdf)
- Apple GRI Index Environment*. (2023, March 27). <https://www.apple.com>. Retrieved July 1, 2023, from <https://www.apple.com/environment/reports/gri/>
- A Short Introduction to the GRI Standards*. (n.d.). <https://www.globalreporting.org>. Retrieved April 5, 2023, from <https://www.globalreporting.org/media/wtafl14tw/a-short-introduction-to-the-gri-standards.pdf>
- Consolidated Set of the GRI Standards 2021*. (2022). [www.globalinitiative-reporting.org](http://www.globalinitiative-reporting.org). Retrieved March 3, 2023, from <https://www.amauni.org/wp-content/uploads/2022/03/Set-of-GRI-Stnds-2021.pdf>
- Electrolux GRI Index*. (2023, March 27). <https://www.electroluxgroup.com>. Retrieved September 3, 2023, from <https://www.electroluxgroup.com/wp-content/uploads/sites/2/2023/03/sustainability-report-2022.pdf>
- Electrolux Sustainability in Brief 2022*. (2023, March 27). <https://www.electroluxgroup.com>. Retrieved September 3, 2023, from <https://www.electroluxgroup.com/wp-content/uploads/sites/2/2023/03/sustainability-in-brief-2022.pdf>
- Electrolux Sustainability Report 2022*. (2023, March 7). <https://www.electroluxgroup.com>. Retrieved September 3, 2023, from <https://www.electroluxgroup.com/wp-content/uploads/sites/2/2023/03/sustainability-report-2022.pdf>
- Fairphone's Fair Sourcing Policy*. (2021, May). <https://www.fairphone.com>. Retrieved October 10, 2023, from [https://www.fairphone.com/wp-content/uploads/2021/05/Fairphone\\_FairSourcingPolicy-FINAL.pdf](https://www.fairphone.com/wp-content/uploads/2021/05/Fairphone_FairSourcingPolicy-FINAL.pdf)
- Fairphone Impact Report 2022*. (2023). <https://www.fairphone.com>. Retrieved September 6, 2023, from <https://www.fairphone.com/wp-content/uploads/2023/05/Fairphone-Impact-Report-2022.pdf>
- Fast Retailing GRI Standard Contents Index*. (2023). <https://www.fastretailing.com>. Retrieved September 6, 2023, from [https://www.fastretailing.com/eng/sustainability/report/pdf/FR\\_2022\\_GRI\\_eng.pdf](https://www.fastretailing.com/eng/sustainability/report/pdf/FR_2022_GRI_eng.pdf)
- Fast Retailing Integrated Report 2022*. (2023). <https://www.fastretailing.com>. Retrieved October 3, 2023, from [https://www.fastretailing.com/eng/ir/library/pdf/ar2022\\_en\\_sp.pdf](https://www.fastretailing.com/eng/ir/library/pdf/ar2022_en_sp.pdf)
- Gap 2022 ESG Report*. (2023). <https://www.gapinc.com>. Retrieved September 8, 2023, from <https://www.gapinc.com/en-us/values/sustainability/esg-report>
- GRI 3: Material Topics 2021*. (2022). In <https://www.globalreporting.org/> ISBN 978-90-8866-135-8© 2022 GRI. All rights reserved. Retrieved July 3, 2023, from <https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/>
- H&M Group Sustainability Disclosures*. (2023). <https://hmgroup.com/>. Retrieved October 3, 2023, from <https://hmgroup.com/wp-content/uploads/2023/03/HM-Group-Sustainability-Disclosure-2022.pdf>
- H&M Group GRI Index 2022*. (2023). <https://hmgroup.com>. Retrieved September 15, 2023, from <https://hmgroup.com/wp-content/uploads/2023/03/HM-Group-GRI-Index-2022.pdf>
- HP2022 Sustainable Impact Report Executive Summary*. (2023). Retrieved July 16, 2023, from <https://h20195.www2.hp.com/v2/getpdf.aspx/c05179523.pdf>
- HP 2022 Sustainable Impact Report*. (2023). Retrieved July 17, 2023, from <https://h20195.www2.hp.com/v2/getpdf.aspx/c08228880.pdf>

*Inditex Annual Report 2022*. (2023). <https://inditex.com>. Retrieved July 15, 2022, from [https://static.inditex.com/annual\\_report\\_2022/pdf/Inditex-group-annual-report-2022.pdf](https://static.inditex.com/annual_report_2022/pdf/Inditex-group-annual-report-2022.pdf)

*Inditex GRI Content Index*. (2023). [www.inditex.com](http://www.inditex.com). Retrieved July 4, 2023, from [https://static.inditex.com/annual\\_report\\_2020/assets/pdf/pdfseng/CAPITULOS\\_ING/WE%20REPORT\\_GRI%20content%20index.pdf](https://static.inditex.com/annual_report_2020/assets/pdf/pdfseng/CAPITULOS_ING/WE%20REPORT_GRI%20content%20index.pdf)

*Samsung Electronics Sustainability Report 2023*. (2023). <https://www.samsung.com>. Retrieved September 9, 2023, from [https://www.samsung.com/global/sustainability/media/pdf/Samsung\\_Electronics\\_Sustainability\\_Report\\_2023\\_ENG.pdf](https://www.samsung.com/global/sustainability/media/pdf/Samsung_Electronics_Sustainability_Report_2023_ENG.pdf)

*Shein ESG Report – SHEIN Group*. (2023). <https://sheingroup.com>. Retrieved October 1, 2023, from <https://sheingroup.com/esg-reports/>

*Shein Sustainability Social Impact Report – SHEIN Group*. (2023). <https://sheingroup.com>. Retrieved October 1, 2023, from <https://sheingroup.com/esg-reports/>

*Shein GRI Index*. (2023). <https://sheingroup.com>. Retrieved October 1, 2023, from [https://sheingroup.com/wp-content/uploads/2023/05/Shein\\_ESG-Report2022\\_Annex\\_3.pdf](https://sheingroup.com/wp-content/uploads/2023/05/Shein_ESG-Report2022_Annex_3.pdf)

*ThredUP 2022 ESG Overview*. (2023). Retrieved September 18, 2023, from <https://ir.thredup.com/static-files/fe02f12d-ca9b-4ef4-bae2-975806663efb>

*ThredUP 2022 Impact Report*. (2023). Retrieved September 13, 2023, from <https://ir.thredup.com/static-files/43fcb53d-0613-494b-a070-bbb90b714d19>

*ThredUP 2022 Impact Report SASB and GRI Index*. (2023). Retrieved September 18, 2023, from <https://ir.thredup.com/static-files/50297744-5fb0-4625-a8c8-afd359f5ab81>

## References

- Ajmal, M. M., Khan, M., Hussain, M., & Helo, P. (2017). Conceptualizing and incorporating social sustainability in the business world. *Journal Article*, 25(4), 327–339. <https://doi.org/10.1080/13504509.2017.1408714>
- Aldieri, L., Brahmi, M., Bruno, B., & Vinci, C. P. (2021). Circular Economy Business Models: The Complementarities with Sharing Economy and Eco-Innovations Investments. *Sustainability*, 13(22), 12438. <https://doi.org/10.3390/su132212438>
- Alhaddi, H. (2015). Triple Bottom Line and Sustainability: A Literature Review. *Business and Management Studies*, 1(2), 6. <https://doi.org/10.11114/bms.v1i2.752>
- Baroni, M. (1992). Ambiguidades e Deficiências do Conceito do Desenvolvimento Sustentável. *Instituto De Estudos, Formação E Assessoria Em Políticas Sociais*.
- Bocken, N.M.P., de Pauw, I., Bakker, C., van der Grinten, B. (2016). Product design and business model strategies for a circular economy. *J. Ind. Prod. Eng.* 33, 308-320.
- Bocken, N., Strupeit, L., Whalen, K., & Nußholz, J. (2019). A Review and Evaluation of Circular Business Model Innovation Tools. *Sustainability*, 11(8), 2210. <https://doi.org/10.3390/su11082210>
- Bocken, N., & Short, S. W. (2021). Unsustainable business models – Recognising and resolving institutionalised social and environmental harm. *Journal of Cleaner Production*, 312, 127828. <https://doi.org/10.1016/j.jclepro.2021.127828>
- Bocken, N., M. P., Weissbrod, I., & Antikainen, M. (2021). Business Model Experimentation for the Circular Economy: Definition and Approaches. *Circular Economy and Sustainability*. <https://doi.org/10.1007/s43615-021-00026-z>
- Bouten, L., Everaert, P., Van Liedekerke, L., De Moor, L., & Christiaens, J. (2011). Corporate social responsibility reporting: A comprehensive picture? *Accounting Forum*, 35(3), 187–204. <https://doi.org/10.1016/j.accfor.2011.06.007>
- Buck, A. (2023, October 7). *Shein Revenue, Usage and Growth Statistics | MobiLoud*. <https://www.mobiloud.com>. Retrieved October 15, 2023, from <https://www.mobiloud.com/blog/shein-statistics#:~:text=billion%20in%202022,-,Shein%20Annual%20Revenue,%243.15%20billion%20to%20%249.81%20billion>.
- Brundtland, G. H., & World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.
- CGR 2023. (2023). <https://www.circularity-gap.world/2023>. Retrieved July 4, 2023, from [https://assets.website-files.com/5e185aa4d27bcf348400ed82/63ecb3ad94e12d3e5599cf54\\_CGR%202023%20-%20Report.pdf](https://assets.website-files.com/5e185aa4d27bcf348400ed82/63ecb3ad94e12d3e5599cf54_CGR%202023%20-%20Report.pdf)
- Circular Economy Foundation. *The Circularity Gap Report 2023*. (2023). <https://www.circularity-gap.world/>. Retrieved July 15, 2023, from <https://www.circularity-gap.world/2023>
- Clarkson, M. B. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. *Academy of Management Review*, 20(1), 92–117. <https://doi.org/10.5465/amr.1995.9503271994>
- Claro, P., Esteves, N. (2021). Sustainability-oriented strategy and sustainable development goals. *Marketing Intelligence & Planning*, 39, 613-630.
- Cooper, T. (1999a). Creating an economic infrastructure for sustainable product design. *Journal of sustainable product design*, 8,718.

- Cooper, T. (1999b). Creating an economic infrastructure for sustainable product design. *Journal of Sustainable Design*, 8, 7–17.
- Correia, M. I. T. D. (2019). Sustainability: An Overview of the Triple Bottom Line and Sustainability Implementation. *International Journal of Strategic Engineering*, 2(1), 29–38. <https://doi.org/10.4018/ijose.2019010103>
- CSRD – Guide: What to report & How to comply. (2023, August 10). <https://ecochain.com>. Retrieved October 10, 2023, from <https://ecochain.com/knowledge/complying-with-the-csrd-frequently-asked-questions/>
- Dawkins, J., & Mayers, G. (2023, August 24). *Shein's rise: How the wildly popular brand became the most feared fast-fashion retailer in the world and now could be sold in Forever 21 stores*. <https://www.businessinsider.com>. Retrieved October 15, 2023, from <https://www.businessinsider.com/what-is-shein-billion-dollar-fast-fashion-company-explained-2023-7>
- Diaz-Sarachaga, J. M. (2021). Shortcomings in reporting contributions towards the sustainable development goals. *Corporate Social Responsibility and Environmental Management*, 28(4), 1299–1312. <https://doi.org/10.1002/csr.2129>
- Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. *Environmental Quality Management*, 8(1), 37–51. <https://doi.org/10.1002/tqem.3310080106>
- Ellen MacArthur Foundation (2023, a). *Circulytics*. Retrieved on July, 18, 2023, from <https://ellenmacarthurfoundation.org/resources/circulytics/overview#:~:text=Globally%2C%20over%2018%2084%20businesses%20have,to%20complete%20a%20Circulytics%20assessment.>
- Ellen MacArthur Foundation (2019). *The butterfly diagram: visualising the circular economy*. (2019, February). <https://ellenmacarthurfoundation.org/>. Retrieved May 7, 2023, from <https://ellenmacarthurfoundation.org/circular-economy-diagram>
- Ellen MacArthur Foundation (2014). *Towards the Circular Economy, vol. 3: Accelerating the scale-up across global supply chains*. <https://www.ellenmacarthurfoundation.org>. Retrieved July 17, 2023, from <https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-3-accelerating-the-scale-up-across-global>
- Ellen MacArthur Foundation (2013, a). *Towards the circular economy Vol. 1: An economic and business rationale for an accelerated transition*. <https://www.ellenmacarthurfoundation.org>. Retrieved July 18, 2023, from <https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-2-opportunities-for-the-consumer-goods>
- Ellen MacArthur Foundation (2013, b). *Towards the Circular Economy, vol. 2: Opportunities for the consumer goods sector*. <https://www.ellenmacarthurfoundation.org>. Retrieved July 18, 2023, from <https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-2-opportunities-for-the-consumer-goods>
- Ellen MacArthur Foundation (2023, b). *What is Linear Economy?* <https://ellenmacarthurfoundation.org>. Retrieved September 13, 2023, from <https://ellenmacarthurfoundation.org/what-is-the-linear-economy>
- European Commission (2023). *Questions and Answers on European Green Claims*. Disponível em [https://ec.europa.eu/commission/presscorner/detail/en/QANDA\\_23\\_1693](https://ec.europa.eu/commission/presscorner/detail/en/QANDA_23_1693) Acesso em 23/03/23

- European Union Treaty (2006). *Article 3.º, n.º 3: Sustainable Development. European Union*. Available in [https://eur-lex.europa.eu/resource.html?uri=cellar:9e8d52e1-2c70-11e6-b49701aa75ed71a1.0019.01/DOC\\_2&format=PDF](https://eur-lex.europa.eu/resource.html?uri=cellar:9e8d52e1-2c70-11e6-b49701aa75ed71a1.0019.01/DOC_2&format=PDF) Acesso em 19/03/23.
- Fairphone, The Netherlands. (n.d.). [https://unfccc.int/files/na/application/pdf/fact\\_sheet\\_fairphone.pdf](https://unfccc.int/files/na/application/pdf/fact_sheet_fairphone.pdf)
- Fletcher, L., & Oliver, J. (2022, February 20). *Green investing: the risk of a new mis-selling scandal*. <https://www.ft.com>. Retrieved October 16, 2023, from <https://www.ft.com/content/ae78c05a-0481-4774-8f9b-d3f02e4f2c6f>
- Freeman, R. R., Phillips, R. A., & Sisodia, R. S. (2018). Tensions in Stakeholder Theory. *Business & Society*, 59(2), 213–231. <https://doi.org/10.1177/0007650318773750>
- Freeman, R. E., & Reed, D. L. (1983). Stockholders and Stakeholders: A new perspective on Corporate Governance. *California Management Review*, 25(3), 88–106. <https://doi.org/10.2307/41165018>
- Folke, C., Polasky, S., Rockström, J., Galaz, V., Westley, F., Lamont, M., Scheffer, M., Österblom, H., Carpenter, S. R., Chapin, F. S., Seto, K. C., Weber, E. U., Crona, B., Daily, G. C., Dasgupta, P., Gaffney, O., Gordon, L., Hoff, H., Levin, S. A., . . . Walker, B. R. (2021). Our future in the Anthropocene biosphere. *AMBIO: A Journal of the Human Environment*, 50(4), 834–869. <https://doi.org/10.1007/s13280-021-01544-8>
- Forbes (2023, a). *Profile Apple*. (2023). <https://www.forbes.com>. Retrieved October 6, 2023, from <https://www.forbes.com/companies/apple/>
- Forbes (2023, ). *Profile Fast Retailing*. (2023). <https://www.forbes.com>. Retrieved October 6, 2023, from <https://www.forbes.com/companies/fast-retailing/>
- Forbes (2023, a). *Profile Gap*. (2023). <https://www.forbes.com>. Retrieved October 6, 2023, from <https://www.forbes.com/companies/gap/>
- Forbes (2023). *Profile HP*. (2023). <https://www.forbes.com>. Retrieved October 6, 2023, from <https://www.forbes.com/companies/hp/>
- Forbes (2023, ). *Profile Inditex*. (2023). <https://www.forbes.com>. Retrieved October 6, 2023, from <https://www.forbes.com/companies/inditex/>
- Friedman, Milton (1970). *A Friedman doctrine- The Social Responsibility of Business Is to Increase Its Profits*. NY Times. Retrieved October 11, 2023, from <https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html>
- Geissdoerfer, M., Savaget, P., Bocken, N., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Getzner, M. (1999). Weak and strong sustainability indicators and regional environmental resources. *Environmental Management and Health*, 10(3), 170–177. doi:10.1108/09566169910275022
- Gray R, Kouhy R, Lavers S. (1995). Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure. *Accounting Auditing and Accountability Journal*;8(2):47–77
- GRI (2022, a.). Consolidated set of the GRI Standards 2021. 2022 GRI. <https://www.amauni.org/wp-content/uploads/2022/03/Set-of-GRI-Stnds-2021.pdf>
- GRI (2022, March 10, b.). *The GRI Perspective, Issue 4. ESG standards, frameworks and everything in between*. <https://www.globalreporting.org>. Retrieved July 12, 2023, from <https://www.globalreporting.org/media/jxkgggd/gri-perspective-esg-standards-frameworks.pdf>



- GRI (2021). *The GRI Standards, A Guideline for Policy Makers*. (2021). <https://www.globalreporting.org>. Retrieved March 17, 2023, from <https://www.globalreporting.org/media/nmmnwfsm/gri-policymakers-guide.pdf>
- Goel, P. (2010). Triple bottom line reporting: An analytical approach for corporate sustainability. *Journal of Finance, Accounting, and Management*, 1(1), 27-42.
- Halkos, G., & Nomikos, S. (2021). Corporate social responsibility: Trends in global reporting initiative standards. *Economic Analysis and Policy*, 69, 106–117. <https://doi.org/10.1016/j.eap.2020.11.008>
- Harrison, J. S., Freeman, R., & De Abreu, M. C. S. (2015). Stakeholder Theory As an Ethical Approach to Effective Management: applying the theory to multiple contexts. *Revista Brasileira De Gestão De Negócios*, 858–869. <https://doi.org/10.7819/rbgn.v17i55.2647>
- Horúcková, M., & Baudassé, T. (2017). Content Analysis Applied to Social and Environmental Reporting. *Acta Academica Karviniensia*, 32–45. <https://doi.org/10.25142/aak.2017.028>
- Koumparou, D. (2017). Circular Economy and Social Sustainability. *Proceedings of Solid Waste Management & Its Contribution to Circular Economy, Athens, Greece*.
- Labuschagne, C., Brent, A. C., & Van Erck, R. (2005). Assessing the sustainability performances of industries. *Journal of Cleaner Production*, 13(4), 373–385. <https://doi.org/10.1016/j.jclepro.2003.10.007>
- Landrum, Nancy E., & Ohsowski, Brian (2018). Trends and Drivers in CSR Disclosure: A Focus on Reporting Practices in the Automotive Industry. *Business Strategy and the Environment*, 27, 128–151.
- Mahoney, L. S., Thorne, L., Cecil, L., & LaGore, W. (2013). A research note on standalone corporate social responsibility reports: Signaling or greenwashing? *Critical Perspectives on Accounting*, 24(4–5), 350–359. <https://doi.org/10.1016/j.cpa.2012.09.008>
- Mies, A., & Gold, S. M. (2021). Mapping the social dimension of the circular economy. *Journal of Cleaner Production*, 321, 128960. <https://doi.org/10.1016/j.jclepro.2021.128960>
- Murray, A., Skene, K. R., & Haynes, K. (2017). The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. *Journal of Business Ethics*, 140(3), 369–380. <https://doi.org/10.1007/s10551-015-2693-2>
- Oliver, J., & Fletcher, L. (2022, February 20). Green investing: the risk of a new mis-selling scandal. *Financial Times*. <https://www.ft.com/content/ae78c05a-0481-4774-8f9b-d3f02e4f2c6f> in 07/31/23
- O'Riordan, 1993. The politics of sustainability. In: Turner, K. (Ed.), *Sustainable Environment Economics and Management: Principles and Practice*. Belhaven Press, London, pp. 37-69.
- Padilla-Rivera, A., Russo-Garrido, S., & Merveille, N. (2020). Addressing the Social Aspects of a Circular Economy: A Systematic Literature Review. *Sustainability*, 12(19), 7912. <https://doi.org/10.3390/su12197912>
- Rockström, J., Gupta, J., Lenton, T. M., Qin, D., Lade, S. J., Abrams, J., Jacobson, L. P., Rocha, J. S. Y., Zimm, C., Bai, X., Bala, G., Bringezu, S., Broadgate, W., Bunn, S. E., DeClerck, F., Ebi, K. L., Gong, P., Gordon, C. P., Kanie, N., . . . Winkelmann, R. (2021). Identifying a Safe and Just Corridor for People and the Planet. *Earth's Future*, 9(4). <https://doi.org/10.1029/2020ef001866>
- Rudyanto, A., & Wimelda. (2019). CORE OPTION VS COMPREHENSIVE OPTION: WHICH ONE IS BETTER? *South East Asia Journal of Contemporary Business, Economics and Law*, 20(5).

- Spena, T. R., Tregua, M., & De Chiara, A. (2016). Trends and Drivers in CSR Disclosure: A focus on reporting practices in the automotive industry. *Journal of Business Ethics*, 151(2), 563–578. <https://doi.org/10.1007/s10551-016-3235-2>
- Spencer-Jolliffe, Natasha (Dec. 2021). *Audit committees must take climate change “a lot more seriously”*. <https://www.accountancyage.com/2021/12/02/audit-committees-must-take-climate-change-a-lot-more-seriously/> accessed in 08/01/23
- UN (2015). *Sustainable Development Goals*. (n.d.). Retrieved October 8, 2023, from <https://www.undp.org/sustainable-development-goals>
- UN (2015). *The 17 Goals*. (n.d.). <https://sdgs.un.org>. Retrieved October 11, 2023, from <https://sdgs.un.org/goals>
- Threlfall, R., & King, A. (2020). The KPMG Survey of Sustainability Reporting 2020. *KPMG*. Retrieved on 08/02/2023 from <https://kpmg.com/xx/en/home/insights/2020/11/the-time-has-come-survey-of-sustainability-reporting.html>
- Unruh, G. C. (2000). Understanding carbon lock-in. *Energy Policy*, 28(12), 817–830. [https://doi.org/10.1016/s0301-4215\(00\)00070-7](https://doi.org/10.1016/s0301-4215(00)00070-7)
- Valls-Val, K., Ibáñez-Forés, V., & Bovea, M. D. (2022). How can organisations measure their level of circularity? A review of available tools. *Journal of Cleaner Production*, 354, 131679. <https://doi.org/10.1016/j.jclepro.2022.131679>
- Vayona, A., & Demetriou, G. (2020). Towards An Operating Model For Attribution In Circular Economy. *Conference Paper*, 490–495, 490–495. <https://doi.org/10.1109/DCOSS49796.2020.00082>
- Vitolla, F., L’Abate, V., Petruzzella, F., Raimo, N., & Salvi, A. (2023). Circular Economy Disclosure in Sustainability Reporting: The Effect of Firm Characteristics. *Sustainability*, 15(3), 2200. <https://doi.org/10.3390/su15032200>
- Walker, A. N., Opferkuch, K., Lindgreen, E. R., Cheba, K., Vermeulen, W. J., & Raggi, A. (2021). Assessing the social sustainability of circular economy practices: Industry perspectives from Italy and the Netherlands. *Sustainable Production and Consumption*, 27, 831–844. <https://doi.org/10.1016/j.spc.2021.01.030>
- XP Investimentos (2020). ESG de A a Z: Tudo o que você precisa saber sobre o tema. Retrieved October 9, 2023, from <https://conteudos.xpi.com.br/esg/esg-de-a-a-z-tudo-o-que-voce-precisa-saber-sobre-o-tema/>

Annex A: GRI Environmental Disclosure  
(Material and Waste)

**GRI ENVIRONMENTAL DISCLOSURES**

**MATERIAL AND WASTE**

<b>MATERIALS</b>	GRI 301-1	MATERIALS USED BY WEIGHT OR VOLUME
<b>MATERIALS</b>	GRI 301-2	RECYCLED INPUT MATERIALS USED
<b>MATERIALS</b>	GRI 301-3	RECLAIMED PRODUCTS AND THEIR PACKAGINGS MATERIALS
<b>WASTE 2020</b>	GRI 306-1	WASTE GENERATION AND SIGNIFICANT WASTE-RELATED IMPACTS
<b>WASTE 2020</b>	GRI 306-2	MANAGEMENT OF SIGNIFICANT WASTE-RELATED IMPACTS 306-2-a; 306-2-b/ <b>WASTE BY TYPE AND DISPOSAL METHOD</b>
<b>WASTE 2020</b>	GRI 306-3	WASTE GENERATED 306-3-a; 306-3-b
<b>WASTE 2020</b>	GRI 306-4	WASTE DIVERTED FROM DISPOSAL 306-4-a-b-c-d-e
<b>WASTE 2020</b>	GRI 306-5	WASTE DIRECTED TO DISPOSAL a-b-c-d-e

Annex B: GRI Social Disclosures

SOCIAL DISCLOSURES		DESCRIPTION
1	EMPLOYMENT 401-1	NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER
2	EMPLOYMENT 401-2	BENEFITS PROVIDED TO FULL-TIME EMPLOYEES THAT ARE NOT PROVIDED TO TEMPORARY OR PART-TIME EMPLOYEES
3	EMPLOYMENT 401-3	PARENTAL LEAVE
4	LABOR/MANAGEMENT RELATIONS 402-1	LABOUR/MANAGEMENT RELATIONS:
5	OCCUPATIONAL HEALTH AND SAFETY*** (2018) 403-1	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM
6	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-2	HAZARD IDENTIFICATION, RISK ASSESSMENT, AND INCIDENT INVESTIGATION
7	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-3	OCCUPATIONAL HEALTH SERVICES
8	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-4	WORKER PARTICIPATION, CONSULTATION, AND COMMUNICATION ON OCCUPATIONAL HEALTH AND SAFETY
9	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-5	WORKER TRAINING ON OCCUPATIONAL HEALTH AND SAFETY
10	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-6	PROMOTION OF WORKER HEALTH
11	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-7	PREVENTION AND MITIGATION OF OCCUPATIONAL HEALTH AND SAFETY IMPACTS DIRECTLY LINKED TO BUSINESS RELATIONSHIPS
12	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-8	WORKERS COVERED BY AN OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM
13	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-9	WORK-RELATED INJURIES
14	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-10	WORK-RELATED ILL HEALTH
15	TRAINING&EDUCATION (2016) 404-1	AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE
16	TRAINING AND EDUCATION (2016) 404-2	PROGRAMS FOR UPGRADING EMPLOYEE SKILLS AND TRANSITION ASSISTANCE PROGRAMS
17	TRAINING AND EDUCATION (2016) 404-3	PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS
18	DIVERSITY&EQUAL OPPORTUNITIES (2016) 405-1	DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES
19	DIVERSITY&EQUAL OPPORTUNITIES (2016) 405-2	RATIO OF BASIC SALARY AND REMUNERATION OF WOMEN TO MEN
20	NON DISCRIMINATION (2016) 406-1	INCIDENTS OF DISCRIMINATION AND CORRECTIVE ACTIONS TAKEN
21	FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING (2016) 407-1	FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING 2016
22	CHILD LABOR (2016) 408-1	OPERATIONS AND SUPPLIERS AT SIGNIFICANT RISK FOR INCIDENTS OF CHILD LABOR
23	FORCED OR COMPULSORY LABOR (2016) 409-1	OPERATIONS AND SUPPLIERS AT SIGNIFICANT RISK FOR INCIDENTS OF FORCED OR COMPULSORY LABOR
24	SECURITY PRACTICES 410-1	SECURED PERSONNEL TRAINED IN HUMAN RIGHTS POLICIES AND PROCEDURES
25	RIGHTS OF INDIGENOUS PEOPLES (2016) 411-1	INCIDENTS OF VIOLATIONS INVOLVING RIGHTS OF INDIGENOUS PEOPLES
26	LOCAL COMMUNITIES (2016) 413-1	OPERATIONS WITH LOCAL COMMUNITY ENGAG, IMPACT ASSES AND DEVELOP PGMS
27	LOCAL COMMUNITIES (2016) 413-2	OPERATIONS WITH SIGNIFICANT ACTUAL AND POTENTIAL NEG IMP ON LOCAL COMMUNITIES AND DEVELOP PGMS
28	SUPPLIER SOCIAL ASSESSMENT (2016) 414-1	NEW SUPPLIERS THAT WERE SCREENED USING SOCIAL CRITERIA
29	SUPPLIER SOCIAL ASSESSMENT (2016) 414-2	NEGATIVE SOCIAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN
30	PUBLIC POLICY (2018) 415-1	POLITICAL CONTRIBUTIONS
31	CUSTOMER HEALTH AND SAFETY 416-1	ASSESSMENT OF THE HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICE CATEGORIES
32	CUSTOMER HEALTH AND SAFETY 416-2	INCIDENTS OF NON-COMPLIANCE CONCERNING THE HEALTH AND SAFETY IMPACTS OF PRODUCTS AND SERVICES
33	MARKETING & LABELING 417-1	REQUIREMENTS FOR PRODUCT AND SERVICE INFORMATION AND LABELING
34	MARKETING & LABELING 417-2	INCIDENTS OF NON-COMPLIANCE CONCERNING PRODUCT AND SERVICE OF INFORMATION AND LABELING
35	MARKETING & LABELING 417-3	INCIDENTS OF NON-COMPLIANCE CONCERNING MARKETING AND COMMUNICATIONS
36	CUSTOMER PRIVACY 418-1	SUBSTANTIATED COMPLAINTS CONCERNING BREACHES OF CONSUMER PRIVACY AND LOSSES OF CUSTOMER DATA
37	SOCIOECONOMIC COMPLIANCE	NON-COMPLIANCE WITH LAWS AND REGULATIONS IN THE SOCIAL AND ECONOMIC AREA

d: Email exchange with The Ellen MacArthur Foundation (1)

8/28/23, 1:34 PM

E-mail de Wings4You - Re: Circulytics - MASTER'S DEGREE THESIS



Carla Esteves <cesteves@wings4you.com.br>

**Re: Circulytics - MASTER'S DEGREE THESIS**

3 mensagens

**EMF Circulytics** <circulytics@emf.org>

4 de maio de 2023 às 13:44

Para: CARLA ESTEVES <cesteves@wings4you.com.br>

Hi Carla,

Thank you for your email.

Circulytics measures the circularity of a company over a number of parameters including enabling conditions and tangible outcomes. We do not categorise companies as either circular or linear but rather measure how far along on their journey they are and they receive a score based on this. For more information, you might find the [data and insights tab](#) on the Circulytics website useful

Similarly, the Ellen MacArthur Foundation's Network (comprising the strategic partners, partners and members) are not either circular or linear but are on a journey towards the circular economy. You may find these [case studies](#) published on our website useful which showcase some circular economy success stories.

Thanks,  
Dani

**The Circulytics Team**  
Ellen MacArthur Foundation  
The Sail Loft, Medina Road, Cowes, Isle of Wight, PO31 7BX  
t: +44 (0) 1983 296463  
e: circulytics@emf.org



Ellen MacArthur Foundation (Charity Reg No 1130305) • OSR Reg No SC043120. Company No 06897785. • EU Transparency Register No 206816021848-17) • Ellen MacArthur Foundation Trading Limited (Company No 0711767) • The Sail Loft, Medina Road, Cowes, Isle of Wight, PO31 7BX.

This email is confidential. It is intended for the named recipient(s) only. If you have received it in error, do not copy or disclose its contents. Please notify us immediately and delete the email from your computer.

On Thu, 4 May 2023 at 09:59, CARLA ESTEVES <noreply@qemaisserver.com> wrote:

**New Email from:**  
CARLA ESTEVES

**Topic:**  
Circulytics - MASTER'S DEGREE THESIS

**Message:**  
Hello, my name is Carla and I am a Master's Degree student in Environmental Studies and Sustainability in Lisbon. My thesis is on the Social Dimension of Sustainability in Circular vs Linear Organisations. I would like to know if you could enlighten me as to how you categorize whether a company is circular or linear. Apparently several companies are using the Circulytics and I think this would be a good start. So, do you have a list of the companies that are using circulytics in their Annual/Sustainability Report? If not, would you be kind as to tell me how you distinguish a linear from a circular company? Since you are reference on the theme it is essential that I have defined the right organisations as circular. I have already investigated on your website the organisations that are strategic partners, partners and members. But since a lot of them are still linear, in my understanding, that wouldn't be a solid source to define one and the other. Thank you so much. best regards! Carla

=====  
*This email was automatically forwarded by Qualtrics. Response ID: R\_2CCwpYtZzd9SDL*

Annex D: Email exchange with The Ellen MacArthur Foundation (2)



Carla Esteves <cesteves@wings4you.com.br>

**Re: Circulytics - Dissertation on CE**

1 mensagem

**EMF Circulytics** <circulytics@emf.org>

26 de julho de 2023 às 12:04

Para: CARLA ESTEVES <cesteves@wings4you.com.br>

Hi Carla,

Thank you for your email.

Unfortunately we can not share the names of companies that participate in a Circulytics assessment. The company data, results, and the fact that they participated in Circulytics is confidential, unless such a disclosure is made or authorised by a company itself.

Aggregated and anonymised statistics on company participation and breakdown of average scores by industry group, geography and revenue bracket are published on the [Data and Insights](#) tab of our [website](#).

Please let me know if you have any questions.

Best wishes,

Abhijit

**The Circulytics Team**

Ellen MacArthur Foundation

The Sail Loft, Medina Road, Cowes, Isle of Wight, PO31 7BX

t: +44 (0) 1983 296463

e: [circulytics@emf.org](mailto:circulytics@emf.org)



Ellen MacArthur Foundation (Charity Reg No 1130305.) • OSR Reg No SC043120. Company No 06897785. • EU Transparency Register No 206816021848-17) • Ellen MacArthur Foundation Trading Limited (Company No 0711767) • The Sail Loft, Medina Road, Cowes, Isle of Wight, PO31 7BX.

This email is confidential. It is intended for the named recipient(s) only. If you have received it in error, do not copy or disclose its contents. Please notify us immediately and delete the email from your computer.

On Tue, 18 Jul 2023 at 12:52, CARLA ESTEVES <noreply@qemalserver.com> wrote:

**New Email from:**  
CARLA ESTEVES

**Topic:**  
Circulytics - Dissertation on CE

**Message:**

Hello, I am a masters' degree student in Environmental Studies and Sustainability and am writing my dissertation on organisations that practice the CE beyond being associated/member to the foundation and other associations. I hear there are more than a thousand companies using the Circulytics tool (congratulations!) to measure their level of circularity. Would it be possible to have a list of companies that report Circulytics indicators? I do not need the scores or anything, I just need to make sure that they do practice the CE as opposed to the Linear Economy only. Thank you very much for your help! Best wishes, Carla

=====  
*This email was automatically forwarded by Qualtrics. Response ID:  
R\_2bVqNOLVn8J0kqw*

Annex E: Researcher sends an email exchange to GRI

Inquiry: List of CE companies



Carla Esteves <cesteves@wings4you.com.br>

---

## Circular Economy practices

1 mensagem

---

**Carla Esteves** <cesteves@wings4you.com.br>

18 de julho de 2023 às 11:38

Para: GRI Academy <griacademy@globalreporting.org>

Hello, my name is Carla Esteves, I am writing my dissertation on organizations that practice the circular economy.

I would like to know how the GRI would define a company that practices the CE:

- Are there certain material topics and indicators that characterize an organization practices or not CE?

Do you have any recommendations as to where, besides the Ellen MacArthur Foundation, I could find a list of companies that practice the CE as opposed to Linear Industry?

Thank you very much.

Best regards,

Carla Esteves

Iscte - Lisbon

## Annex F: E-mail exchange with GRI

### GRI Automatic answer

8/28/23, 1:32 PM

E-mail de Wings4You - Automatic reply: Circular Economy practices



Carla Esteves <cesteves@wings4you.com.br>

---

### Automatic reply: Circular Economy practices

3 mensagens

---

**GRI Academy** <griacademy@globalreporting.org>  
Para: Carla Esteves <cesteves@wings4you.com.br>

18 de julho de 2023 às 12:38

Dear Sender,  
Thank you for your interest in the GRI Academy.  
Due to the high number of incoming emails, **we will do our best to respond to your message within 5 working days**; please note, our response time may vary during busy periods.  
Thank you for your understanding and cooperation.  
Kind regards,  
**The GRI Academy team**

#### Information on the GRI Professional Certification Program

Our [FAQ document](#) covers the most common questions asked by GRI Academy users.

You can also check [our flyer](#) for a more detailed overview of the program and what it offers.

You can find the Professional Certification Exam Policy (based on the Universal Standards 2021) [here](#). Before sitting the Professional Certification Exam, please ensure you read the [exam instructions](#).

Learn more about the Continuing Education Units (CEUs) and how to maintain the certification status in our [CE U requirements document](#).

Once certified, you will be added to the list of [GRI Certified Sustainability Professionals](#)



Annex G: Email exchange with GRI (continuation)

The researcher follows up on GRI

Carla Esteves <cesteves@wings4you.com.br>  
Para: GRI Academy <griacademy@globalreporting.org>  
Cc: cesaa1@iscte.pt

4 de agosto de 2023 às 15:31

Hello, I hope this finds you well!  
I'm writing because I really need this answer to go on researching for my dissertation. I wrote to you on July 18th but did not get any answer. Do you think you could help me now?

Here is what I asked you on July 18th:

1.

Hello, my name is Carla Esteves, I am writing my dissertation on organizations that practice the circular economy.

I would like to know how the GRI would define a company that practices the CE:

- Which disclosures in materials and waste do you characterize as an effort towards circularity?

[https://mail.google.com/mail/u/0/?ik=d591e6b317&vic=pt&as\\_oaib=all&permhid=thead-f:1771758248135505762&simpl=ms-g-f:1771758248135505762&si...](https://mail.google.com/mail/u/0/?ik=d591e6b317&vic=pt&as_oaib=all&permhid=thead-f:1771758248135505762&simpl=ms-g-f:1771758248135505762&si...) 1/5

8/28/23, 1:32 PM

E-mail de Wings4You - Automatic reply: Circular Economy practices

2. Do you have any recommendations as to where, besides the Ellen MacArthur Foundation, I could find a list of companies that are committed or practice the CE as opposed to Linear Industry?

3. I need the list of disclosures on the 100, 200, 300 and 400 standards. I found this file from 2017 (attached) and I would like to make sure that the disclosures refer to Standards reported from 2018 on or 2016 on? I am not going to consider the disclosures updated for from 2023 on.

3.a) I would also like to ask for the excel because of disclosures used when I tried to download, it gives an error message (see below)



Thank you very much.

Best regards,  
Carla Esteves  
Iscte - Lisbon

## Annex H: Email exchange with GRI (continuation 2)

### Researchers' inquiry on database other than EMF

**GRI Academy** <griacademy@globalreporting.org> 24 de agosto de 2023 às 09:47  
Para: Carla Esteves <cesteves@wings4you.com.br>, GRI Academy <griacademy@globalreporting.org>  
Cc: "cesaa1@iscte.pt" <cesaa1@iscte.pt>

Dear Carla,

We hope this finds you well.

Our apologies for the delay in getting back to you. It has been a busy period for our small team.

1. You can refer to GRI 306: Waste 2020 for disclosures relating to circularity, which includes the following definition on circularity measures:

#### **circularity measures**

measures taken to retain the value of products, materials, and resources and redirect them back to use for as long as possible with the lowest carbon and resource footprint possible, such that fewer raw materials and resources are extracted and waste generation is prevented

2. No specific databases come to mind beyond the Ellen MacArthur Foundation.

<https://mail.google.com/mail/u/0/?ik=d591e6b17&view=pt&search=all&permthid=thr-ad-f:1771758248135505762&simpl=msg-f:1771758248135505762&si...> 2/5

---

8/28/23, 1:32 PM

E-mail de Wings4You - Automatic reply: Circular Economy practices

3. Please note, our Universal Standards were updated in 2021. The G4 guidelines and the 2016 Universal Standards have since been retired and companies can no longer report using them. The excel is, therefore, outdated. You can refer to the consolidated set of GRI standards (attached) as well as our [list of downloadable standards](#) and our [resource center](#).

Unfortunately, due to the limited capacity of our team, we are unable to assist you further. We wish you the best of luck with your dissertation!

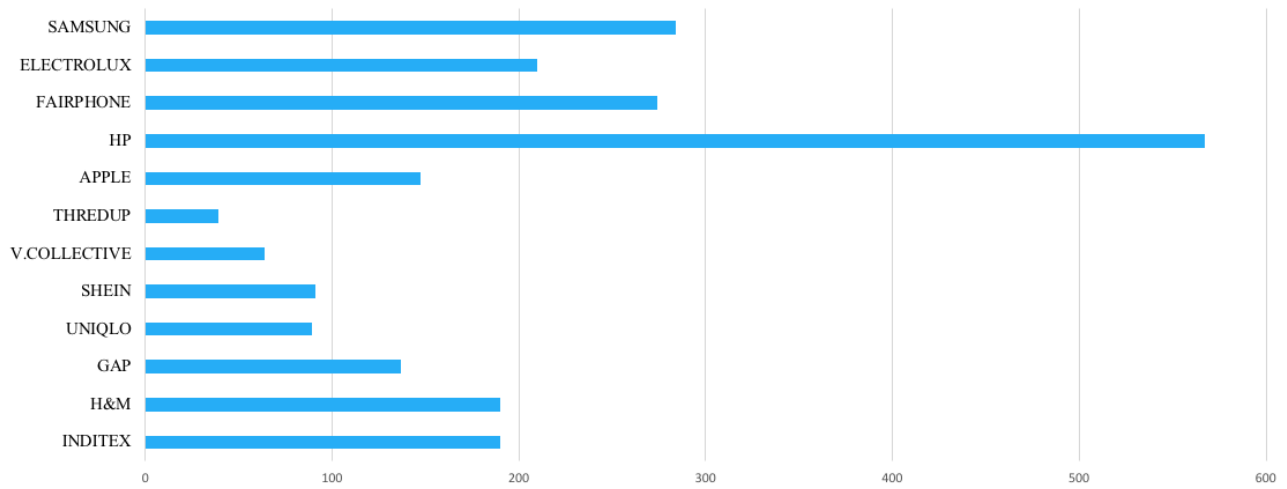
Kind regards,

The GRI Academy team

Annex I: Total number of times that circularity-related terms appeared by company

TOTAL NUMBER OF TIMES CIRCULARITY TERMS APPEARED IN THE REPORTS

Fashion: 800 times Tech: 1482 times



Annex J: Total score by “R” and by Company  
(absolute numbers)

	SEGMENT: FASHION							TOTAL		SEGMENT: TECH/ELECTRONICS					TOTAL POR	
	INDITEX	H&M	GAP	UNIQLO	SHEIN	V.COLLECTIVE	THREDUP	POR	%	APPLE	HP	FAIRPHONE	ELECTROLUX	SAMSUNG	"R"	%
REFUTE /REFUSE	0	0	0	0	0	0	0	0	0,0%	0	0	2	0	0	2	0,2%
RETHINK/DESIGN FOR CIRCULARITY	16	13	10	18	18	2	3	80	16,6%	17	47	2	19	14	99	7,9%
REDUCE	4	18	19	13	8	9	6	77	16,0%	21	40	120	43	36	260	20,7%
REUSE	30	16	2	8	2	1	1	60	12,5%	10	107	18	7	27	169	13,5%
REPAIR	7	10	0	11	0	2	0	30	6,2%	27	36	43	18	32	156	12,4%
REFURBISH	0	0	0	0	0	0	0	0	0,0%	4	13	13	4	2	36	2,9%
REMANUFACTURE	0	0	0	0	0	0	0	0	0,0%	0	2	3	0	0	5	0,4%
REPURPOSE	0	0	0	0	2	1	1	4	0,8%	0	6	2	1	2	11	0,9%
RECYCLE	45	51	49	37	16	4	4	206	42,8%	52	196	57	71	89	465	37,0%
RECOVER	21	1	2	0	0	0	0	24	5,0%	12	0	0	6	35	53	4,2%
<b>TOTAL "RS"</b>	<b>123</b>	<b>109</b>	<b>82</b>	<b>87</b>	<b>46</b>	<b>19</b>	<b>15</b>	<b>481</b>	<b>100,0%</b>	<b>143</b>	<b>447</b>	<b>260</b>	<b>169</b>	<b>237</b>	<b>1.257</b>	<b>100,0%</b>

Annex K: Percentage by “R” and company

	SEGMENT: FASHION							TOTAL BY "R"
	INDITEX	H&M	GAP	UNIQLO	SHISEI	%.COLLECTIVE	THREDUP	
REFUTE/REFUSE	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0%
RETHINK/DESIGN FOR CIRCULARITY	13%	12%	12%	21%	39%	11%	20%	17%
REDUCE/AVOID	3%	17%	23%	15%	17%	47%	40%	16%
REUSE	24%	15%	2%	9%	4%	5%	7%	12%
REPAIR	6%	9%	0%	13%	0%	11%	0%	6%
REFURBISH	0%	0%	0%	0%	0%	0%	0%	0%
REMANUFACTURE	0%	0%	0%	0%	0%	0%	0%	0%
REPURPOSE	0%	0%	0%	0%	4%	5%	7%	1%
RECYCLE	37%	47%	60%	43%	35%	21%	27%	43%
RECOVER	17%	1%	2%	0%	0%	0%	0%	5%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

	SEGMENT: TECH/ELECTRONICS					TOTAL BY "R"
	APPLE	HP	FAIRPHONE	ELECTROLUX	SAMSUNG	
REFUTE/REFUSE	0%	0%	1%	0%	0%	0%
RETHINK/DESIGN FOR CIRCULARITY	12%	11%	1%	11%	6%	8%
REDUCE/AVOID	15%	9%	46%	25%	15%	21%
REUSE	7%	24%	7%	4%	11%	13%
REPAIR	19%	8%	17%	11%	14%	12%
REFURBISH	3%	3%	5%	2%	1%	3%
REMANUFACTURE	0%	0%	1%	0%	0%	0%
REPURPOSE	0%	1%	1%	1%	1%	1%
RECYCLE	36%	44%	22%	42%	38%	37%
RECOVER	8%	0%	0%	4%	15%	4%
TOTAL	100%	100%	100%	100%	100%	100%

Annex L: Organizations' total circularity scores

(Material Topic; disclosures on Material and Waste; Circular Business Model; 10Rs)

	MAX POINTS	SEGMENT: FASHION							SEGMENT: TECH/ELECTRONIC				
		INDITEX (ZARA+)	H&M	GAP Inc.	THE FAST RETAILING GROUP	SHEN	VESTIAIRE COLLECTIVE	THREDSUP	APPLE	HP	FAIRPHONE	ELECTROLUX	SAMSUNG
REPORTED MATERIAL AND WASTE AS A MATERIAL TOPIC	1	1	1	1	1	0	0	1	1	1	1	1	1
MATERIALS 301	1	1	1	1	0	0	1	1	1	1	1	1	0
MATERIALS 302	1	1	1	1	1	0	1	1	1	1	1	1	1
MATERIALS 303	1	1	1	1	1	0	1	1	1	1	1	1	1
<b>SUBTOTAL MATERIALS:</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>
WASTE 306-1	1	1	1	1	1	0	0	1	1	1	1	1	1
WASTE 306-2	1	1	1	1	1	0	0	1	1	1	1	0	1
WASTE 306-3	1	1	1	1	1	0	0	1	1	1	1	0	1
WASTE 306-4	1	1	1	1	1	0	0	1	1	1	1	1	1
WASTE 306-5	1	1	1	1	1	0	0	1	1	1	1	1	1
<b>SUBTOTAL WASTE:</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>5</b>	<b>5</b>
<b>TOTAL GRI DISCLOSURES</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>7</b>	<b>8</b>	<b>8</b>
CIRCULAR BUSINESS MODEL AS A CORE	20	0	0	0	0	0	20	20	0	0	20	0	0
<b>10 Rs</b>													
REFUTE/REFUSE, RETHINK, REDUCE	12	12	12	12	12	12	12	12	12	12	12	12	12
REUSE, REPAIR, REFURBISH, REMANUFACTURE, REPURPOSE	6	0	0	0	0	0	6	6	6	6	6	6	6
RECYCLE, RECOVER	3	3	3	3	3	3	3	3	3	3	3	3	3
<b>TOTAL RS</b>	<b>21</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>21</b>
<b>TOTAL CIRCULARITY</b>	<b>50</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>23</b>	<b>15</b>	<b>44</b>	<b>50</b>	<b>30</b>	<b>30</b>	<b>50</b>	<b>28</b>	<b>29</b>
% total		48%	48%	48%	46%	30%	88%	100%	60,0%	60,0%	100%	56,0%	58,0%

Annex M: Social Disclosure Total Score by Segment and Organization  
Fashion Segment

Maximum score possible: 37

Maximum score all 7 companies: xx

Total score sector: xx (xx%)

Total per Disclosure

Total % per Disclosure

INDITEX H&M GAP UNIQLOSHHEIN VESTIAIRE COLLECTIV THREADSUP TOTAL %											
	Max Score possible	Max Score from 7 companies								PER DISCLOSURE	PER DISCLOSURE
GRI SOCIAL DISCLOSURES											
1	1										
2	1		1	1	1	1	0	0	1		
3	1		1	0	1	1	0	0	0		
TOTAL	3	21	3	1	2	2	0	0	2	10	48%
LABOR/MANAGEMENT RELATIONS 402-1											
4	1		1	0	0	0	0	0	1		
TOTAL	1	7	1	0	0	0	0	0	1	2	29%
OCCUPATIONAL HEALTH AND SAFETY*** (2018) 403-1											
5	1		1	1	1	1	1	1	1		
6	1		1	1	1	0	1	0	0		
7	1		1	1	1	0	1	0	1		
8	1		1	1	1	1	0	1	1		
9	1		1	1	1	0	1	1	1		
10	1		1	1	1	1	1	1	1		
11	1		1	1	1	0	1	0	1		
12	1		1	1	1	0	1	1	1		
13	1		1	1	1	1	0	0	0		
14	1		1	1	1	0	0	0	0		
TOTAL	10	70	10	10	10	4	7	5	8	54	77%
TRAINING&EDUCATION (2016) 404-1											
15	1		1	1	0	0	1	1	1		
16	1		1	1	0	1	1	1	1		
17	1		1	1	0	0	0	0	1		
TOTAL	3	21	3	3	0	1	2	2	3	14	67%
DIVERSITY&EQUAL OPPORTUNITIES (2016) 405-1											
18	1		1	1	1	1	1	1	1		
19	1		1	1	1	1	1	1	1		
TOTAL	2	14	2	2	2	2	2	2	2	14	100%
NON DISCRIMINATION (2016) 406-1											
20	1		1	1	1	0	1	1	1		
TOTAL	1	7	1	1	1	0	1	1	1	6	86%
FREEDOM OF ASSOCIATION (2016) 407-1											
21	1		1	1	0	0	0	0	0		
TOTAL	1	7	1	1	0	0	0	0	0	2	29%
CHILD LABOR (2016) 408-1											
22	1		1	1	1	1	1	1	0		
TOTAL	1	7	1	1	1	1	1	1	0	5	71%
FORCED OR COMPULSORY LABOR (2016) 409-1											
23	1		1	1	1	1	1	1	0		
TOTAL	1	7	1	1	1	1	1	1	0	5	71%
SECURITY PRACTICES 410-1											
24	1		0	0	0	0	1	0	0		
TOTAL	1	7	0	0	0	0	1	0	0	1	14%
RIGHTS OF INDIGENOUS PEOPLES (2016) 411-1											
25	1		0	0	0	0	0	0	0		
TOTAL	1	7	0	0	0	0	0	0	0	0	0%
LOCAL COMMUNITIES (2016) 413-1											
26	1		1	1	1	1	1	1	1		
27	1		1	1	1	1	1	1	0		
TOTAL	2	14	2	2	2	2	2	2	1	13	93%
SUPPLIER SOCIAL ASSESSMENT (2016) 414-1											
28	1		1	1	1	1	1	0	0		
29	1		1	1	1	1	1	0	0		
TOTAL	2	14	2	2	2	2	2	0	0	10	71%
PUBLIC POLICY (2018) 415-1											
30	1		1	1	1	1	0	0	0		
TOTAL	1	7	1	1	1	1	0	0	0	4	57%
CUSTOMER HEALTH AND SAFETY 416-1											
31	1		1	1	1	1	0	1	1		
32	1		1	1	1	0	0	0	0		
TOTAL	2	14	2	2	2	1	0	1	1	9	64%
MARKETING & LABELING 417-1											
33	1		1	1	0	1	0	0	0		
34	1		1	1	0	0	0	0	0		
35	1		1	1	0	0	0	0	0		
TOTAL	3	21	3	3	0	1	0	0	0	7	33%
CUSTOMER PRIVACY 418-1											
36	1		1	1	0	0	0	1	1		
TOTAL	1	7	1	1	0	0	0	1	1	4	57%
SOCIALECONOMIC COMPLIANCE 419-1											
37	1		1	0	0	0	0	0	0		
TOTAL	1	7	1	0	0	0	0	0	0	1	100%
TOTAL DISCLOSURES											
	37	259	35	31	24	18	19	14	20	161	62%
% / TOTAL BY COMPANY											
			95%	84%	65%	49%	51%	38%	54%	62%	

Annex N: Social Disclosure Total Score by Segment and Organization

Tech/Electronics Segment

Maximum score possible: 37

Maximum score all 5 companies: 185

Total score sector: 149 (79%)

Total per Disclosure

Total % per Disclosure

		APPLE	HP	FAIRPHONE	ELECTROLUX	SAMSUNG	TOTAL	%
		Max Score possible	Max Score Sum 5 companies				PER DISCLOSURE	PER DISCLOSURE
1	EMPLOYMENT 401-1	1		1	1	1	1	
2	EMPLOYMENT 401-2	1		1	0	1	1	
3	EMPLOYMENT 401-3	1		1	1	0	1	
	<b>TOTAL:</b>	<b>3</b>	<b>15</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>
4	LABOR/MNGT RELATIONS 402-1	1		1	1	1	0	0
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
5	OCCUPATIONAL HEALTH AND SAFETY*** (2018) 403-1	1		1	1	1	1	1
6	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-2	1		1	1	1	0	1
7	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-3	1		1	1	1	0	1
8	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-4	1		1	1	1	0	1
9	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-5	1		1	1	1	1	1
10	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-6	1		1	1	1	0	1
11	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-7	1		1	1	1	0	1
12	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-8	1		1	0	1	0	1
13	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-9	1		1	1	1	1	1
14	OCCUPATIONAL HEALTH AND SAFETY (2018) 403-10	1		1	0	1	0	1
	<b>TOTAL:</b>	<b>10</b>	<b>50</b>	<b>10</b>	<b>8</b>	<b>10</b>	<b>3</b>	<b>10</b>
15	TRAINING&EDUCATION (2016) 404-1	1		1	1	1	1	1
16	TRAINING AND EDUCATION (2016) 404-2	1		1	1	1	0	1
17	TRAINING AND EDUCATION (2016) 404-3	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>3</b>	<b>15</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>
18	DIVERSITY&EQUAL OPPORTUNITIES (2016) 405-1	1		1	1	1	1	1
19	DIVERSITY&EQUAL OPPORTUNITIES (2016) 405-2	1		1	1	1	0	1
	<b>TOTAL:</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
20	NON DISCRIMINATION (2016) 406-1	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
21	FREEDOM OF ASSOCIATION (2016) 407-1	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
22	CHILD LABOR (2016) 408-1:	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
23	FORCED LABOR (2016) 409-1:	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
24	SECURITY PRACTICES 410-1:	1		1	1	1	0	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>
25	RIGHTS OF INDIGENOUS PEOPLES (2016) 411-1	1		0	0	0	0	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
26	LOCAL COMMUNITIES (2016) 413-1	1		1	1	1	0	1
27	LOCAL COMMUNITIES (2016) 413-2	1		1	0	1	0	0
	<b>TOTAL:</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>1</b>
28	SUPPLIER SOCIAL ASSESSMENT (2016) 414-1	1		1	1	1	1	1
29	SUPPLIER SOCIAL ASSESSMENT (2016) 414-2	1		1	1	1	0	1
	<b>TOTAL:</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>2</b>
30	PUBLIC POLICY (2018) 415-1	1		1	1	1	0	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>
31	CUSTOMER HEALTH AND SAFETY 416-1	1		1	1	1	0	1
32	CUSTOMER HEALTH AND SAFETY 416-2	1		1	1	1	1	1
	<b>TOTAL:</b>	<b>2</b>	<b>10</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>
33	MARKETING & LABELING 417-1	1		1	1	1	0	1
34	MARKETING & LABELING 417-2	1		1	0	1	0	0
35	MARKETING & LABELING 417-3	1		1	0	1	0	1
	<b>TOTAL:</b>	<b>3</b>	<b>15</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>
36	CUSTOMER PRIVACY 418-1	1		1	1	0	0	1
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
37	SOCIALECONOMIC COMPLIANCE 419-1	1		1	1	1	0	0
	<b>TOTAL:</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>TOTAL DISCLOSURES</b>		<b>37</b>	<b>185</b>	<b>36</b>	<b>30</b>	<b>34</b>	<b>14</b>	<b>32</b>
<b>% / TOTAL BY COMPANY</b>				<b>97%</b>	<b>81%</b>	<b>92%</b>	<b>38%</b>	<b>86%</b>
							<b>79%</b>	





