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CIRCULAR ECONOMY IN THE COSMETICS INDUSTRY: A CASE STUDY OF A MULTINATIONAL BEAUTY GROUP

Graduation thesis presented to the *Escola Politécnica da Universidade de São Paulo* to obtain the Production Engineering degree

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ABSTRACT

This thesis examines circular economy (CE) implementation within a multinational cosmetics company through document analysis and semi-structured interviews. Based on an internship in the company's global supply chain sustainability team, the research analyzes 29 company documents and five interviews with sustainability professionals using Bardin's content analysis methodology. The study maps CE initiatives across the product lifecycle, including refillable products, second-life sales channels, packaging optimization, recycling and reuse initiatives. Document analysis reveals that Reduce, Reuse and Recycle emerge as the most frequently referenced strategies from the 9R framework, demonstrating engagement beyond traditional recycling-focused approaches. Interview findings identify barriers to CE implementation, including the tension between financial interests and sustainability objectives, limited control over consumer behavior, organizational complexity across functions, and external recycling infrastructure limitations. Most interviewees express confidence in the transferability of these initiatives both within cosmetics and across consumer goods sectors. The research provides integrated insights into how CE is interpreted, operationalized, and constrained within the cosmetics industry, offering practical and scholarly contributions to understanding circular transitions in this sector.

Keywords: Circular Economy, Cosmetics Industry.

RESUMO

Esta tese examina a implementação da economia circular (EC) em uma empresa multinacional de cosméticos por meio de análise documental e entrevistas semiestruturadas. Baseada em um estágio na equipe global de sustentabilidade da cadeia de suprimentos da empresa, a pesquisa analisa 29 documentos corporativos e cinco entrevistas com profissionais de sustentabilidade utilizando a metodologia de análise de conteúdo de Bardin. O estudo mapeia iniciativas de EC ao longo do ciclo de vida do produto, incluindo produtos recarregáveis, canais de venda de segunda vida, otimização de embalagens e iniciativas de reciclagem e reutilização. A análise documental revela que Reduzir, Reutilizar e Reciclar emergem como as estratégias mais frequentemente referenciadas do framework 9Rs, demonstrando engajamento além das abordagens tradicionais focadas apenas em reciclagem. Os achados das entrevistas identificam barreiras à implementação da EC, incluindo a tensão entre interesses financeiros e objetivos de sustentabilidade, controle limitado sobre o comportamento do consumidor, complexidade organizacional entre diferentes funções e limitações da infraestrutura externa de reciclagem. A maioria dos entrevistados expressa confiança na transferibilidade dessas iniciativas tanto dentro do setor de cosméticos quanto em outros setores de bens de consumo. A pesquisa fornece insights integrados sobre como a EC é interpretada, operacionalizada e limitada na indústria de cosméticos, oferecendo contribuições práticas e acadêmicas para a compreensão das transições circulares neste setor.

Palavras-chave: Economia Circular, Indústria de Cosméticos.

RÉSUMÉ

Cette thèse examine la mise en œuvre de l'économie circulaire (EC) au sein d'une entreprise multinationale de cosmétiques à travers l'analyse documentaire et des entretiens semi-structurés. Basée sur un stage au sein de l'équipe mondiale de durabilité de la chaîne d'approvisionnement de l'entreprise, la recherche analyse 29 documents de l'entreprise et cinq entretiens avec des professionnels de la durabilité en utilisant la méthodologie d'analyse de contenu de Bardin. L'étude cartographie les initiatives d'EC tout au long du cycle de vie du produit, incluant les produits rechargeables, les canaux de vente de seconde vie, l'optimisation des emballages, ainsi que les initiatives de recyclage et de réutilisation. L'analyse documentaire révèle que Réduire, Réutiliser et Recycler émergent comme les stratégies les plus fréquemment référencées du cadre des 9R, démontrant un engagement au-delà des approches traditionnelles centrées sur le recyclage. Les résultats des entretiens identifient des obstacles à la mise en œuvre de l'EC, notamment la tension entre intérêts financiers et objectifs de durabilité, le contrôle limité sur le comportement des consommateurs, la complexité organisationnelle entre fonctions et les limitations des infrastructures externes de recyclage. La plupart des personnes interrogées expriment leur confiance dans la transférabilité de ces initiatives tant au sein du secteur cosmétique qu'à travers les secteurs des biens de consommation. La recherche fournit des perspectives intégrées sur la manière dont l'EC est interprétée, opérationnalisée et contrainte dans l'industrie cosmétique, offrant des contributions pratiques et académiques à la compréhension des transitions circulaires dans ce secteur.

Mots-clés : Économie circulaire, Industrie cosmétique.

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1. INTRODUCTION

This thesis explores the theme of sustainability within the cosmetics industry, with a particular focus on projects that promote circular concepts. The study is structured around a case study at a cosmetics company that, for the purpose of this thesis and for confidentiality reasons, will be referred to as “Company A”. Focusing on strategies aligned with circular economy (CE) principles, the analysis was carried out in the context of a final-year internship within Company A’s Global Supply Chain Sustainability Team. Through an in-depth case study supported by a comprehensive literature review, this thesis seeks to advance both the academic and practical discussion on CE practices in the cosmetics industry.

1.1. Motivation

The linear economy model, characterized by the “take, make, and dispose” logic, has dominated global economic systems for decades driving industrial growth through resource extraction, product manufacturing, and waste disposal (Ellen MacArthur Foundation, 2012; Ghisellini et al., 2016). However, this approach has proven environmentally and economically unsustainable, contributing to resource depletion, waste accumulation, and ecosystem degradation (EC, 2014; Ghisellini et al., 2016). In response, the circular economy has emerged as an alternative paradigm that seeks to minimize waste and maximize resource value by keeping products, materials, and components in circulation through strategies such as reduction, reuse, and recycling, thereby creating closed-loop systems that reduce extraction needs and environmental impacts (Ellen MacArthur Foundation, 2012; Ghisellini et al., 2016; Su et al., 2013).

In this context, the primary motivation for this research stemmed from a final-year internship at a multinational cosmetics group, carried out over a period of just over five months in 2025. The internship was a mandatory component of the double degree program at Centrale Lyon (formerly École Centrale Lyon). Conducted within the sustainability team for the company's global operations supply chain, the internship provided direct exposure to the practical challenges and opportunities related to sustainability in the cosmetics sector. This experience provided deeper insights into circularity issues within the industry and inspired the choice of focusing this thesis on the subject of circular initiatives in the beauty industry.

Amid increasing environmental and social pressures, the cosmetics industry emerges as a particularly relevant field in which to investigate circularity initiatives, as it simultaneously exhibits notable progress and persistent challenges in this transition. On the one hand, practices such as redesigning packaging with more sustainable materials, implementing container return programs, valorizing production by-products, and redirecting near-expiry stock are already being implemented by some companies; on the other hand, research highlights a significant gap between conventional initiatives such as recycling and the adoption of more transformative circular strategies, such as systematic material reuse (MIKRONI, 2017). Furthermore, academic literature in this field remains relatively scarce, while risks of greenwashing and insufficient engagement from consumers and employees highlight the importance of examining not only the practices themselves but also their limitations and credibility (VUC, 2024). In this context, this thesis seeks to explore circularity initiatives in the cosmetics industry, contributing both to the consolidation of knowledge and to the identification of opportunities for further advancement.

1.2. Objectives

The objective of this thesis is to explore the circularity practices developed at a multinational cosmetics group, grounding the analysis in academic literature on circularity. By analyzing both written documents from the company and by interviewing different sustainability actors across the group, this report will provide an extensive and in-depth vision of how the company explores circular concepts within its operations and strategy. This focused study circularity offers valuable insights into the practical challenges and opportunities associated with advancing circular economy principles in a multinational cosmetics company.

1.3. The Internship

Company A is a multinational group in the cosmetics and beauty sector, operating across multiple countries and managing a broad portfolio of brands spanning various product categories. Its corporate commitments are structured around three main pillars: environment, people, and products. Environmental actions are consolidated under a comprehensive

sustainability program, referred to here as “Cosmetics for the Future.” Meanwhile, product-related initiatives are driven by significant investments in research and innovation.

The internship at Company A that motivated this study covered three main areas. The first and primary mission concerned sustainability within the supply chain. In this domain, the internship involved several projects, most of them related either to packaging circularity at Company A or to a project that will be referred to in this report as the Zero Waste program. The Zero Waste program is a comprehensive initiative that brings together multiple actions aimed at giving a second life to finished goods that cannot be sold through regular channels, among other related objectives. Meanwhile, the circular packaging workstream involved mapping the current state of packaging circularity within the company, with a focus on tertiary packaging.

In parallel to the main workstream, additional contributions were made to a global digital transformation initiative aimed at preparing the company for the migration from legacy enterprise resource planning systems to a new integrated platform. The internship’s activities primarily involved assessing and visualizing country-level readiness data across multiple supply chain domains, supporting the structured identification of transition prerequisites, capability gaps, and other factors critical to ensuring a smooth and coordinated implementation process.

A third dimension of the internship involved support to the customs team, particularly with the global customs dashboard. The work was centered on the standardization and quality control of countries’ data to ensure smooth integration into the global platform. Activities included monitoring data submissions from several countries, participating in one-to-one meetings, conducting training sessions, correcting errors, and testing new tools. Additionally, a tool was developed to automatically format data for integration into the platform, thereby streamlining the process and enhancing overall efficiency.

The overarching objective of the internship was to gain a comprehensive view of Company A’s supply chain, with particular emphasis on sustainability and circularity. Exposure to diverse projects, from packaging circularity assessment to the preparation for the implementation of a new supply chain software and the standardization of customs data, helped to build a strategic perspective on how a global player in the cosmetics industry addresses its supply chain challenges. This experience provided a holistic and practical understanding of supply chain processes at a global scale and contributed to the development of knowledge in sustainable practices, digital transformation, and cross-functional collaboration.

Given that this thesis focuses specifically on circularity initiatives, the emphasis will be on the sustainability-related aspects of the internship. Although the internship covered different supply chain areas, the discussion will center on projects directly connected to the research objectives. Accordingly, other activities, such as contributions to the global digital transformation initiative and support to the customs team, will not be discussed in detail.

As previously introduced, the internship activities within the sustainability scope were primarily structured around two main fronts: the Zero Waste program and the assessment of packaging circularity. The Zero Waste program encompassed three major initiatives conducted during the internship. First, the Zero Waste Game was developed as a gamified learning tool aimed at facilitating the dissemination of the program's key principles across operational and support teams, encouraging collective understanding through interactive classification of rules, risks, and processes. Secondly, Zero Waste knowledge was integrated into company's internal conversational artificial intelligence via the Chat with OPS companion, enabling employees to access useful explanations and internal resources through AI-based consultation. To achieve this, existing documentation was reformulated and structured in a format optimized for machine interpretation, ensuring higher retrieval accuracy. Finally, the Handover Rules, which are the core governance mechanism defining the transfer logic of stock at risk to Zero Waste, were translated into an explanatory video designed to embark the people that were not familiarized with the subject.

In parallel, the assessment of circular initiatives was conducted as part of the packaging circularity front, with a particular focus on tertiary packaging. This work involved mapping existing circular strategies such as reuse, repair, and recycling across upstream and downstream flows, identifying maturity gaps related to traceability, operational constraints and reverse logistics. The findings were consolidated into a structured presentation delivered to senior leaders in circularity, positioning the current state of tertiary packaging within a broader strategic reflection on scalability and governance of circular models.

Beyond these two pillars, complementary support was also provided to the BI MOQ project, notably through the production of communication materials (a presentation and a testimonial-based video) used to promote the tool within the Zero Waste Cup competition, where it was awarded first place in its category. Additionally, although not directly linked to environmental circularity, contributions were made to a project that aimed to integrate women in STEM through the development of an educational game designed to raise awareness of

supply chain concepts among young students, thereby reinforcing the social dimension of the company's broader sustainability agenda.

This thesis, however, is not restricted to the activities conducted during this internship and will not limit its analysis to the projects of direct involvement during this experience. Other relevant initiatives across the company will also be considered, drawing upon additional sources such as internal documents and interviews with employees engaged in different circularity projects, with the objective of providing a comprehensive analysis of circularity in the group.

To situate these initiatives within the company's broader strategic framework, it is important to highlight that most sustainability-related projects at Company A are, to some extent, related to the broader Cosmetics for the Future program. This program sets ambitious targets to address key environmental and social challenges. Its vision extends beyond reducing Company A's footprint, aiming to transform the company into a regenerative force and to empower its ecosystem to generate positive impact for society and the planet. The program focuses on climate, water, biodiversity, and natural resources, all of which are closely linked to the supply chain activities addressed in this thesis.

Cosmetics for the Future presents a comprehensive set of environmental commitments. In terms of climate action, the Group has pledged to drastically reduce its absolute greenhouse gas emissions across scopes 1 and 2, and by a more moderate amount across scope 3 (in the categories of Purchased Goods & Services, Business Travel and Upstream Transportation & Distribution). Concurrently, the program includes a transition to renewable energy, with the objective of ensuring that all operated sites and retail stores are powered by renewable sources. Regarding the circularity of materials, the Group has committed that in a couple of years, all plastics used in its packaging will be of recycled or bio-based origin, and it will reduce the packaging intensity per finished product. Furthermore, the company emphasizes the systematic application of eco-design across new product introductions and the increased reuse or recycling of industrial process water.

Beyond the environmental agenda, the program also places strong emphasis on social responsibility: helping thousands of people from disadvantaged communities access employment, ensuring that all strategic suppliers sign a living wage pledge, and supporting the wellbeing and empowerment of millions of people worldwide through social and philanthropic initiatives, though this social part of the program will not be concerned in this thesis.

1.4. Structure

This thesis is structured into five chapters. The first chapter, Introduction, presents the motivations behind the study, defines its objectives, and contextualizes the internship experience that serves as the foundation for the case study. The chapter concludes with this overview of the structure of the document.

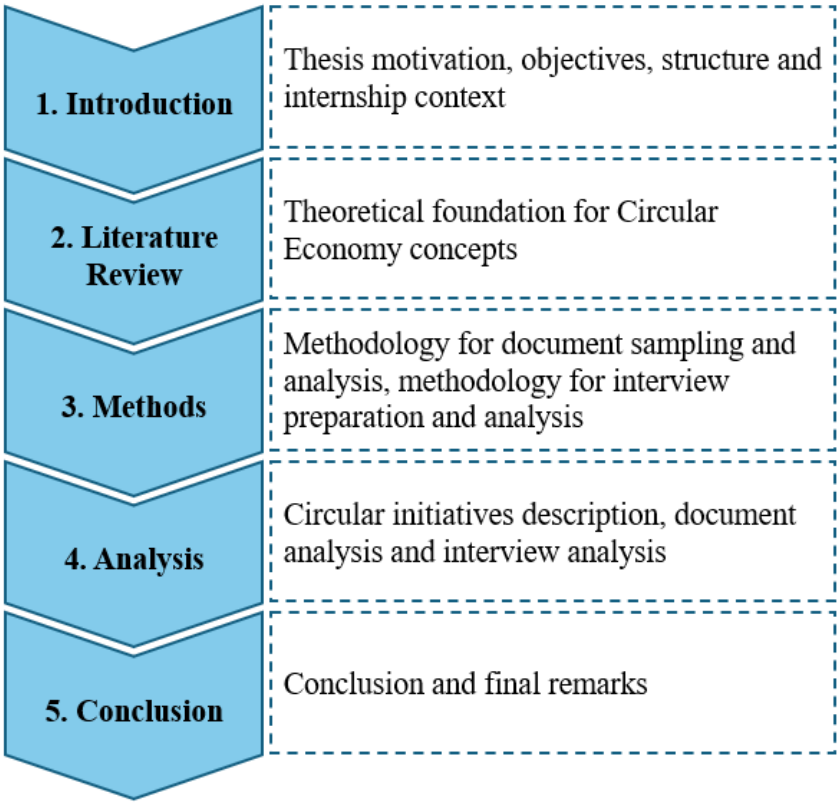
The second chapter, Literature Review, establishes the theoretical framework for this research. It begins by contextualizing the concept of the circular economy and its principles, before focusing on its application in the cosmetics industry. This section provides the necessary background to analyze the opportunities and challenges of circularity within Company A.

The third chapter, Methods, describes the research methodology employed, which were heavily influenced by Bardin's content analysis method (1977). It also details the data collection process, which includes two main data sources: interviews and written documents from Company A.

The fourth chapter, Analysis, focuses on Company A as the central case. It begins by presenting and contextualizing all circular economy projects considered within the scope of the research, establishing a clear foundation for the subsequent analytical work. The chapter then conducts a series of analyses based on the coded documentary and interview data. These analyses investigate multiple aspects, such as the frequency with which each initiative is referenced and the circular strategies associated with them. In addition, the chapter identifies the principal barriers to implementing circularity, assesses the scalability of these initiatives beyond Company A and outlines the perceived opportunities and future trajectories.

Finally, the fifth chapter, Conclusion, synthesizes the main findings of the thesis, discusses its limitations, and proposes recommendations and potential directions for future research.

Figure 1: Thesis structure



Source: own elaboration

2. LITERATURE REVIEW

This chapter presents the theoretical foundation that underpins the analysis that will be conducted in this thesis. The primary focus will be on concepts related to the circular economy and circular supply chain, which provide a framework for understanding sustainable practices within modern logistics and production systems.

2.1. Circular Economy

For many decades, the dominant economic model worldwide has been the so-called linear economy, characterized by the sequence “take, make and dispose” (ELLEN MACARTHUR FOUNDATION, 2012; GHISELLINI et al., 2016). In this system, natural resources are extracted, transformed into products, and, at the end of their lifecycles, disposed as waste. Although this model supported significant economic growth and industrial development, it has become increasingly evident that its environmental and social impacts are unsustainable. The linear approach has contributed to resource depletion, increased waste generation, and environmental degradation, threatening both the stability of economies and the integrity of natural ecosystems essential for humanity's survival (EC, 2014; GHISELLINI et al., 2016).

Given these challenges, the concept of circular economy (CE) has gained prominence as an alternative paradigm aimed at promoting sustainability. Unlike the linear model, the circular economy seeks to minimize waste and maximize the value extracted from resources by keeping products, materials, and components in use for as long as possible (ELLEN MACARTHUR FOUNDATION, 2012; GHISELLINI et al., 2016). This is achieved through strategies such as Reduction, Reuse and Recycle, which collectively aim to create closed-loop systems that reduce the need for new resource extraction and decrease environmental impacts (SU et al., 2013).

From an academic perspective, the circular economy is characterized by a diversity of definitions and an absence of clear consensus. Table 1 highlights the predominant scholarly approaches that underpin the concept of CE. Among these, the idea of cycles or loops emerges as a central theme. Biological cycles tend to resonate with environmental and biological disciplines, whereas technical closed loops are more closely associated with economic and industrial viewpoints (HOMRICH, 2017).

Table 1: Schools of thought of CE

Schools of Thought	Definitions	Source
Cradle-to-cradle	Products designed to regenerate the ecosystem as biological nutrients or to regenerate industries such as nutrients, components and materials in a 100% closed material loop.	McDonough and Braungart (2002)
Industrial ecology	Cyclical resource-use patterns observed in biological ecosystems are used as a model for designing mature industrial ecosystems, whose productivity depends less on resource extraction and waste emission.	Graedel and Allenby (1995)
Biomimicry	Designers are inspired directly by organisms, biological processes and ecosystems.	Benyus (2002)
Laws of ecology	There are four laws: (i) everything is connected to everything else, (ii) everything must go somewhere, (iii) nature knows best and (iv) there is no such thing as a "free lunch".	Commoner (1971)
Performance economy	It enables entrepreneurs to achieve a higher competitiveness with greatly reduced resource consumption and without an externalization of the costs of waste and of risk.	Stahel (2010)
Blue economy	The need to find a way of meeting the basic needs of the planet and all its inhabitants with what the Earth has.	Pauli (2010)
Regenerative design	This means replacing the current linear system of transfer flows with cyclical flows at sources, consumption centers and sinks.	Lyle (1996)
Permaculture	It is an integrated evolutionary system of perennial or self-perpetuating plant and animal species useful to man, it is a complete agricultural ecosystem.	Mollison and Holmgren (1978)
Natural capitalism	An approach that protects the biosphere and improves profits and competitiveness. Some changes in how to run the business, based on advanced techniques to make resources more productive, can yield amazing benefits for both current and future generations.	Lovins et al. (1999)
Industrial metabolism, Industrial symbiosis and Ecoparks	The use of matter and energy in the economic system shows certain parallels with the use of matter and energy by biological organisms and ecosystems. Industrial symbiosis is a merger of two or more different industries, where each industry tries to find optimal access to material components and material elements.	Ayres (1989); Renner (1947)

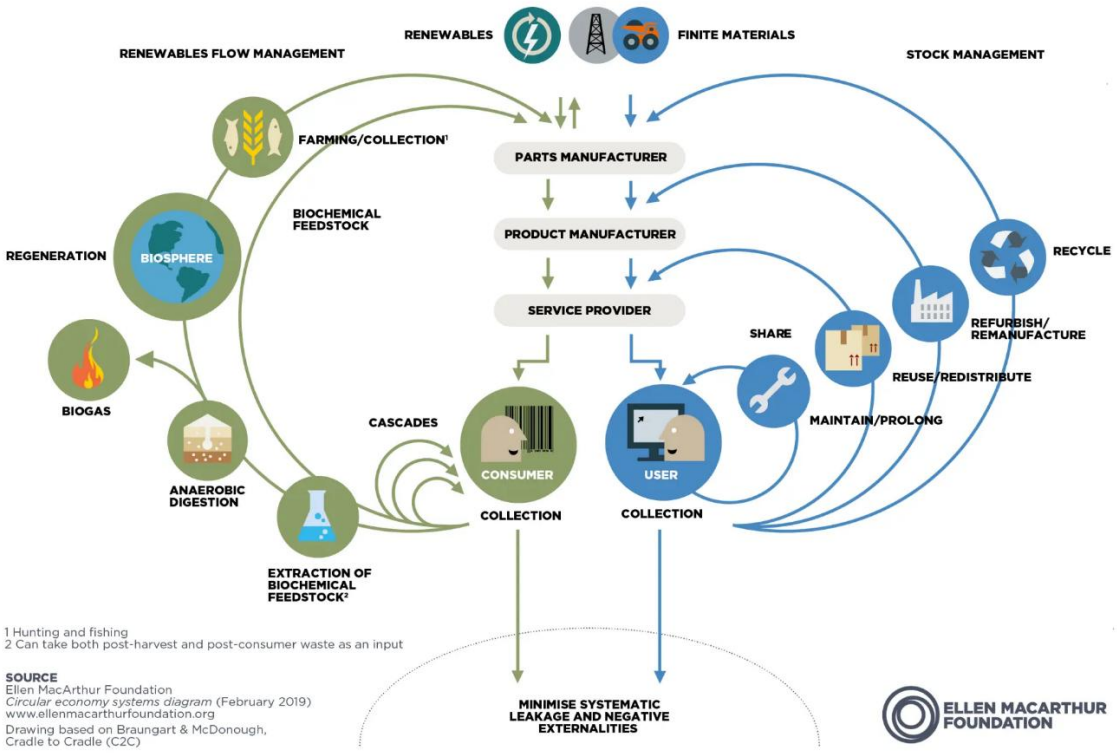
Source: adapted from HOMRICH et all. 2018

Most of these definitions of circular economy offer valuable perspectives for discussion in the context of this internship. They provide a broad theoretical foundation for understanding how circular principles can be integrated into business models. The concept of closed loops stands out as one of the most relevant to the circularity initiatives at Company A, as it is directly explored in many projects that will be studied in this research. Similarly, the concept of circular economy as an enabler for lower resource consumption and waste avoidance is particularly

relevant for this study as it is the main objective of numerous initiatives and programs across the company.

In this context, one of the most widely adopted proposals for describing the circular economy is the butterfly diagram, introduced by the Ellen MacArthur Foundation. This diagram provides a graphical representation of the concept of continuous material cycles across the two dimensions proposed by the cradle-to-cradle approach, as shown in Figure 2. The first dimension, on the left, represents biological cycles, in which resources safely return to the biosphere. The right side illustrates technical cycles, where materials, components, and products are fed back into the supply chain (HIRATA, 2022).

Figure 2: Butterfly diagram of CE



Source: Ellen MacArthur Foundation, 2019

Still according to the Ellen MacArthur Foundation (2012), value creation in a circular economy relies on four fundamental principles. The first is the power of the inner circle. The tighter the cycle—that is, the less a product has to be altered during reuse, refurbishment, or remanufacturing, and the faster it is returned to use—the greater the potential savings in terms

of material, energy, labor, and capital. This principle also reduces associated negative externalities, such as greenhouse gas emissions, toxicity, and water consumption.

The second principle is the power of circling longer, which consists of maximizing the number of consecutive cycles (such as reuse, remanufacturing, or recycling) and extending the duration of each cycle. By keeping materials and products in use for longer periods, this principle reduces the overall demand for virgin resources and helps decouple growth from raw material consumption (ELLEN MACARTHUR FOUNDATION, 2012).

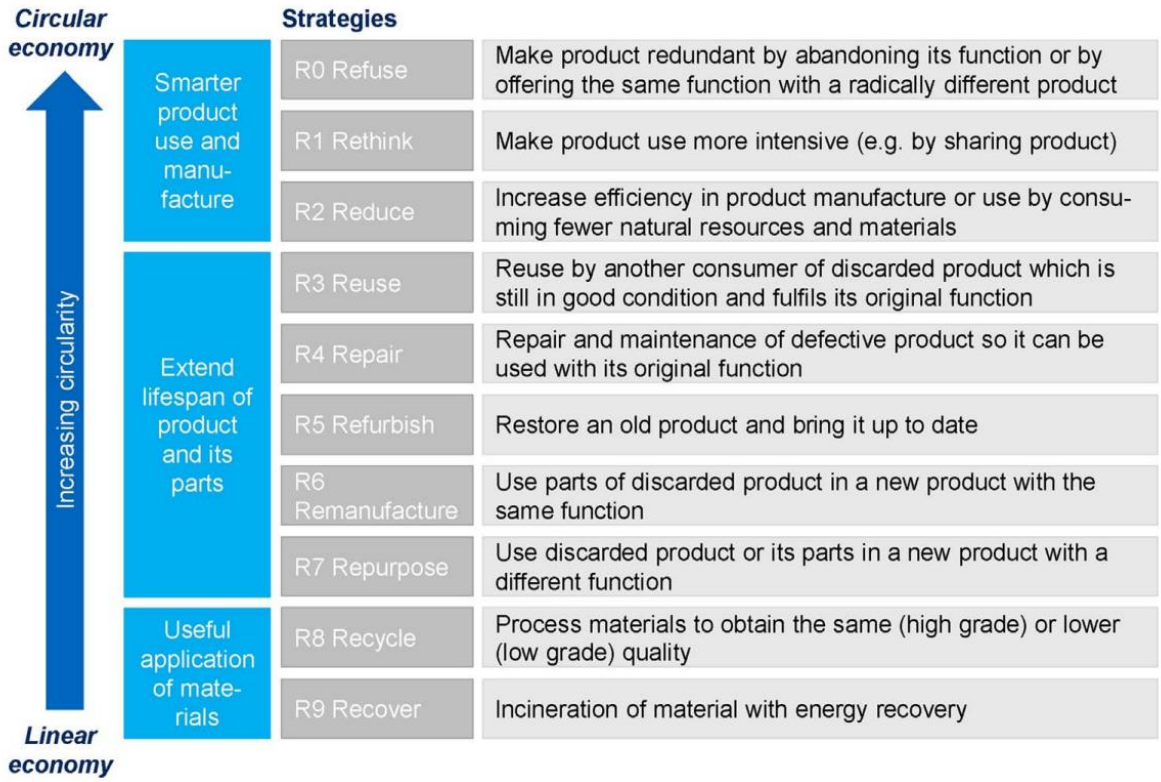
The power of cascaded use represents the third principle. It refers to the diversification of reuse across different value chains, ensuring that materials can be repurposed in several industries before their final return to the biosphere. A common example is cotton, which may be first used as apparel, then as fiberfill in furniture, and later as insulation material in construction, thus progressively substituting the inflow of virgin resources into the economy (ELLEN MACARTHUR FOUNDATION, 2012).

Finally, the fourth principle is the power of pure circles. This principle highlights the importance of maintaining uncontaminated material streams, which facilitates collection, redistribution, and the preservation of material quality. It is particularly relevant for technical materials, such as metals and plastics, where purity allows for higher-quality reuse and contributes to extending product longevity. By ensuring the integrity of material flows, pure circles ultimately increase material productivity and enhance the efficiency of circular systems (ELLEN MACARTHUR FOUNDATION, 2012).

Another well-known way to frame circular economy concepts is through the so-called "R frameworks," which categorize strategies for reducing material throughput. The most widely recognized is the 3R model, based on reduce, reuse and recycle strategies and which has been central to waste management policies across several countries. This framework was later extended to the 4R model, which incorporates "recover" as a fourth principle, emphasizing energy recovery from materials that can no longer be reused or recycled (KIRCHHERR, 2017). The 4R model underpinned the European Union Waste Framework Directive (2008) and remains a key reference point in policy discourse. Still in line with MacArthur's inner circle principle, the R frameworks are hierarchical, with "reduce" generally considered the highest priority, as it directly prevents waste generation and resource depletion, whereas "recover" is regarded as a last resort (KIRCHHERR, 2017).

More recent scholarships have further expanded the framework into 6Rs or even 9Rs, providing greater nuance to circular strategies. The 9R framework, as developed by van Buren et al. (2016) and Potting et al. (2017), includes the strategies of refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, and recover, totaling 10 unique approaches. This broader framework highlights a systemic approach to circularity, prioritizing strategies that avoid consumption in the first place (e.g., "refuse" and "rethink") before moving down the hierarchy toward material recovery. While the 9Rs offer a more comprehensive and ambitious roadmap for circular transitions, Kirchherr et al. (2017) note that such expanded frameworks are still rarely reflected explicitly in circular economy definitions, with many conceptualizations remaining limited to the simpler 3R or 4R models. The 9R framework, as described by Kirchherr et al. (2017), is shown in figure 3:

Figure 3: 9R framework



Source: Kirchherr et al. (2017)

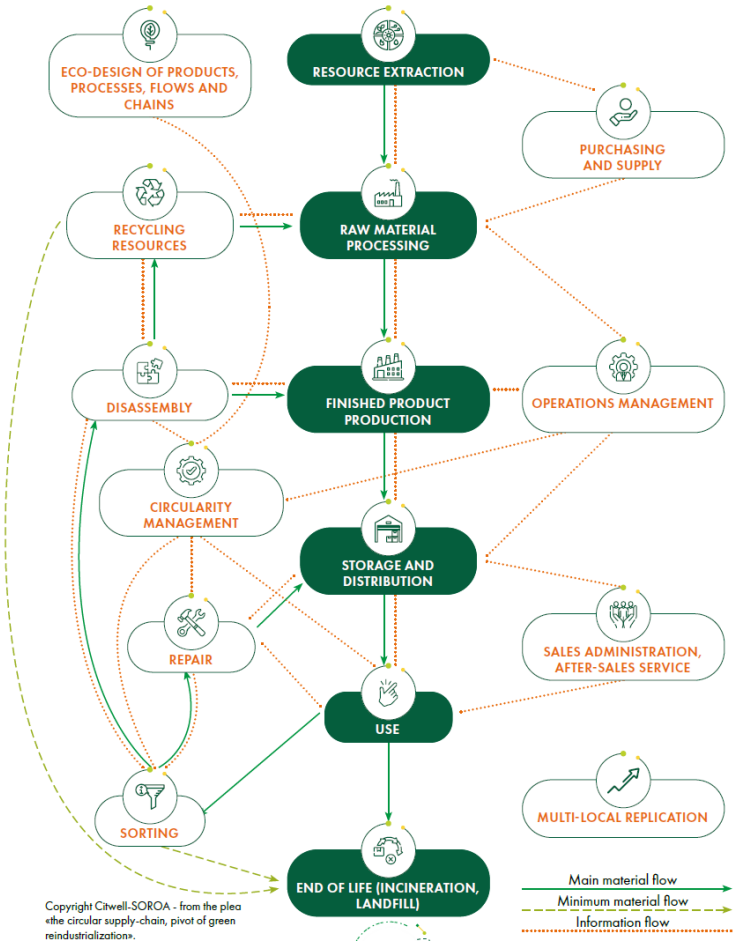
Having established the foundational principles of the circular economy, another important and especially pertinent concept to be explored is circular supply chain. This specific

field is particularly relevant due to its close relation with the internship that motivated this thesis.

The scholarly literature defines Circular Supply Chain as the integration of circular thinking into the management of the supply chain and its surrounding industrial and natural ecosystems. It systematically restores technical materials and regenerates biological materials toward a zero-waste vision. This is achieved through system-wide innovation in business models and supply chain functions from product or service design to end-of-life and waste management, while involving all stakeholders in the product or service lifecycle, including manufacturers, service providers, consumers, and users (FAROOQUE, 2019).

The conceptual framework of the circular supply chain transcends the simplistic notion of a singular, end-of-pipe recycling loop appended to a linear value chain. Instead, it is characterized by a multi-layered system of value-retention cycles operating at various scales. This systemic architecture is operationalized through distinct strategies for value preservation, such as reuse, remanufacturing and material recycling. Collectively, these strategies constitute the primary mechanisms for transitioning from the conventional linear supply chain paradigm to a circular one (CITWELL, 2024). Figure 4, although not exhaustive, illustrates different cycles that can be explored within the concept of circular supply chains:

Figure 4: Circular supply chain diagram



Source: Citwell, 2024

2.2. Circular Economy in Cosmetics

Going a little further into the specific context of the internship, most concepts of circular economy can be applied in the cosmetics industry, and the sector is increasingly integrating circular economy principles into its operations through multifaceted strategies that transcend conventional recycling. These applications include the proactive redesign of product packaging to incorporate more sustainable materials, instituting consumer return programs for container reuse, valorizing production surplus or by-products into new value chains, and diverting near-expiry products to secondary markets to prevent retail waste (MIKRONI, 2017).

Figure 5: Refillable packaging, example of a circular economy initiative in cosmetics

Source: Estée Lauder UK website

The growth of operational initiatives in the cosmetics industry is contrasted by persistent limitations in the quality and scope of mandated Circular Economy reporting in corporate sustainability documents. Although multinational corporations frequently mention circularity, empirical evidence shows that CE is typically under-reported in key areas of governance, strategy, management, and performance metrics (TISCINI et al., 2022). This disclosure gap is reinforced by a general failure to provide clear, quantifiable CE objectives (MOREA et al., 2021), with studies confirming that most companies don't utilize specific circularity ratios or indicators presented in academic literature (MOREA et al., 2021; TISCINI et al., 2022). Consequently, information related to CE tends to be predominantly descriptive, non-financial, and lacks the necessary forward-looking or time-specific quantitative data required for stakeholders to accurately assess true performance and strategic commitment to the transition from a linear to a circular business model. (MOREA et al., 2021; TISCINI et al., 2022).

Beyond the challenge of measurement, the cosmetics industry also faces structural barriers to circularity implementation. Mikroni et al. (2017) highlight a significant gap between the widespread adoption of recycling and the limited application of more transformative circular strategies, such as systematic material reuse. The authors further emphasize that a lack of effective communication, both toward consumers and within companies, undermines the

impact of existing initiatives, as awareness and behavioral engagement remain insufficient to sustain true circular transitions.

Recent systematic reviews provide a more comprehensive understanding of how circular practices are emerging in the cosmetics sector. Mondello et al. (2024) categorize these initiatives into four main areas: input valorization, packaging solutions, output valorization, and governance and management. Input valorization stands out through the use of bioactive compounds derived from agri-food by-products, which simultaneously reduce waste and add functional value to formulations. Packaging solutions, in turn, include innovations such as refill systems and biobased alternatives, while output valorization emphasizes redirecting production residues into secondary applications. Finally, governance and management practices highlight the importance of designing circular business models and integrating sustainability reporting, which can align industry initiatives with broader regulatory frameworks and consumer expectations (MONDELLO et al., 2024).

Still, as noted by Vuc (2024), circularity in the beauty industry remains at an early stage of maturity. Academic research on this topic is relatively limited, and risks of greenwashing continue to undermine trust in sustainability claims. Greater transparency, consumer awareness, and organizational engagement are therefore needed to ensure that circular initiatives within the cosmetics industry evolve beyond its current state and deliver measurable, credible results.

3. METHODS

This chapter outlines the methodological approach adopted in this research and is divided into two main parts. The first section describes the process through which written documents (or, in some cases, audiovisual material) produced by Company A and related to circular economy practices were selected and analyzed to capture the group's formal discourse and strategic orientation on the subject. The content analysis of these materials was conducted primarily following Bardin's (1977) framework, applying her principles of pre-analysis and material exploration. The second section explains how interviews were prepared, conducted, and analyzed with employees directly engaged in circularity initiatives within the group, providing complementary insights from practitioners' perspectives.

3.1. Document analysis

This section focuses on the analysis of documents produced internally by Company A that are relevant to circular economy initiatives. First, it outlines the process through which the sample of documents was selected, detailing the criteria used to ensure their relevance. Following this, the section provides a general overview of the analytical approach applied to these documents, describing how the information contained within them will be examined and interpreted to address the research questions.

3.1.1. Document sampling

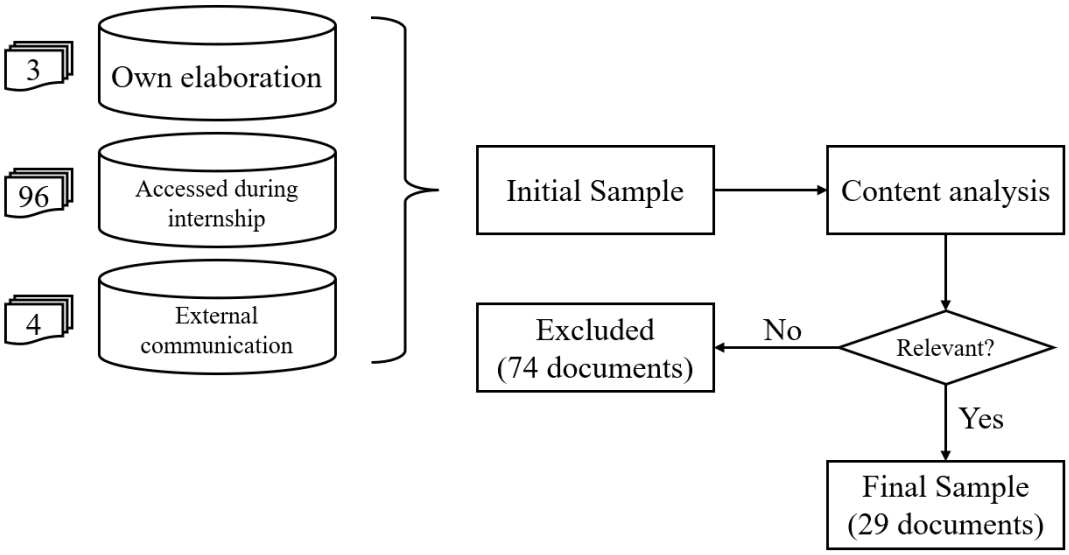
This study relies mainly on primary sources, basing its analysis on internal documents that are aligned with the scope of the thesis. The sampling process began with the comprehensive collection of a significant volume of documents potentially related to circularity within the company, without applying filters at this stage in order to ensure breadth. These documents were obtained via three main channels: a limited number of documents that were partially or completely elaborated by the author during the internship, a larger set of materials accessed or used during the internship, and a smaller group of official corporate communications from recent years addressing circularity at Company A.

Two limitations of this sampling method must be acknowledged. First, the corpus is inevitably overrepresented by documents more closely related to the specific activities of the internship, which introduces an asymmetry in the distribution of themes. Second, the collection cannot be considered exhaustive, as certain perspectives, opinions, or even projects are likely to fall outside the scope of this analysis. Nevertheless, given that the internship had a very broad scope, the set of documents assembled provides sufficiently broad coverage of a wide range of relevant initiatives. Moreover, the uneven distribution of documents across themes can to some extent be interpreted as a reflection of how circularity is prioritized and framed within Company A's global supply chain.

From this sampling process, a corpus of 103 documents was obtained, the vast majority of which (96 documents) were accessed or used during the internship. These materials take a variety of forms, ranging from videos and internal training courses to PowerPoint presentations, written guidelines, and formal standards. This heterogeneity reflects the different formats through which circularity-related practices and strategies are communicated and operationalized within the company.

The next step consisted of filtering the collected documents. Following Bardin's principle of "floating reading", which consists of a preliminary and open-ended examination that precedes systematic categorization, each document was fully or partially read or viewed in order to assess its relevance to the research objectives (BARDIN, 1977). The selection criterion focused on documents that clearly addressed circularity projects within Company A. Materials that did not deal with circularity initiatives in sufficient depth were excluded, as were documents that concentrated exclusively on very specific technical aspects of a single project without offering a broader perspective. At the end of this filtering process, the final sample was reduced to 29 documents.

Figure 6: Sample collection and selection schema



Source: Own elaboration

All of the documents retained for analysis were written in English. Of these, 23 had been sampled because they were used or consulted during the internship, two were largely developed during the internship with direct involvement in their preparation, and four consist of external corporate communications. The reasons for the exclusion of the documents from the initial sample are presented in Table 2.

Table 2: Reasons for exclusion of documents

Reason for exclusion	**Count**
Inconvenient format	16
Too specific	15
Confidential	14
Out of scope	11
Too general	8
Low relevance	8
Other	2

Source: Own elaboration

Most documents classified as having an inconvenient format consisted of interactive online courses or recorded presentations exceeding one hour in length, which would have required disproportionate effort for transcription and systematic analysis using the methods adopted for this research. Documents deemed too specific typically addressed highly niche topics, such as procedural standards applicable only to a single phase of a particular circularity project or internal listings of personnel assigned to specific initiatives, thereby offering limited analytical value for broader pattern identification. Confidentiality constraints represented another significant exclusion factor: all documents classified as C2 or C3 (high or very high confidentiality) were automatically removed from the corpus in accordance with data protection requirements. Some materials were categorized as out of scope when, despite being tangentially related to circularity, they did not provide direct insight into the design, implementation or outcomes of circular projects. One example was role descriptions associated with sustainability positions. Finally, documents were labelled as too general or of low relevance when their content was either excessively broad or failed to contribute meaningful information to the analytical objectives of this study.

3.1.2. Analytical Approach

The data analysis was conducted on the set of documents selected in the previous stage. In terms of format, the resulting sample proved to be highly heterogeneous. Nearly half of the documents (16) were prepared in PowerPoint, although many of them were not designed as presentations but rather as written reports structured in slide format. Six documents took the form of traditional written reports prepared in Word or similar software, while four were videos, two were spreadsheets, and one was presented as a schematic diagram. Table 3 contains all retained documents, as well their basic characteristics. Document names may have been slightly modified to maintain confidentiality.

Table 3: Retained documents for analysis

ID	Document Name	Source	Format
D1	Handover rules script	Own elaboration	Written document
D2	Upskill yourself on Regulations evolution	Access during internship	Video
D3	Upskill yourself on Recycling levers & capabilities	Access during internship	Video
D4	Understand our Supply Chain Prevention Levers	Access during internship	Video
D5	How Zero Waste is shifting our business model towards Circular Economy	Access during internship	Video
D6	Prevention Playbook	Access during internship	PowerPoint
D7	Green Rules on returns playbook for Company A	Access during internship	PowerPoint
D8	Prevention guidelines	Access during internship	PowerPoint
D9	Product division Global Frame & Trajectory	Access during internship	PowerPoint
D10	Returns reasons	Access during internship	Spreadsheet
D11	Onboarding Retailers Green Joint Business Plans Playbook	Access during internship	PowerPoint
D12	Clearence Norm	Access during internship	Written document
D13	Stock Handover Rules (presentation)	Access during internship	PowerPoint
D14	End to End Reverse Process	Access during internship	PowerPoint
D15	Customers' returns reintegration flow chart	Access during internship	Schema
D16	F&F beginner kit (presentation)	Access during internship	PowerPoint
D17	Presentation that explains flash sales	Access during internship	PowerPoint
D18	Link to the Zero Waste Liquidation guidelines	Access during internship	PowerPoint
D19	The way we do Philanthropy	Access during internship	PowerPoint
D20	Recycling user guide	Access during internship	PowerPoint

D21	Tertiary Packaging Circularity	Own elaboration	PowerPoint
D22	Refill presentation	External communication	Written document
D23	Refills Guidelines	Access during internship	PowerPoint
D24	Circular Economy: The Reuse Revolution	Access during internship	PowerPoint
D25	Company A Group - Reusability Indicators BI	Access during internship	Written document
D26	Company A Registration Document	External communication	Written document
D27	Company A's 2024 Annual Report	External communication	Written document
D28	ESG Performance dashboard	External communication	Spreadsheet
D29	Returns Policy Clarification	Access during internship	PowerPoint

Source: Own elaboration

Before starting the analysis of the documents themselves, a pre-treatment stage was carried out for all the videos that made up the selected sample. In order to make the analysis process more uniform across documents, the videos were transcribed using Whisper, so that they could be analyzed in the same way as the other written documents. In some cases where the audio transcription of the videos is not sufficient for a complete understanding of what is being said, such as when important graphics are used as a form of visual communication, screenshots have been manually added to the transcripts to preserve as much content as possible in the video transcription process.

Once the pre-treatment of the documents was completed, the analysis of the documents was carried out in line with the coding methodology described by Bardin (1977). The coding process in content analysis involves systematically organizing and categorizing textual data to identify patterns, themes, or meanings. During coding, the researcher reads the texts carefully and assigns one or more codes to relevant segments that represent the defined categories. This systematic attribution of codes allows for both quantitative counting of occurrences and qualitative interpretation of themes.

The determination of coding units and categories was primarily based on the deductive approach, that is, they were established prior to coding based on circular economy theory,

the preliminary reading of the documents, and the author's own knowledge concerning the company. This approach contrasts with another possibility also mentioned by Bardin (1977): the inductive approach. This other option, which will not be adopted for these documents, defines the coding units as the documents are read.

The coding process was structured around three main categories. The first consisted of explicit references to circular economy projects within Company A, which were classified into predefined initiative types identified during the internship. These included: Refillable products, Second Life Channels and Handover Rules, Returns Management, Bad Stock Generation Prevention, Packaging Optimization, Tertiary Packaging Reuse, Packaging Recycling, Sustainable Sourcing, Bulk Recycling, Water Reuse, and Other Initiatives. The second category captured mentions of circularity strategies according to the 9R framework, namely Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose, Recycle, and Recover. In both of these first two categories, coding was conducted at the thematic level, grouping content according to broader conceptual entities rather than isolated expressions. The third category, by contrast, consisted of keyword-based coding, registering the occurrence of specific terms commonly associated with circular economy discourse (such as closed loop, waste reduction, efficiency, etc.). A complete list of the keywords considered for this lexical screening is provided in Appendix 2.

In her book, Bardin (1977) explores different ways of enumerating coded elements. In the context of this thesis, the principle of enumeration by frequency, that is, enumerating by summing all occurrences of a code, was used for codes referring to keywords, given that in this case, the premise that “the importance of a record unit increases with the frequency of occurrence” is valid. For circularity projects and 9R framework strategies, however, the principle of counting by presence, i.e., 1 if the code is present in the document and 0 if not, proved to be more interesting, given that these concepts are usually developed in long sessions and whose form of partitioning into individual codes and counting them is not evident.

Once the coding system has been established and the coding task has been completed, it is possible to perform solid and well-founded qualitative analyses, which will be discussed in the analysis chapter of this report.

3.2. Interviews

This section focuses on the interviews conducted with Company A employees involved in circularity initiatives. It begins by describing the process through which the interviewees were selected, highlighting the criteria used to ensure the relevance of their perspectives. It then explains how the interviews were prepared and carried out, including the design of guiding questions and the practical aspects of data collection. Finally, it presents the analytical approach applied to the interview material, outlining how the data were examined and interpreted considering the research objectives.

3.2.1. Selection of Interviews

The interviewees were selected with the aim of capturing perspectives from individuals actively involved in circularity projects at Company A. Particular attention was given to ensuring diversity in terms of seniority, the main axis of circularity with which each participant was engaged, and their specific role within circularity projects, whether as project leaders, contributors with a stronger data orientation, or actors involved in strategic decision-making. Leveraging both the researcher's own network and that of the internship supervisor, six potential participants were identified, including the internship supervisor herself. Of these, five agreed to be interviewed, and their profiles are summarized in Table 4. One potential participant declined, which unfortunately resulted in a degree of underrepresentation of refill projects, given their importance within the company and the fact that only one of the final interviewees had direct involvement with this initiative.

Table 4: Interviewees and general description

Interviewee Code	Role	Years at Company A	Interview Format	Interview Duration	Interview Language
I1	Business Development Manager	5	Recorded Teams meeting	15 min	English and French
I2	Circular Economy Manager	4	Recorded presential meeting	9 min	English and French
I3	Data Project Manager	5	Asynchronous interview via Teams	-	English
I4	Sustainability Director	24	Recorded presential meeting	10 min	English and French
I5	Project Manager	23	Recorded Teams meeting	25 min	English and French

Source: Own elaboration

3.2.2. Interviews Preparation

The interviews were designed to collect in-depth insights from Company A employees involved in circularity initiatives, with the overarching goal of understanding how circular economy principles are interpreted, implemented, and challenged within the company. To ensure consistency across interviews while also leaving space for flexibility, a semi-structured interview guide was developed. The interview protocol, available in Appendix 1, was built around a set of open-ended questions, aimed at exploring interviewees' professional backgrounds, their interpretations of circular economy, the projects they had been involved in, and their perspectives on challenges, scalability, and future developments.

The interview protocol was structured into three main parts. The first part served as an introduction, inviting participants to present themselves and share their understanding of circular economy. The second part focused on concrete experiences, asking about the circularity projects in which they worked at Company A, how these projects contributed to enhancing circularity, and how different stakeholders such as employees, suppliers, and consumers were engaged in these efforts. The third part moved to broader reflections, addressing obstacles to circularity, the scalability of Company A's initiatives both within and beyond the cosmetics sector, and participants' outlook on the future of circular economy in the company and the industry more generally.

Although this interview guide provided a consistent framework, it was not followed rigidly. The semi-structured format allowed interviewees to elaborate on themes most relevant to their expertise and experience, while the interviewer adapted the sequence and depth of questions to the flow of conversation. This flexibility ensured both comparability across interviews and the possibility of capturing rich, nuanced insights.

Of the 5 interviews conducted, four were carried out either in person or via a Teams meeting and recorded with participants' consent, while one interview was completed asynchronously through written responses on Teams chat. Though most questions were asked in English, to ensure that interviewees felt as comfortable as possible, they were allowed to answer questions in their preferred language, which meant that most interviews were conducted in a mixture of French and English.

3.2.3. Interviews Analytical Approach

The first step in the analysis of the interviews was their transcription. Given the length of the recordings, which made manual transcription impractical, different software solutions were tested. Ultimately, Notta proved to be the most effective tool and was used to transcribe all interviews, with the exception of I1's interview, which was partially processed by Notta and partially with Whisper through a Python script. Overall, Notta delivered accurate results; however, one recurring limitation across both tools was their inability to handle frequent language switching, which required significant manual corrections. Once transcribed, the texts were validated by the interviewees themselves and subsequently translated into English with OpenAI's GPT-5 model, ensuring linguistic consistency for the analysis.

Once again, the analysis of content followed Bardin's (1977) theoretical framework. However, in contrast to the document analysis, the coding of interview transcripts adopted a more inductive approach, with units of meaning being defined progressively throughout the coding process rather than fully determined a priori. Broadly speaking, the analysis of the interviews was designed to complement the document-based findings, providing practitioner-based validation or contrast to the organization's formal discourse. Accordingly, coding focused not only on the circular economy projects mentioned and the strategies of the 9R framework adopted, but also on perceived barriers to the implementation of circular practices, the roles played by customers, suppliers and employees, the transferability of such initiatives

to other companies or sectors, and the respondents' perspectives on the future of circularity. This analysis also studied the way circular economy is understood and defined by each of the interviewees, enabling a more grounded understanding of circularity as experienced within the organization.

The rule of enumeration adopted in this analysis was primarily based on presence, allowing for the identification of themes that were mentioned by different interviewees. With the intention of giving emphasis to meaningful categorization rather than simple word counting, coding was conducted predominantly at the thematic level, rather than relying on isolated lexical occurrences. As a result, references were grouped according to their conceptual relevance, even when different wording was used by different sources. Finally, to ensure clarity and comparability of results, the presentation of findings, both for the document analysis and the interview analysis, will make extensive use of graphical representations, such matrices and network-style visualizations, wherever appropriate. This approach was chosen not only to illustrate quantitative tendencies derived from frequency counts, but also to communicate patterns and relationships in the most accessible and analytically transparent manner.

4. ANALYSIS

This chapter presents the analysis of the empirical material and is structured into three main parts. The first part adopts a descriptive approach, outlining the circularity initiatives at Company A that emerged either in the internal documents or during the interviews. Establishing this descriptive foundation provides the necessary context for the subsequent analytical stages. The second part focuses on the selected documents, while the third turns to the interviews. As described in the methods chapter, these analyses were guided by Bardin's methodology (1977) and aim to generate insights into several dimensions, including the correlations between specific circularity themes and projects, the barriers encountered in their implementation, and the perspectives expressed regarding the future of circularity both within Company A and in the broader cosmetics industry.

4.1. Circular economy initiatives at Company A

This subchapter introduces and systematizes the main CE initiatives identified within Company A. Its purpose is to provide a structured overview of the company's efforts in circularity, serving as a descriptive foundation for the more detailed analyses that follow. For the purpose of this study, an initiative is understood as a concrete project or action targeting a specific aspect of circularity. Broader corporate programs, such as Cosmetics for the Future or the Zero Waste Program, encompass a wide range of initiatives and therefore cannot be treated as single, unified elements. To ensure analytical clarity, initiatives that address the same stage of the product lifecycle or correspond to the same "R" within the 9R framework, when applied to the same type of component, will be grouped together. Conversely, initiatives that fall under broader programs but differ in their focus or targeted circularity dimension will be treated separately. Thus, the projects discussed in this thesis do not necessarily correspond exactly to Company A's internal designations, but are a regrouping of these.

4.1.1. Refillable products

One of the most prominent initiatives within Company A's circularity strategy is the refillable products project, which aims to reduce packaging intensity by promoting reusable formats and refill systems. As I3 explained during his interview:

> *Building a portfolio of reusable finished goods allows consumers to maximize product usage while minimizing the packaging materials associated with it. By offering rechargeable products, we enable consumers, starting from their second purchase, to opt for a lighter version with reduced packaging weight. This significantly cuts down on the overall use of glass, plastic, and cardboard.*

This perspective is consistent with Company A's internal documentation, which highlights refill as a strategic priority to reduce environmental impact while maintaining product quality and consumer experience. Internal reports emphasize both refill at home and refill on point of sale as complementary models, requiring specific packaging design to guarantee durability, convenience, and safety across multiple use cycles (Company A, 2023 [D24]; Company A, 2025 [D25]).

The refillable products deliver clear environmental benefits. Internal analyses show that refill solutions, such as pouches, can drastically reduce plastic use compared to conventional single-use bottles (Company A, 2023 [D24]). These reductions translate into substantial savings in raw materials, particularly glass, plastic, and cardboard, thereby lowering the overall carbon and resource footprint of packaging. From a theoretical perspective, the initiative would best fit into the 9R framework as an example of reuse: consumers extend the lifespan of a durable container by repeatedly recharging it, which in turn delays waste generation and reduces the demand for new packaging.

4.1.2. Second Life Channels and Handover Rules

Within the broader Zero Waste strategy at Company A, two central mechanisms stand out in ensuring that unsold products are not wasted: Second Life Channels and Handover Rules. As I5 explained in his interview, "Today, all the products that are obsolete, or what we call

slow moving, or end-of-life products, or sometimes products that did not succeed in the normal business, we have to take them in charge and find a second life for them". This approach provides a second commercial opportunity for finished goods and prevents their premature disposal, thus reinforcing the group's circularity objectives.

Second Life Channels constitute a structured system that allows Company A to give unsold or returned products a new purpose rather than discarding them. As I5 emphasized, "all of those products we collect are sorted: we check if they are still okay to be used […] and from this sorting, we do what we call remonetization of these units". Several channels are mobilized in this process. Products in good condition may be redirected to outlet shops, where slow-moving, obsolete, or returned items are sold at reduced prices. Other units enter private sales for friends and family of employees, or are made available through staff shops, thereby reinforcing employee engagement. For larger volumes, particularly with products with lower added value, liquidation partners absorb stocks that cannot be fully reallocated internally. Finally, a significant share is devoted to donations, which I5 described as "very important for society". He continues by explaining: "We donate large amounts of hygiene products (shower gels, deodorants, shampoos) that everyone needs, especially for those who cannot afford them". By combining these different channels, Company A ensures that products receive a second life, thus extending their use while balancing commercial recovery and social responsibility.

To manage the flow of inventory, Company A has established Handover Rules, which set the criteria for identifying products that should be redirected from regular stock into Second Life Channels (COMPANY A, 2025 [D1]). According to the Zero Waste guidelines, remonetization must follow a strict order of preference (COMPANY A, 2023 [D18]). This hierarchy reflects both business and ethical considerations, ensuring that the maximum economic and social value is extracted in avoiding product destruction. Moreover, the Zero Waste governance establishes principles for segregation between local and international liquidation, price consistency, and control of grey-market risks.

From a theoretical standpoint and despite not being classical examples of circularity, both initiatives can be located within the 9R framework. By enabling redistribution, resale, and providing a second use for finished goods, second life channels can be interpreted as applications of the "Reuse" strategy. At the same time, Handover Rules institutionalize these circular flows by setting a transparent allocation mechanism, thereby reinforcing not only operational efficiency but also organizational accountability.

4.1.3. Returns management

Still within Company A's broader Zero Waste program, returns management refers specifically to the handling of finished products that are sent back to Company A by its customers such as retailers and distributors. In that sense, Company A defines a No Return Policy, which does not merely forbid returns from customers, but repositions them as the outcome of misaligned commercial planning that must be jointly prevented rather than remediated through reverse logistics. While customers are expected to take ownership of their stock by executing local sell-out actions instead of sending unsold goods back, Company A actively supports this responsibility through collaborative forecasting, sell-out data sharing, and co-funded promotional mechanisms (COMPANY A, 2025 [D29]). Rather than allowing returns to function as an "easy outlet" for overstock, the policy drives forward resolution over backward displacement: products should be sold to end consumers through mechanisms such as price reductions, bundling, gifting or campaign activations, not rerouted into central warehouses. In doing so, the Group frames waste prevention not as unilateral pressure on customers, but as a coordinated commercial discipline that aligns sell-in with real demand while preserving product value in-market.

Nevertheless, exceptional cases (such as delivery refusals, quality non-compliance, or campaign-specific withdrawals) still generate physical returns that must be reabsorbed into Company A's supply chain. In such instances, returned products from these professional customers enter a standardized reverse reintegration system, as detailed in [D15] the Customers' Returns Reintegration Flow Chart (2022) and in [D14] End to End Reverse Process Guidelines (2022). Each unit is subjected to tamper-proof integrity checks, expiry validation, and defect grading before being routed toward predefined pathways. Compliant items may be reintegrated into sellable stock or allocated to Second Life Channels. This structured approach transforms retailer returns from undifferentiated waste into a controlled value recovery mechanism, balancing safety, compliance, and economic retention.

From the perspective of circular economy strategy, Company A's approach to returns has some relation with both the preventive and corrective tiers of the 9R framework. The No Return Policy itself aligns with the upper Rs by eliminating product returns as a default option and restructuring commercial relations to avoid surplus generation at the source. Conversely, the

reintegration and Second Life processes apply mainly the reuse strategy, as discussed previously. Through this layered architecture, returns management is no longer a reactive cost but a governed instrument of circular value preservation, embedded simultaneously in trade policy and operational execution.

4.1.4. Bad stock generation prevention

In the context of circularity at Company A, Bad Stock designates finished goods with a high risk of not being sold before reaching the end of their commercial or usable life. This includes products that are overproduced, slow-moving, or approaching expiry, and therefore vulnerable to devaluation or destruction. Preventing the generation of such stock is a strategic priority that intersects financial efficiency, operational excellence, and environmental responsibility, apart from operating in close synergy with the company's remonetization channels and returns management processes to systematically avoid the destruction of finished goods. As outlined in [D4] Understand our Supply Chain Prevention Levers video (2024), the company's approach to bad stock prevention focuses on acting upstream by improving forecasting accuracy, and supply chain agility. The core principle is that avoiding waste begins not in logistics or sorting centers, but in decision-making at the moment of product creation, launch sizing, and replenishment planning.

Operationally, bad stock prevention is formalized through a set of cross-functional best practices. These frameworks establish clear governance to ensure that every new product launch, assortment update, or production plan is anchored in realistic demand expectations. Marketing and S&OP teams are required to design launches with controlled phasing, to replace rather than accumulate references, and to anticipate the end-of-life of each SKU through coordinated retro planning. Simultaneously, industrial and supply chain functions work to enhance upstream agility, revising batch sizes, production frequency, and order constraints to prevent the structural buildup of inventory (COMPANY A, 2024 [D8]). Together, these mechanisms ensure that inventory remains dynamic and market-responsive, rather than static and ageing in warehouses or on shelves.

At this point, it is relevant to clarify why this initiative, together with the two previous ones, is commonly regarded by Company A as part of its circular economy strategy. While the first

initiative presented in this report (the refillable products) illustrates a classical form of circular economy through product reuse and material substitution, the initiatives analyzed in the subsequent chapters contribute to circularity in a more systemic and operational sense.

According to the definition proposed by the Ellen MacArthur Foundation (2012) and Ghisellini et al. (2016), the circular economy seeks to minimize waste and maximize the value extracted from resources by keeping products, materials, and components in use for as long as possible. Under this lens, Bad Stock Prevention contributes to circularity by intervening upstream, avoiding the creation of unnecessary inventory and the premature consumption of resources. In turn, the initiatives discussed in the previous chapters (Returns Management and Remonetization Channels) operate downstream, by recovering products that would otherwise be discarded and redirecting them into commercial or social use. Together, these initiatives do not close material loops in the traditional sense, but they do maximize the value extracted from resources. Therefore, even though they may not be clear examples of circularity, these initiatives have the potential to contribute significantly to the company's circularity goals and thus will be considered as circular economy initiatives for the purpose of this thesis.

4.1.5. Packaging optimization

In his interview I3 stated that “For the cosmetics industry (…), the future of circularity lies in intensifying research into better materials and continuously optimizing the ratio between packaging and formula.”

For this study, it will be considered that packaging optimization projects are the ones that contribute to the reduction of the environmental impact of packaging by either reducing the volume of packaging material, replacing it by more sustainable alternatives or even by eliminating the need for packaging at one given step of the supply chain. One very interesting example is the wall-to-wall model, in which suppliers are located adjacent to Company A factories, allowing the direct transfer of components without the need for additional tertiary packaging. This setup reduces the use of cardboard boxes and plastic films, eliminates unnecessary transport emissions, and enhances overall process efficiency. Similarly, the adoption of Slip Sheets, which are thin sheets replacing wooden pallets for container transport, optimizes container capacity, lowers logistics costs, and minimizes the consumption of

disposable materials (COMPANY A, 2025 [D21]). Beyond logistics, packaging optimization extends to eco-design principles applied to consumer products. The Group's sustainability roadmap sets clear goals to reduce the total intensity of packaging per finished product (COMPANY A, 2024 [D26]). This ambition drives continuous collaboration between R&I, operations, and marketing teams to balance functionality, safety, and sustainability, what internal documents describe as the constant quest to "optimize the ratio between packaging and formula."

From the perspective of the 9R framework of circularity, packaging optimization contributes mainly at the top of the hierarchy. It embodies "Reduce", by questioning the necessity and volume of packaging materials and by redesigning industrial and logistical systems, such as wall-to-wall and slip sheet models, to minimize the use of resources from the outset.

4.1.6. Tertiary packaging reuse

The reuse of tertiary packaging represents a natural complement to the initiatives described in the previous chapter on packaging optimization, as both pursue the goal of reducing the environmental footprint associated with packaging. This initiative differs fundamentally from the refillable products, which focus on consumer-facing circularity through the reuse of primary packaging by end users. In contrast, tertiary packaging reuse takes place within the internal or external logistics ecosystem, aiming to keep industrial transport materials—such as pallets, pallet boxes, interleavers, and shuttle packaging—in circulation across multiple operational loops. It thus represents a form of internal circularity, where materials are reused repeatedly between suppliers, factories, and distribution centers before being recycled or disposed of.

According to [D21] Tertiary Packaging Circularity presentation (2025), Company A has developed a structured network of reusable shuttle packaging systems, including thermoformed containers, reusable boxes, pallet covers, and plastic dividers that can endure dozens of cycles. Wooden pallets are reused across almost every flow in the company's supply chain, following either a rental or ownership model, and damaged units are systematically repaired or recycled. These closed-loop logistics systems are supported by traceability processes, contract

definitions with partners, and maintenance protocols to ensure the safe return and reconditioning of reusable materials. Together, these mechanisms not only reduce waste but also decrease the consumption of virgin cardboard and plastic, which contribute to the Group's logistics-related CO_2 emissions.

Figure 7: Reusable thermoformed containers used for flask supply

Source: adapted from Tertiary Packaging Circularity presentation

From a conceptual standpoint, the reuse of tertiary packaging is an essential component of Company A's emerging circular supply chain. It operationalizes the circular economy at an industrial level by keeping materials in circulation for as long as technically and economically feasible. Within the 9R framework, this initiative primarily mobilizes "Reuse", by establishing closed loops of transport materials. In some cases, "Repair" and "Recycle" also come into play, as damaged units are restored or reintegrated into material recovery flows. While not visible to consumers, these measures play a crucial role in the Group's overall circular transition, demonstrating that circularity in the cosmetics industry extends beyond product design and consumption to encompass the physical infrastructure of supply itself.

4.1.7. Packaging recycling

Packaging recycling encompasses the set of processes through which different types of packaging—such as plastics, glass, cardboard, and metal—are recovered and reintroduced into new material cycles once their initial use is completed. It represents the final stage in Company A's circular packaging strategy, activated only when prevention, reuse, and remonetization have been exhausted. As outlined in the recycling user guide [D20] (2024), the objective is not merely to dispose of waste safely, but to transform discarded packaging into secondary raw materials capable of feeding new industrial processes, thereby preserving the intrinsic value of the resources used to manufacture them.

The recycling process follows three main technical stages: sorting, depackaging, and material recovery. Sorting operations separate the different material streams (plastic films, cardboard, aluminum, glass, or mixed resins) based on purity and compatibility. Depackaging, when appliable, allows for the separation of the packaging from any remaining product formula, preparing the material for transformation. In the recovery phase, materials are washed, ground, or melted, and then redirected toward specialized recyclers who convert them into new feedstock. Depending on the quality achieved, these recovered materials can be reincorporated into new cosmetic packaging or used in other sectors, such as construction components, textiles, or household goods.

As emphasized in the Upskill Yourself on Recycling Levers & Capabilities video [D3] (2024), effective recycling depends as much on design choices as on end-of-life operations. Multi-material packaging or opaque plastics, for instance, can significantly reduce recyclability rates, whereas transparent PET, HDPE, and mono-material systems facilitate closed-loop recycling. For this reason, packaging engineers and R&I teams are progressively adopting design-for-recycling principles, selecting materials and adhesives compatible with standard recycling technologies and ensuring that labeling, pigments, and components do not contaminate material streams. This approach reinforces the idea that circularity must be built into the design phase rather than delegated solely to waste treatment systems.

Within the 9R framework, packaging recycling primarily mobilizes the lower but still essential "Recycle" by reintroducing materials into productive use instead of allowing them to become waste. Although it is one of the last resources in the circular hierarchy, recycling

remains indispensable for capturing residual material value, preventing landfill or incineration, and ensuring that the physical matter of packaging continues to circulate within the economy rather than exiting it prematurely.

4.1.8. Sustainable sourcing

Sustainable sourcing represents one of the most upstream levers of Company A's circular and responsible supply chain. It refers to the set of policies, standards, and partnerships that ensure raw materials and packaging components are procured in ways that respect environmental limits, human rights, and social equity throughout the value chain. Unlike initiatives such as packaging optimization or remonetization, which act on materials already produced, sustainable sourcing operates before production begins, seeking to influence the very nature and origin of the resources that enter the company's industrial system. In other words, it aims to make the input itself more circular, ethical, and renewable, thereby reducing the environmental burden embedded in products from the outset.

According to the Registration Document [D26] (2024), Company A's sustainable sourcing framework is structured around three main pillars. The first concerns the renewability and traceability of materials, ensuring that plant-based ingredients are derived from verified sustainable sources and do not contribute to deforestation or biodiversity loss. All palm oil, palm kernel oil, and derivatives, for instance, must come from suppliers certified by the Roundtable on Sustainable Palm Oil (RSPO), while paper and cardboard must originate from sustainably managed forests certified by FSC or PEFC. The second pillar, though not directly linked to circularity, focuses on fair and inclusive value chains, which integrate smallholder farmers, women-led cooperatives, and vulnerable communities into the supply base under long-term, socially fair contracts. Finally, the third pillar emphasizes supplier engagement and decarbonization, aligning all strategic suppliers with the company's Science Based Targets for greenhouse gas reduction and requiring life-cycle assessments to quantify environmental impact at the ingredient level.

This approach demonstrates that circularity begins not only with the recovery of materials but also with the intentional design of sustainable input flows. By prioritizing renewable and recycled feedstocks, Company A reduces its dependence on virgin fossil resources and helps

close the loop between material extraction and reuse. The sourcing of bio-based alternatives for plastics, for example, directly supports the upstream application of “Reduce” within the 9R framework, while traceability systems and supplier certification further contribute to construct a sustainable supply chain. Moreover, the integration of recycled raw materials into packaging components activates “Recycle” at the material level, transforming waste into feedstock for new production.

4.1.9. Bulk recycling

Despite its name and from the 9R theoretical framework perspective, the bulk recycling initiative is not limited to the recycling strategy. Very frequently, the adopted solution for dealing with the formula content of cosmetic products (such as shampoos, lotions, creams, fragrances, and other liquid or semi-solid bulks) is to repurpose them, as usually they can no longer be marketed or reused in their original form. This process takes place after the depackaging stage, during which the formula is separated from its container. As outlined in the recycling guide [D20] (2024), bulk recycling ensures that the organic or chemical content of non-compliant products is diverted from incineration and redirected into alternative industrial uses, thereby reducing both waste generation and environmental impact

Depending on the type of formula and its composition, bulk recycling may be performed mechanically (using continuous screw systems or compactors) or manually, in cases where complex product formats, such as makeup or small vials, require individual handling. The recovered bulk is then valorized through multiple pathways, including transformation into industrial cleaning agents, non-cosmetic hygiene products, or inputs for construction materials such as bricks, paints, and coatings. In certain cases, when chemical or biological compatibility allows, bulk can also enter biological recovery processes such as anaerobic digestion or composting, where organic residues are converted into energy or biofertilizer. These downstream applications are carefully validated by the group’s EHS (Environment, Health & Safety) standards to ensure compliance with safety, toxicity, and environmental regulations (COMPANY A, 2024 [D20]).

4.1.10. Water reuse

As I2 explained in her interview, “I feel that for a long time the top priority was energy and water, because those were huge issues. […] a lot has been done. So now there’s a bit more time to devote to waste.” This reflection captures how water management has long stood at the core of Company A’s environmental agenda, predating many of its current circularity initiatives. Today, these longstanding efforts have evolved from reduction to reuse and circular water management, marking a new stage in the company’s environmental maturity.

Water reuse has emerged as one of the most advanced expressions of industrial circularity. Through a water cycle model, Company A has developed factories capable of reusing nearly all industrial water on-site, thereby reducing freshwater withdrawals to a minimum. The principle is simple: mains water is used for human consumption and product formulation, while all other uses—such as cleaning, cooling, or steam generation—rely on treated and recycled wastewater. This closed-loop system is enabled by advanced purification technologies such as ultrafiltration and reverse osmosis, ensuring that reused water meets strict safety and quality standards. The process not only cuts freshwater consumption but also reduces effluent discharge, enabling factories to operate with minimal water exchange with their surrounding environment (COMPANY A, 2024 [D26]). From a governance standpoint, water reuse is embedded in Company A’s EHS policy, which establishes rigorous standards for monitoring water quality, treatment efficiency, and effluent discharge. Beyond compliance, the initiative carries a strong geographical prioritization logic: water cycle systems are first deployed in regions where water stress is most acute, making them both an environmental and resilience-driven innovation (COMPANY A, 2024 [D26]).

In theoretical terms, water reuse translates the principles of the circular economy into the domain of resource management. Within the 9R framework, it primarily activates “Reuse” by reusing treated wastewater within the same process loop. By extending the lifespan of water within production cycles, the company minimizes both inflows and outflows, effectively transforming a linear consumption model into a regenerative one.

4.1.11. Other initiatives

The projects presented in the previous sections represent the core of Company A's circularity efforts, as they are the ones most consistently developed across internal documentation and repeatedly emphasized during interviews. While additional initiatives were identified, such as Reusable Point-of-Sale (POS) Displays and various Partnerships and Innovation Pilots, these appeared only briefly in the sources and were not explored with the same maturity level or strategic articulation as the initiatives covered in this chapter. Other localized or experimental projects were also mentioned sporadically, but attempting to list all of them would risk diluting rather than strengthening the analytical clarity of this report.

In this sense, the chapter does not seek to be exhaustive; rather, it focuses on the initiatives that are most structured, operationalized, and recurrently referenced within the material collected. These can be interpreted as the initiatives that the organization itself considers most emblematic or strategically relevant to its circular transition.

4.1.12. Conceptual cross analysis

After explaining the circular economy initiatives developed in Company A and before proceeding with the analysis of the documentary and interview data, each of these initiatives was conceptually linked with the specific ways in which they contribute to the circular economy framework. Using the three blocks of strategies proposed by Kirchherr et al. (2017) (smarter product use and manufacture, extending the lifespan of products and their parts and useful application of materials) each initiative was examined to determine whether, and how, it aligns with these categories. For each initiative, the R-strategies most closely associated with them were also identified. This analysis aims to establish a conceptual mapping, based on the author's interpretation, that clarifies the theoretical connections between Company A's initiatives and circular economy principles. The empirical section that follows will then assess whether these conceptual associations are supported by the patterns emerging from the coded documents, thereby bridging theoretical understanding and data-driven evidence. Table 5 contains the ways in which each initiative contributes to the circularity of Company A:

Table 5: Company A's Circular Economy Initiatives versus Circular Economy strategies

Initiative	Smarter product use and manufacture	Extending the lifespan of products and their parts	Useful application of materials	Most related R-strategies
Refillable Products	Reduces the use of packaging material as refills are less packaging-intensive than the original products	Extends the lifespan of durable packaging by allowing multiple use cycles through refill systems		Reduce, Reuse
Second Life Channels & Handover Rules		Repurposes products that couldn't be sold by redirecting them to alternative sales channels		Reuse
Returns Management	Prevents unnecessary product returns through the No Return Policy, minimizing risk of waste generation	Recovers value by reintegrating returned products into saleable stock or Second Life Channels		Reduce, Reuse
Bad Stock Generation Prevention	Focuses on upstream waste prevention via improved forecasting, launch governance, and production agility			Reduce
Packaging Optimization	Redesigns packaging systems to minimize material use and environmental impacts		May facilitate recyclability at end-of-life through design-for-recycling principles	Reduce, Recycle
Tertiary Packaging Reuse		Keeps packaging items (pallets, containers, covers) in circulation through multiple use and repair cycles	Incorporates repairing or recycling for damaged or end-of-life packaging materials	Reuse, Repair, Recycle
Packaging Recycling			Transforms waste packaging into new material feedstock, closing the loop	Recycle
Sustainable Sourcing	Promotes smarter material selection by prioritizing renewable, traceable, and recycled raw materials in product and packaging design.		Ensures that materials already recycled or bio-based are reintroduced into new applications	Reduce, Recycle
Bulk Recycling		Extends product utility by converting non-saleable bulks into new applications (e.g., detergents, coatings)	Recovers chemical and biological value of bulk residues via recycling or energy recovery	Repurpose, Recycle, Recover
Water Reuse		Extends the lifespan of water as a resource through repeated cycles		Reuse

		of treatment and reintegration		

Source: Own elaboration

The upcoming chapters will now move beyond conceptual mapping and engage in a more technical and critical analysis of these initiatives.

4.2. Document analysis

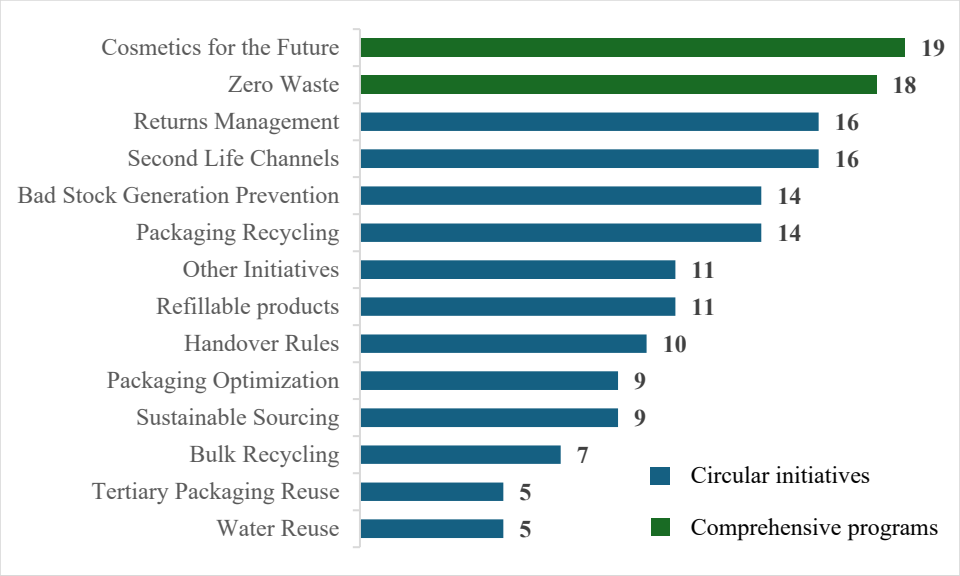
This chapter presents the results of the written document analysis, beginning with the thematic coding of Company A's internal materials and followed by a quantitative keyword analysis. This first analytical layer provides an overview of how frequently different circular initiatives and strategies appear in the company's documentation, offering initial insights into their relative prominence and into potential biases linked to the composition of the sample. Building on this, the chapter then deepens the analysis by examining the relationships between initiatives and strategies through statistical correlations. Finally, it transitions to a keyword co-occurrence analysis, which maps the broader vocabulary structuring the company's sustainability discourse and situates circularity-related terms within it.

4.2.1. Thematic coding results

As outlined in the methods chapter, the first stage of the written document analysis consisted of thematic coding. In this phase, the texts were systematically coded along two main dimensions: the circular economy projects mentioned in the material and the R-strategies from the *9R framework* identified in each document. It is important to note that this coding captured only the presence or absence of each theme, without distinguishing between documents that referred to a theme once and those that mentioned it multiple times. The analysis begins with an examination of the circular projects. This approach provides visibility not only into the potential biases of the collected sample but also offers an initial understanding of which

projects are most frequently cited in the company's documentation (with focus on supply chain), and therefore, which ones are likely to be most actively discussed internally.

Figure 8: Number of documents mentioning each circular initiative



Source: Own elaboration

Figure 8 presents the number of documents that mention each circular initiative. As shown in the legend, the blue bars represent specific circular initiatives, while the green bars correspond to broader comprehensive programs that encompass several of these initiatives. It is therefore unsurprising that the programs "Cosmetics for the Future" and "Zero Waste" are the most frequently cited across the documentation, as both integrate multiple operational actions under a single strategic umbrella. In particular, Cosmetics for the Future naturally appears as the most referenced initiative, since it broadly encapsulates a large part of the company's sustainability and circularity efforts. Nevertheless, a clear pattern emerges in the distribution of mentions: the three most frequently cited initiatives—Returns Management, Second Life Channels, and Bad Stock Generation Prevention—all belong to the Zero Waste program. This overrepresentation was expected, given that the internship environment was closely related to this program, which likely increased its visibility within the sample.

Second Life Channels appear among the most frequently cited initiatives. Their recurrent appearance across documents highlights their strategic importance and high visibility within

the Group's Zero Waste framework. Returns Management is likewise among the most frequently mentioned initiatives, for a similar reason as the previous one. The same logic applies to Bad Stock Generation Prevention, whose high visibility in the documentation reflects its complementary role within the same program.

Moving out of the Zero Waste program, Packaging Recycling also features prominently, partly due to the breadth of the topic itself. The theme covers both consumer-facing packaging (such as bottles, jars and boxes) and tertiary packaging used in manufacturing and logistics. This broad scope makes it a recurring subject in sustainability reports and technical documents alike, reinforcing its status as one of the Group's most transversal circular practices. Similarly, Refillable Products are mentioned frequently, which reflects the important strategic emphasis placed by the company on this area, even if it was not directly related to the fieldwork conducted during the internship.

Handover Rules appear slightly less often, despite being a key component of the Zero Waste program. Their lower frequency of mention can be attributed to their technical specificity and to the fact that they involve fewer actors directly, being primarily an internal governance and process-control mechanism rather than an externally visible operational initiative. Packaging Optimization and Sustainable Sourcing are also referenced less frequently, which is understandable given that both are important, but structurally more distant from the supply chain, the main focus of the documents analyzed.

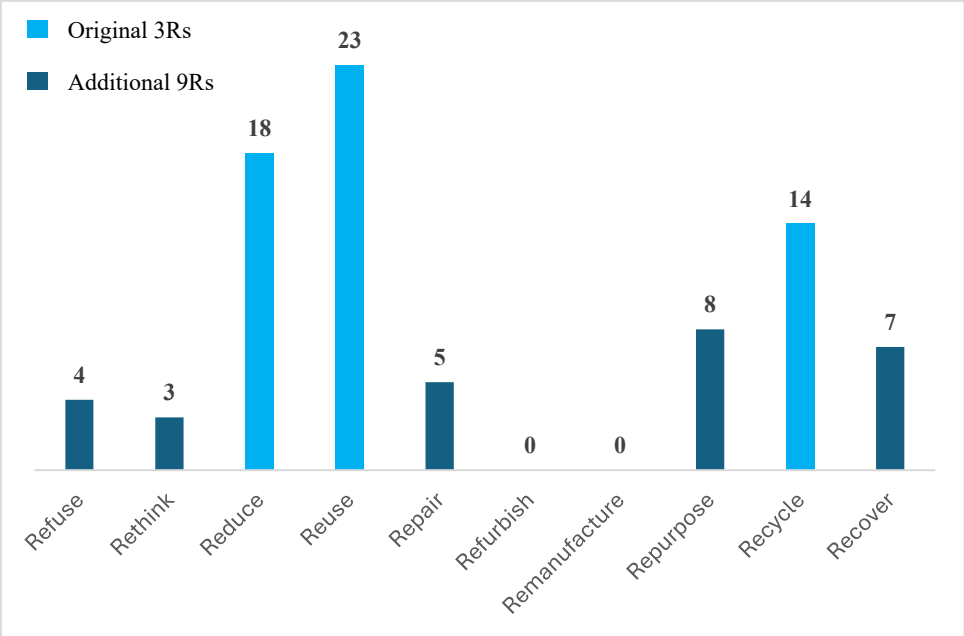
Bulk Recycling is among the less frequently mentioned initiatives, suggesting that it remains a more specialized and less debated topic within the company. This could stem from the inherent complexity of bulk treatment processes and their more limited scalability compared to packaging recycling. Tertiary Packaging Reuse is mentioned in only a few documents. As discussed in the previous chapter, a significant share of tertiary packaging already operates within closed-loop systems, but the initiatives to expand this circularity remain limited. Finally, Water Reuse also appears infrequently, not due to lack of importance, but because this has been a mature and well-established area for years. Having reached a high level of performance, it now requires less strategic attention in day-to-day operations.

Overall, even though the sample reveals some focus on initiatives more closely linked to the supply chain and to the Zero Waste program, the analyzed material manages to capture all major circular initiatives of Company A, allowing for a comprehensive and transversal

understanding of its circular economy practices. Yet, this bias should be taken into account when drawing conclusions based on this sample of documents.

The next step of this analysis is to measure and discuss the 9R framework circularity strategies addressed in the sample of documents. Figure 9 contains the number of documents that mention each strategy:

Figure 9: Circular strategies mentioned in the documents



Source: Own elaboration

As indicated in the legend, the light blue bars represent the original 3Rs (Reduce, Reuse, and Recycle) while the dark blue bars correspond to the additional 9Rs, as described by Kirchherr et al. (2017), and including the strategies of Refuse, Rethink, Repair, Refurbish, Remanufacture, Repurpose, and Recover. A clear predominance of the traditional 3R strategies emerges from the data. Reduce, Reuse, and Recycle are the three most frequently mentioned strategies, appearing in 18, 23, and 14 documents respectively. This predominance was already expected, as more concise frameworks such as the 3Rs remain the most widely adopted in both academic and regulatory contexts (KIRCHHERR, 2017; GEURY, 2021; GHISELLINI, 2015).

Company A seems to follow this trend, though more nuanced strategies are also mentioned with a lower frequency.

Among the R-strategies beyond the traditional 3Rs, Repurpose and Recover emerge as the most frequently cited beyond the traditional 3Rs, with 8 and 7 mentions respectively. Innovative repurposing solutions are implemented throughout the company, as evidenced by the formula recovery examples described in [D20], which include the transformation of materials into windshield fluid, floor cleaning products, bricks, and car cleaning products. It is noteworthy, however, that these repurposing initiatives are often classified and discussed within the broader context of recycling practices, suggesting that Repurpose is not consistently recognized or operationalized as a distinct circular economy strategy within Company A's sustainability discourse.

The distribution of circular strategies across the documents reveals a balanced representation between upper-tier and lower-tier Rs of the 9R framework. As shown in Figure 9, strategies associated with “Smarter product use and manufacture”—namely Refuse, Rethink, and Reduce—appear consistently, with Reduce standing out as the second-most frequently mentioned strategy overall. This demonstrates a strong organizational awareness on the most virtuous circular strategies.

The second group of strategies, “Extending the lifespan of products and their parts”, includes Reuse, Repair, Refurbish, Remanufacture, and Repurpose. Within this group, Reuse and Repurpose are particularly prominent, appearing in a large share of the documents. Reuse reflects both the company’s emphasis on reusing packaging, such as refillable systems, and the importance given to Zero Waste’s remonetization channels, while Repurpose strategies are frequently applied to avoid the disposal of product bulk. In contrast, Refurbish and Remanufacture are absent from the sample, which is coherent with the characteristics of the cosmetics sector, where products are consumable rather than durable and thus less suited to such industrial processes.

Finally, strategies from the lowest category, “Useful application of materials” (Recycle and Recover) are also widely represented, especially Recycle, which remains one of the top three most cited strategies. This reflects the enduring importance of end-of-life management and material reintegration, complementing the company’s preventive efforts upstream.

This overall distribution contrasts with the general trend of the industry that was discussed in the literature review. As explained previously, Mikroni et al. (2017), highlighted a significant gap between the widespread adoption of recycling and the limited implementation of more transformative circular strategies, such as systematic material reuse. The evidence from Company A's documentation, however, suggests a different picture in which both upper-tier and medium-tier strategies such as Reduce and Reuse appear conceptually integrated and operationally embedded across multiple initiatives. This divergence could indicate that Company A stands at the forefront of circular strategy implementation within the cosmetics sector, advancing beyond the traditional focus on recycling. Alternatively, it may signal broader progress in the industry's circular maturity over recent years, with companies increasingly adopting preventive and restorative practices that transcend end-of-life material management. Most plausibly, this difference may stem from a combination of both factors: Company A's proactive positioning as a sustainability leader and a general evolution of circular practices across the sector.

A relevant question that may arise from these discussions is whether tendencies such the prominence of classical 3Rs strategies and the almost even distribution of mentions across upper and lower-tier strategies genuinely depict the general panorama of company A's circularity efforts, or whether they are instead an artifact of the most represented initiatives in the dataset. To clarify this issue, and to provide a more detailed view of how mentions are distributed across both strategies and initiatives, Table 6 presents the number of documents that simultaneously reference each initiative and each strategy, allowing a more empirical assessment of the strength and consistency of these associations. Refurbish and remanufacture strategies have been omitted from Table 6, once were not mentioned by any documents.

Table 6: number of documents that mention each pair of strategy and initiative

Project	Refuse	Rethink	Reduce	Reuse	Repair	Repurpose	Recycle	Recover
Cosmetics for the Future	4	2	14	16	5	7	13	7
Zero Waste	3	2	10	13	5	7	9	6
Bad Stock G. Prevention	2	1	8	10	4	4	7	4
Bulk Recycling	1	0	5	5	2	4	7	4
Handover Rules	0	0	4	8	1	2	4	1
Other Initiatives	4	2	9	11	4	6	9	6
Packaging Optimization	4	2	9	9	4	5	9	5
Packaging Recycling	4	2	12	12	5	7	14	7
Refillable Products	3	3	11	11	4	5	8	5
Returns Management	2	1	8	11	4	5	7	4
Second Life Channels	2	1	7	13	4	5	8	5
Sustainable Sourcing	3	2	9	8	4	7	9	6
Tertiary Packaging Reuse	1	1	4	5	3	4	5	4
Water Reuse	1	1	5	5	2	3	5	4

Source: Own elaboration

Table 6 reinforces the observation that the R-strategies from the traditional 3Rs framework are the most frequently referenced across the dataset, regardless of the initiative considered. For every subset of documents mentioning a given initiative, Reduce, Reuse, and Recycle consistently appear as the three most cited strategies, further underscoring their central role in Company A's circularity discourse. Likewise, the relatively balanced distribution of mentions between upper-tier and lower-tier strategies remains visible across all initiatives, confirming that this pattern is not an artifact of a single project but is consistently reproduced throughout the corpus.

However, Table 6 also reveals a nuance that could not be observed in Figure 9: although the same three strategies dominate overall, the most frequently mentioned strategy varies depending on the nature of the initiative. For instance, initiatives centered on recycling naturally display Recycle as the most prominent strategy, while refill-oriented and Zero Waste initiatives are characterized primarily by references to Reuse.

Having analyzed the number of mentions for both circular economy initiatives and circular economy strategies from the perspective of the 9R framework, the next step in the analysis is to empirically verify whether the conceptual cross analysis done in the last chapter is supported

by empirical evidence or not. The initial idea was to search for excerpts from the documents that spontaneously made the connection between a circular initiative developed at Company A and circular strategies. However, while conducting the coding process it became clear that such references were rare and normally highly interpretative. Thus, another approach was chosen: for each initiative, the percentage of documents mentioning a given R-strategy was calculated relative to the total number of documents in which that initiative appeared[1]. This procedure provides a clear, proportional measure of the strength of association between each initiative and each strategy. In mathematical terms, this co-occurrence coefficient can be calculated with the following formula:

$$C_{i,s} = \frac{n_{i,s}}{n_i}$$

In this equation, $C_{i,s}$ represents the co-occurrence coefficient for the initiative i and the strategy s, with $n_{i,s}$ being the number of documents mentioning both the strategy and the initiative (which are the values presented in Table 6) and n_i representing the total number of documents mentioning the initiative i (which can be found in Figure 8). The co-occurrence coefficient between each initiative and each strategy was calculated, and the results are shown in Table 7. Both the Cosmetics for the Future program and the Zero Waste Program were also considered in this analysis.

[1] It may be worth noting that a correlation analysis using Pearson's phi coefficient (φ) was initially carried out to quantify the strength of association between initiatives and circular strategies. However, this approach was later replaced by the co-occurrence analysis presented above, as the correlation method introduced an unnecessary level of complexity and produced results that were less intuitive to interpret in the context of this study. Nevertheless, the results of such analysis were registered in Appendix 4.

Table 7: co-occurrence coefficient for each strategy and initiative

Project	Refuse	Rethink	Reduce	Reuse	Repair	Repurpose	Recycle	Recover
Cosmetics for the Future	21%	11%	74%	84%	26%	37%	68%	37%
Zero Waste	17%	11%	56%	72%	28%	39%	50%	33%
Bad Stock G. Prevention	14%	7%	57%	71%	29%	29%	50%	29%
Bulk Recycling	14%	0%	71%	71%	29%	57%	100%	57%
Handover Rules	0%	0%	40%	80%	10%	20%	40%	10%
Other Initiatives	36%	18%	82%	100%	36%	55%	82%	55%
Packaging Optimization	44%	22%	100%	100%	44%	56%	100%	56%
Packaging Recycling	29%	14%	86%	86%	36%	50%	100%	50%
Refillable Products	27%	27%	100%	100%	36%	45%	73%	45%
Returns Management	13%	6%	50%	69%	25%	31%	44%	25%
Second Life Channels	13%	6%	44%	81%	25%	31%	50%	31%
Sustainable Sourcing	33%	22%	100%	89%	44%	78%	100%	67%
Tertiary Packaging Reuse	20%	20%	80%	100%	60%	80%	100%	80%
Water Reuse	20%	20%	100%	100%	40%	60%	100%	80%

Source: Own elaboration

In general, Table 7 shows that the empirical data largely supports the conceptual relationships outlined in the previous chapter. For every initiative, at least 50% of the documents mentioning that initiative also reference the strategies to which they are theoretically linked. Furthermore, most initiatives exhibit co-occurrence rates of 100% with at least one of their theoretically linked strategies**.** Bulk Recycling, Packaging Optimization, Packaging Recycling, Refillable Products, Sustainable Sourcing, Tertiary Packaging Reuse, and Water Reuse are examples of this. Even though co-occurrence does not directly imply that a particular R-strategy is operationally embedded in the corresponding initiative, these very high values of this indicator mean that, at the very least, initiatives and strategies are being discussed in the same context, which is a strong indicator that they may be related.

Bulk Recycling and Tertiary Packaging Reuse present a distinctive pattern in which some theoretically associated strategies exhibit perfect co-occurrence while others demonstrate only moderate alignment. Bulk Recycling achieves 100% co-occurrence with the Recycle strategy, suggesting that every document discussing this initiative frames it in terms of recycling processes. However, its associations with Repurpose (57%) and Recover (57%) are notably lower, despite these strategies having been conceptually linked to the initiative. Similarly, Tertiary Packaging Reuse shows perfect co-occurrence with both Reuse (100%) and Recycle

(100%), yet only 60% of documents mentioning this initiative also reference Repair, even though repair was indicated as one of the conceptually linked strategies, as the repair of damaged tertiary packaging is integral to extending its lifespan. This pattern suggests that these initiatives are consistently communicated in relation to one core circular strategies (recycling for bulk materials and reuse for tertiary packaging) but that the complementary strategies of repurposing, recovery, and repair are addressed more selectively, appearing only in documents that provide more comprehensive discussions of the initiatives' operational dimensions.

Finally, two initiatives stand out as being weakly associated with the strategies to which they were conceptually linked: Bad Stock Generation Prevention and Returns Management. In the previous chapter, Bad Stock Generation Prevention was associated with the Reduce strategy, given that improved forecasting, launch governance, and production agility aim to prevent the creation of unnecessary inventory and thereby indirectly reduce the risk of product waste. The empirical co-occurrence, however, is moderate (57%), suggesting that some documents explore Bad Stock Generation Prevention without explicit mention to the Reduce strategy. Returns Management was initially connected to both Reduce and Repurpose, and while Reuse does show a considerable co-occurrence index with this initiative (69%), the relationship with Reduce yields a moderate coefficient (50%). This indicates that, within Company A's internal documentation, Returns Management is framed more in terms of recovering value through reuse (by activating second-live sales channels) than as a direct mechanism for waste reduction (by avoiding product returns and supporting better stock management by retailers).

When examining the broader programs, a clearer pattern emerges regarding how circular strategies are framed within Company A's high-level sustainability initiatives. Cosmetics for the Future, which encompasses a substantial share of the company's circular economy actions, presents a relatively balanced distribution of co-occurrences across upper-, medium-, and lower-tier R-strategies. This contrasts once again with Mikroni et al.'s (2017) observation that the cosmetics industry tends to rely predominantly on lower-tier strategies. At the same time, the program shows a noticeable emphasis on the traditional 3Rs (Reduce at 74%, Reuse at 84%, and Recycle at 68%) reinforcing their central role in how circular practices are communicated. The Zero Waste program, in turn, exhibits a more concentrated strategy profile. Its strongest association is with Reuse (72%), which aligns with the program's

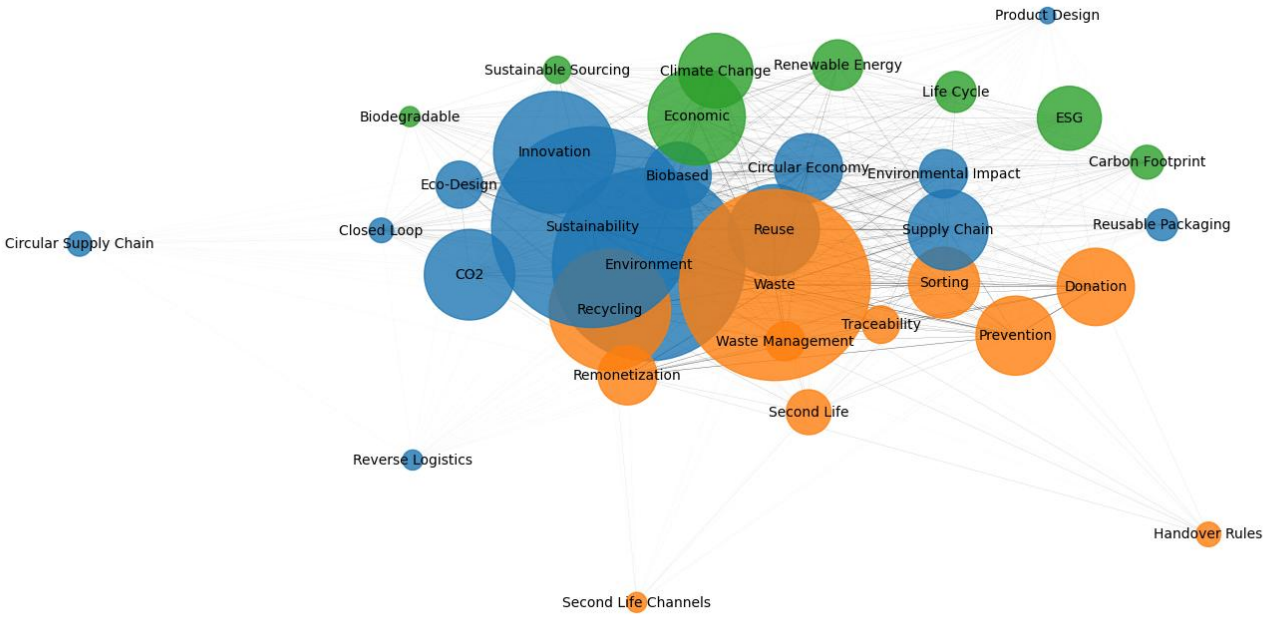
operational focus on extending product and material life through internal recirculation and optimized use.

The category "Other Initiatives" shows relatively high co-occurrence rates across all strategies. This pattern suggests that this category aggregates a diverse portfolio of projects, each engaging with different R-strategies depending on their specific objectives. The uniformly elevated rates may also reflect the fact that documents mentioning these miscellaneous initiatives tend to be more comprehensive in scope, discussing multiple projects simultaneously and therefore referencing a broader range of circular strategies than documents focused on individual named initiatives.

4.2.2. Keyword coding results

Building on the thematic coding presented in the previous chapter, where circular initiatives and R-strategies were mapped across the documents, the analysis now turns to a complementary layer of textual evidence: the keywords that structure Company A's sustainability discourse. After coding these keywords by their frequency (counting each occurrence within a document, rather than treating their presence as binary), a co-occurrence network was constructed to examine how these terms appear together and form broader semantic patterns. Using the NetworkX package in Python, the network was generated entirely through algorithmic computation, with no manual repositioning or manipulation by the author. This ensures that the resulting visualization reflects the natural structure of associations emerging from the documents themselves.

Figure 10: Keyword co-occurrence network



Source: Own elaboration

In the resulting visualization, the size of each circle (node) corresponds to the total number of references to that keyword across all documents, meaning that larger circles represent concepts that appear more frequently in Company A's sustainability discourse. The thickness of the connecting lines (edges), as well as the spatial proximity between nodes, reflects the strength of co-occurrence between terms: keywords that often appear together are drawn closer and linked by thicker edges. The layout algorithm also identified three distinct clusters of related terms, each represented by a different color, indicating the presence of three major thematic families within the material.

Among all coded terms, "Sustainability" (599 occurrences), "Environment" (551 occurrences), and "Waste" (542 occurrences) stand out as the three most frequently referenced keywords in the corpus. These terms dominate the network not only through their large node size but also through their extensive connections with other concepts, forming the central structural anchors of the graph.

A prominent cluster emerges around the term Sustainability, which is closely linked to frequently referenced concepts such as Environment, Innovation, Recycling, CO_2, and Biobased. These terms constitute core elements of Company A's sustainability discourse, and a substantial share of their occurrences appear in documents intended for external communication[2]. In contrast, a second and smaller cluster forms around Waste and Waste Management, which anchors a distinct thematic grouping. This cluster is strongly connected to terms such as Reuse and Traceability, suggesting a more operational vocabulary oriented toward waste prevention and the practical management of material flows.

The algorithm also identified three distinct families of terms, represented in orange, blue, and green, each corresponding to a different thematic orientation within the corpus. The orange family is primarily operational, gathering terms associated with end-of-pipe approaches and practical mechanisms for preventing or handling waste, such as sorting, waste management, recycling, and remonetization. The blue family, which highly overlaps with the "sustainability cluster", occupies the central position in the network and includes the terms most frequently used in external sustainability communication, such as sustainability, environment, innovation, CO_2, eco-design, and reuse. Finally, the green family brings together concepts that bridge environmental and economic dimensions of sustainability, such as climate change, economic, renewable energy, and ESG. This is the most diffuse of the three clusters, with many of its terms strongly connected to the blue family, indicating that economic–environmental concepts are often articulated through the broader sustainability narrative rather than forming an isolated thematic bloc.

Even though circular initiatives were not directly mapped in this keyword analysis, it is notable that some minor clusters in the diagram align roughly with some initiatives or programs. Packaging Optimization, for instance, seems to be almost represented in the top left corner of the network with words like Eco-design, Biodegradable and Innovation. Likewise, the Zero Waste program clearly aligns with the bottom part of the network, while the Cosmetics for the Future program seems to encompass the whole network. Social responsibility, though not a circular economy concept, is concentrated to the right of the diagram but does not form a

[2] The word "Environment" was mentioned 478 times in external communication documents, accounting for 87% of its total mentions. Other terms within this cluster present similar or more balanced distributions across document types.

proper cluster, possibly due to the weak connection between its two main nodes: ESG and Donation.

Across both the thematic coding and the keyword co-occurrence analysis, a consistent picture emerges: the documentary sample offers broad coverage of Company A's circular economy efforts, capturing major themes relevant to the company's circularity agenda. Importantly, the "reuse" strategy emerges as a central component from both analyses. In the thematic coding, Reuse appears as the most frequently referenced R-strategies and is strongly associated with several of the company's key initiatives. In parallel, the keyword network positions Reuse in its very center, closely connected to high-frequency terms such as Sustainability, Circular Economy, Environment, and Waste.

4.3. Interviews analysis

This chapter presents a systematic analysis of five semi-structured interviews. The analysis is organized into six thematic sections that emerged from the data: participants' definitions of circular economy, the specific projects and programs discussed, the circular strategies referenced, identified barriers to implementation, perspectives on scalability beyond Company A, and future visions for circularity in the cosmetics sector. By examining how practitioners articulate and operationalize circularity within their professional context, this analysis complements the document analysis from the previous chapter and provides deeper insights into the practical reality of circular economy implementation at Company A.

4.3.1. Circular economy definitions

The analysis of the interviews will start with the study of circular economy definitions given by the interviewees. Across the interviews, three of the five participants (I1, I2 and I5) grounded their definitions of circular economy in the minimization of resource consumption and waste, while four (I2, I3, I4 and I5) highlighted reuse, recovery, or recycling as core mechanisms of circularity. Beyond these dominant themes, circular economy definitions also

included ideas such as the opposition to the linear take–make–dispose model (I2), life-cycle optimization (I1), closed-loop systems (I4) and maximization of product utilization (I3 and I5).

I1 understands the circular economy primarily through the lens of resource efficiency and waste avoidance. She describes it as "the idea that, in a product's life cycle, we use as few resources as possible and avoid waste," emphasizing a full "360° of the life cycle: reusing, minimizing additional resources, from creation to end-of-life".

I2, on the other hand, articulates a definition grounded in the contrast between circular and linear models. She defines the circular economy explicitly "in opposition to a linear economy where you extract, manufacture, use, and throw away". Similarly to I1, for her circularity involves reducing "resource extraction as much as possible upstream," and avoiding the "waste stage by repairing and reusing as much as possible".

I3 has a slightly different approach, as he frames the circular economy around product longevity and shared use. He characterizes it as "an ecosystem of products or services built around reuse and sharing", designed to maximize "either the number of times a product can be used or the number of consumers who can benefit from it—ultimately extending its lifespan." His definition foregrounds consumer behavior and product-design strategies, especially refillable systems.

I4 defines the circular economy as an approach that "allows either reuse, repurposing, or a closed-loop system". She highlights the company's refill systems, whereby "instead of buying a complete product, you buy a capsule or a pouch that can be inserted into the original packaging and refilled," as well as Zero Waste mechanisms in which returned products are reintegrated into the company's warehouses or directed into second-life channels.

Finally, I5 offers a definition centered on waste avoidance, environmental responsibility, and second-life solutions. For him, circularity means to "avoid adding any waste of materials, of products" and entering "a much more virtuous business, far more respectful of our environment. Avoiding wasting huge amounts of products, destroying materials, incinerating resources, etc."

Although these definitions do not represent a single, unified definition of Circular Economy, they clearly evoke elements widely used in the literature on circular economy.

Notably, the idea of defining circular economy as a counterpoint to the linear economy is used by several authors, such as the Ellen Macarthur Foundation (2012) and Ghisellini et al. (2016). Similarly, the emphasis on closed-loop systems and on maximizing resource value through strategies such as reuse and recycling is well aligned with established conceptualizations in the field (HOMRICH et al., 2018; KIRCHHERR et al., 2017). However, despite being consistent with dominant scholarly perspectives, each respondent interprets and operationalizes circularity through the lens of their professional responsibilities, so that concepts such as waste minimization and the use of refillable products appear centrally in their definitions.

4.3.2. Projects discussed

The analysis now turns to the circular economy initiatives and programs at Company A that were discussed by the interviewees. Overall, the distribution of references across different initiatives suggests that the sample was sufficiently diverse, with participants engaging with a broad range of circularity efforts across the organization. Nonetheless, a certain overrepresentation of the Zero Waste program and its associated initiatives remains evident, an expected outcome given that several interviewees work directly or indirectly within this program's scope. The compiled mentions of each initiative are presented in Table 8.

Table 8: Circular economy programs and initiatives mentioned during the interviews

Interviewee	I1	I2	I3	I4	I5
Cosmetics for the future	1			1	1
Zero waste	1			1	1
Refillable Products		1	1	1	
Second Life Channels	1			1	1
Returns Management					1
Bad Stock Generation Prevention	1			1	
Packaging Optimization	1		1		
Tertiary Packaging Reuse		1		1	
Packaging Recycling		1			1
Sustainable Sourcing					
Bulk Recycling		1			1
Water Reuse		1			
Other Initiatives				1	

Source: Own elaboration

In the table, each initiative mentioned by an interviewee is marked with a "1," indicating that the participant explicitly referred to that program or activity during the interview.

We begin by examining the two broader programs: Cosmetics for the Future and the Zero Waste program (each mentioned three times). This frequency is substantial yet expected, as both are large, mature, and widely known initiatives within Company A sustainability circles. The interviews provide insightful descriptions of how these programs function in practice. For instance, I4 offers a detailed account of one major material flow of the Zero Waste program, the remonetization of retailer returns:

Some products come back from retailers; we sort them, and then we have several options: either reintegrate them if they're in perfect condition into our warehouses, or, if there are minor defects or other reasons, integrate them into a second-life circuit. We give these products a second life.

Although this explanation focuses on returned goods, it is important to note that the program also includes a second dimension, managing products that are close to expiration, obsolete, or in excess, as described by I5: "Today, all the products that are obsolete, or what we call slow moving, or end-of-life products, or sometimes products that did not succeed in the normal business, we have to take them in charge and find a second life for them". Meanwhile, Cosmetics for the Future emerges as a program strongly anchored in measurable performance indicators, as highlighted by I4's remark that "we're not doing circularity just for the sake of it: the KPIs must prove that we're improving certain indicators linked to Cosmetics for the Future."

Refillable Products and the Second Life Channels were each mentioned three times, placing them as the most frequently referenced initiatives after the flagship programs. The Refill Movement, in particular, emerges as a strategically significant pillar of circularity at Company A, consistently described by interviewees as a core mechanism for reducing packaging waste and extending product life. Interviewees repeatedly emphasized its importance: for instance, I3 highlights that reusable products "allow consumers to maximize product usage while minimizing the packaging materials associated with it," while I2 explicitly describes refill as the main circular economy initiative on the group: "when I think of the future of circularity in the group, I think of the main strategy, which is refill". These comments reinforce the centrality of refills in the company's long-term circularity vision, as both an environmental lever and a consumer-facing transformation of product-use patterns.

The Second Life Channels were also mentioned three times, underlining their relevance within the Zero Waste program. Their importance had already been identified in the document analysis, where this initiative appeared as the most frequently referenced across the selected sample. However, their prominence in the interviews must be interpreted with caution. Because several interviewees work directly on Zero Waste or closely within its operational perimeter, the initiative is likely overrepresented relative to its true weight within the organization as a whole. Nonetheless, it remains a highly impactful project. As I5 explains: "we give a second

life to every product" through multiple channels such as outlet sales, private sales, staff shops, liquidators and donations.

Most of the other initiatives were mentioned by one or two interviewees, showing that they are, to some extent, in the collective awareness of people who work with sustainability at Company A, but are not sufficiently prominent to be cited by more than two people. The exception for this is Sustainable Sourcing, that was not directly mentioned in any interviews and was only indirectly evoked by I1 when she explains that "if certain suppliers don't meet the criteria, we refuse to work with them". This absence underscores the value of triangulating interview data with documentary evidence as, although absent in the interviews, Sustainable Sourcing was mentioned in the documents and thus, was not completely overlooked in this thesis.

4.3.3. Circular strategies discussed

The analysis of how interviewees referenced circular strategies within the 9R framework (as defined by Kirchherr et al., 2017) reveals a landscape that closely mirrors the pattern already observed in the document analysis. Among the ten strategies, only six were explicitly mentioned across the five interviews, with Reuse being mentioned in every interview, Reduce and Recycle in four, Repair in two and Refuse and Rethink being mentioned only once each. The three most mentioned strategies among the interviews are also the three most mentioned by the documents, with Reuse being the most prominent one in both.

Table 9: Circular strategies mentioned in the interviews

Interviewee	I1	I2	I3	I4	I5
Refuse	1				
Rethink			1		
Reduce	1	1	1	1	
Reuse	1	1	1	1	1
Repair		1			1
Refurbish					
Remanufacture					
Repurpose					
Recycle	1	1		1	1
Recover					

Source: Own elaboration

This recurrence partially reinforces the earlier conclusion that Company A's circularity discourse is concentrated around a balanced mix of upper-tier, medium-tier and lower-tier strategies, yet this time there is a clear predominance of strategies from the upper half of the framework. At the same time, the interviews reaffirm the predominance of the classical 3Rs (Reduce, Reuse and Recycle) as the backbone of how circularity is operationalized and communicated within the company.

Concerning the way circular economy strategies are interpreted by Company A, one particularly revealing insight emerges from I4's description of the Zero Waste Program: "We give these products a second life, similar to some clothing that, after being worn, is passed to other channels for reuse". This spontaneous analogy shows how the interviewee intuitively interprets the initiative through the lens of the reuse strategy. Although the remonetization of returned products or bad stock may not be a classical example of the Reuse strategy, the comparison suggests that, at least for this interviewee, and likely for many employees at Company A, Second Life Channels are cognitively framed as a form of reuse. This finding supports the author's decision to classify remonetization and second life channels as examples of Reuse.

4.3.4. Barriers for circularity

A recurring theme across the interviews was the tension between sustainability initiatives and financial viability. Four of the five interviewees (I2, I3, I4 and I5) explicitly identified economic considerations as significant barriers to advancing circular economy practices. I5 articulated this challenge most directly, noting that "from a marketing point of view, sometimes what would be good for the planet can be seen as a risk for brand image" and emphasizing that "budget constraints are always a factor". The difficulty of justifying circular economy investments through traditional business metrics was further underscored by I2, who observed that packaging teams prioritize "cost, sturdiness, and the ability to fulfill its function" while "circularity or environmental impact comes a bit later". I3 framed this tension as a challenge of "striking the right balance between creating highly desirable, often luxury-oriented products, and ensuring a positive environmental impact", highlighting how the premium positioning of cosmetics brands can complicate the adoption of circular practices that might, in some cases, be perceived as compromising product quality or brand prestige.

Another significant barrier identified by the interviewees was the lack of control over how consumers use and dispose of products. I1 expressed this concern most comprehensively, stating that consumers "are key but also the most difficult to mobilize, because we don't have direct control over how they use or dispose of the product". This respondent further elaborated that "more than 50% of our CO_2 emissions are linked to consumer use". The uncertainty regarding consumer disposal behavior was equally problematic, as I1 noted: "we don't know if they'll recycle the product or not. So that's a real challenge". I3 identified consumer education as a primary obstacle, emphasizing the difficulty of "helping people clearly understand the benefits of choosing reusable alternatives over single-use goods". This lack of visibility into the use phase represents, in the present, a fundamental limitation in closing the loop of circular economy systems.

The involvement of multiple internal functions emerged as another substantial barrier to implementing circular economy initiatives. I2 described circular projects as "very dependent internally on many different functions," explaining that "regarding shuttle packaging: we in EHS don't really have the levers to qualify the packaging in which the articles arrive — that's the packaging teams, for instance". This respondent further elaborated that advancing circularity requires understanding "who to bring on board and how to get them on board" for

each project, necessitating continuous awareness-raising efforts: “you have to explain the 'why'...we have to put the environment at the center of their concerns and do lobbying”.

The final major category of barriers concerned the availability of external recycling infrastructure and technical feasibility. I2 emphasized that “everything related to recyclability and recycling is [...] very dependent on the presence of recycling infrastructure in the country” and that “one of the main barriers is: can we actually find someone in the country who's able to take our waste and recycle it?”. This respondent noted that as “a global group, recycling infrastructure is not at the same level everywhere,” making circular initiatives heavily dependent on geographic context.

Table 10: synthesis of circular economy barriers

Barrier	Description	Interviewees
Economic and financial constraints	Tension between sustainability goals and financial viability. Circular initiatives often conflict with cost, brand image, and traditional business metrics. Luxury positioning can further complicate adoption of circular practices.	I2, I3, I4, I5
Consumer behavior and lack of control over use and disposal	Difficulty influencing how consumers use, dispose of, and recycle products. A large share of emissions occurs during consumer use. Consumer education and behavioral uncertainty undermine circularity efforts.	I1, I3
Internal coordination and cross-functional complexity	Circular initiatives require alignment among multiple internal teams. Fragmented responsibilities make coordination difficult, and success depends on continuous engagement across functions.	I2
External recycling infrastructure and technical feasibility	Feasibility depends on the availability and capability of local recycling infrastructure. Uneven global conditions limit circularity in regions where appropriate infrastructure is lacking.	I2

Source: Own elaboration

4.3.5. Scalability outside of Company A

This section will explore the scalability of circular economy initiatives from Company A outside the company. In general, interviewees demonstrated considerable confidence in the

transferability of these initiatives to other companies within the cosmetics industry. I1 expressed this view most unequivocally, stating that the Zero Waste model is “very easily scalable”. This respondent provided empirical evidence of existing industry adoption, observing that “we have many outlets in Europe, and Competitor B has even more worldwide. So, it's already a fairly widespread practice”. I5 corroborated this assessment, confirming that “in cosmetics, companies like Competitor B also do it” and attributing this trend partly to regulatory pressures, noting that “in France, the law pushes us to find second-life solutions”. I3 articulated a broader sectoral perspective, arguing that “the consumer goods sector as a whole generates significant waste—plastic, glass, metals, and more” and asserting that “reusability initiatives like ours could easily be applied across the industry, provided there's a strong focus on eco-design and marketing efforts structured around consumer education”. However, I2 introduced important nuances regarding scalability, distinguishing between different types of initiatives and their context-specific requirements. This respondent noted that while “some things we do are fairly standard in the industry—we didn't invent shuttle packaging, we're not the only ones using it,” other initiatives such as “recycling rejects” represent areas where Company A functions as a pioneer, acknowledging that “I know other cosmetic companies do it, but I don't know if they have the same level of maturity as we do”.

The interviewees expressed similar confidence in the potential for cross-industry transfer of circular economy principles, though they also acknowledged the need for sector-specific adaptations. When asked to specify which industries could benefit from programs like the Zero Waste, I4 identified “food—although timelines are shorter, so some adjustments are needed,” as well as “consumer goods, home equipment,” emphasizing that “many different companies could adopt this model” because it is fundamentally “based on a strong prevention plan, a structure for remonetization, and, until the product's end of life, on how we recycle products”. I1 echoed this optimism while simultaneously recognizing sector-specific constraints, explaining that “the model is also scalable in other industries. For example, in fashion, which is very polluting, you can apply the same logic of prevention and remonetization”. However, this respondent identified temporal factors as a critical adaptation requirement, noting that “for food, it's more complex because of very short expiration dates (sometimes two weeks), which forces much faster action,” concluding that successful transfer requires “adapting the model to the context and the needs of each industry”.

When talking about refillable products, I3 articulated the most expansive vision of cross-industry applicability, arguing that “the entire consumer goods chain—from food and beverages to cleaning products, office supplies, even construction materials like paint and foams, or agricultural inputs—could benefit”. This respondent proposed a fundamental principle underlying transferability: “any product currently sold in disposable packaging could, in principle, be redesigned with a refillable system”. I5 provided concrete examples of industries already implementing similar circular models, observing that “in fashion, despite overproduction, they also try to find solutions” and that “in electronics, companies like Back Market already promote reuse and repair”. Once again, I2 offered the most cautious assessment, emphasizing that transferability varies significantly depending on the specific initiative in question: “some projects are scalable because they're not specific to cosmetics. And others are less so, because recycling shampoo or perfume rejects is specific to our constraints. So yes and no, really”. This nuanced perspective suggests that operational tactics requiring specialized technical solutions or infrastructure may face greater barriers to adoption in industries with fundamentally different product characteristics or waste streams.

The key findings of this chapter were synthesized in Table 11:

Table 11: Scalability of Company A's circular economy initiatives outside the company

Initiative	Scalability outside Company A	Industry Maturity
Second Life Channels	**Within cosmetics:** Very easily scalable (I1). Regulatory pressures further drive adoption (I5). **Cross-industry:** Applicable to fashion and consumer goods sectors (I1, I4). Also relevant for food industry, though adaptation is required due to short expiration dates (I4).	Mature and established practice within cosmetics; already implemented by major competitors (I1, I5). Represents a standard rather than pioneering approach in the sector.
Refillable Products	**Within cosmetics:** Easily applicable across the industry with strong focus on eco-design and consumer education (I3). **Cross-industry:** Highly transferable across entire consumer goods chain (I3). Any product sold in disposable packaging could theoretically be redesigned with refillable system (I3).	Some examples already exist across multiple industries (I5)
Shuttle Packaging	**Within cosmetics:** Appliable (and already applied) for other companies (I2).	Highly mature; described as "fairly standard in the industry"; (I2). Represents established rather than innovative practice.
Recycling or Repurposing rejects	**Within cosmetics:** Scalable, provided you have enough volume and the right contractors (I2). **Cross-industry:** Limited transferability due to sector-specific technical constraints (I2).	Moderate maturity within cosmetics; Company A functions as pioneer with higher maturity level than other cosmetic companies (I2).

Source: Own elaboration

A reading of Table 11 makes it clear that the most substantial opportunities for industry-wide learning from Company A lie in the areas of refillable products and recycling or repurposing practices. Unlike Second Life Channels and shuttle packaging, which are already well-established or standard within the cosmetics sector, refill systems and advanced recycling or repurposing solutions for factory rejects reflect domains where Company A demonstrates either strong strategic vision or comparatively higher technical maturity. These initiatives therefore represent the areas in which Company A's experience can most meaningfully inform and accelerate the circularity efforts of other companies.

4.3.6. Future Perspectives

When asked for their perspectives for the future of circular economy, interviewees consistently identified regulatory frameworks as critical drivers for the future development of CE practices in the cosmetics sector. I1 articulated this perspective most explicitly, asserting that “new laws will also need to be put in place to reach the goals, whether in CSR or in circularity”. This respondent further emphasized Company A's potential role in shaping the regulatory landscape, noting that “Company A, as a major player with very ambitious objectives, can influence the industry, society, and even governments” and providing the concrete example that “our Head of Sustainability Europe takes part in panels with other companies and does lobbying with important institutions to help change regulations”. I5 corroborated this assessment regarding the regulatory imperative, stating that “the law will push us in this direction” and adding that “as a leader, we also have to show the way”. I4 positioned circularity as an emergent industry-wide trend rather than an isolated company initiative, observing that “it will be a global trend” and arguing that “to progress faster, it's best that everyone moves in the same direction as industry players”.

A dominant theme in the interviewees' future perspectives was the strategic prioritization of refillable and reusable product systems as the primary pathway for advancing circularity. I3 provided the most comprehensive articulation of this strategy, stating that “for Company A, the priority will be expanding the portfolio of reusable products and scaling up their production across all business units, supported by structured marketing campaigns to promote the reuse movement”. This respondent also identified materials innovation as a complementary priority for the broader industry, noting that “for the cosmetics industry more broadly, the future of circularity lies in intensifying research into better materials and continuously optimizing the ratio between packaging and formula”.

Interestingly, I2, whose professional role centers on waste management and recycling operations, identified consumer-facing refill initiatives rather than upstream recycling as the most significant strategic direction for the organization's circularity efforts. This respondent expressed satisfaction that “the focus is shifting towards refills” and stated a desire to “continue seeing progress on refills, on packaging reduction”. I2 further elaborated on this perspective: “when we think circularity in the group, we think packaging, formula, and finished products. I work on circularity much further upstream in the value chain (…) when I think of the future of

circularity in the group, I think of the main strategy, which is refills". This prioritization of refills by a professional working in recycling suggests a recognition that prevention and reuse strategies may offer greater environmental and business benefits than end-of-life material recovery, reflecting the waste hierarchy principles embedded in circular economy theoretical frameworks.

Despite the emphasis on refill systems, several interviewees identified end-of-life material management and recyclability as critical areas requiring continued development. I5, who works mainly for the Zero Waste program, characterized recycling as "the big step now" and "the biggest challenge for the next years," framing it as the logical next frontier after establishing reuse and waste prevention systems. This respondent articulated a specific technical challenge: "the problem is that makeup often mixes different materials—plastics, metals—which makes recycling impossible. We need to redesign products, especially in makeup, to be made of a single material so they can be fully recyclable". I1, whose professional focus is on waste prevention rather than recycling, also identified recycling as a priority area for future development, acknowledging that "there is still work to be done, especially on recycling, which is a complex issue". This represents a noteworthy inversion of perspectives: while I1 and I5, working on waste prevention, pointed to recycling as important for the future, I2, whose daily work involves recycling operations, identified refills as the key strategic priority.

The interviewees also articulated perspectives on organizational capacity-building and the geographic and functional expansion of circular economy initiatives. I4 described circularity at Company A as "becoming stronger" and noted that "it's developing in programs related to retail, POS (point of sale) promotion, and also finished products" as well as "in other areas: purchasing, links with subcontractors, factories, and plants," concluding that circularity is "increasingly present and will continue to grow in the coming years". When talking abou refillable products, I2 emphasized the importance of maintaining ambitious targets despite implementation challenges, arguing that "the strength of the program is that it's super ambitious. We have to keep this momentum going, and even if we don't manage to be completely circular, we'll achieve a satisfying result".

5. CONCLUSION

This research examined circular economy implementation in the cosmetics industry through an in-depth case study of Company A that combines an extensive analysis of documents and semi-structured interviews with employees involved in circular economy projects. By articulating theory-driven conceptual mapping with empirical evidence derived from content analysis, the study provides a comprehensive understanding of how circular economy principles are interpreted, operationalized, and communicated within a multinational cosmetics group.

The analysis reveals that Company A has developed a multi-faceted approach to circularity, with initiatives spanning different stages of the product lifecycle. Company A's circularity efforts are driven by complementary but distinct logics: preventive strategies upstream (such as bad stock governance, sustainable sourcing and packaging optimization), restorative strategies downstream (such as second-life channels and recycling), and consumer-facing transformation strategies (most notably the refill movement).

Two principal findings emerge from this investigation, each challenging prevailing assumptions about circularity in the cosmetics sector. First, the analysis revealed a consistent distribution of mentions across upper-tier strategies, medium-tier strategies and more traditional lower-tier strategies, which defies industry norms. While existing literature characterizes the cosmetics industry as predominantly focused on lower-tier strategies such as recycling (MIKRONI et al., 2017), Company A demonstrates substantial organizational commitment to upper-tier and medium-tier interventions. The prominence of Reduce and Reuse strategies across both documents and interviews, coupled with their consistent co-occurrence with most major initiatives, indicates that the company has moved beyond end-of-life material management toward preventive and restorative circular practices.

Second, the research identifies "Reuse" as the central strategy of Company A's circularity discourse and practice. This strategy occupied a privileged position across all analytical dimensions: it was the most frequently referenced R-strategy in both documents and interviews, it appeared at the structural center of the keyword co-occurrence network, and it demonstrated the highest co-occurrence rates with numerous circular initiatives. Interestingly, the analysis revealed that Company A's interpretation of reuse extends beyond conventional definitions to

encompass practices not traditionally classified as such, including second-life sales channels and product remonetization mechanisms. Interview data confirmed that employees cognitively frame these initiatives through the lens of reuse.

An interesting insight concerns the way circularity is discursively constructed within Company A's sustainability communications. The keyword analysis identified distinct semantic clusters structuring the organization's narrative, including a more operational cluster focused on concrete actions and a communication-oriented cluster emphasizing external sustainability positioning. The emergence of these thematic families suggests that circularity at Company A is not conveyed through a single, unified vocabulary, but rather through multiple overlapping discursive frameworks that fulfill different organizational purposes.

The interview analysis provided valuable insight into how circularity is understood by employees within Company A. Participants articulated definitions of the circular economy that emphasized minimizing resource consumption, preventing waste, closing material loops, extending product lifecycles, moving away from linear take–make–dispose models, and relying on strategies such as reuse and recycling. These elements are consistent with dominant academic conceptualizations of circularity, suggesting an internal alignment with scholarly literature. At the same time, the definitions also revealed a strong influence of each interviewee's professional role.

The research identified four primary categories of barriers to circular economy implementation. The tension between financial viability and sustainability objectives the most cited one, with respondents highlighting how cost considerations, brand image concerns, and luxury positioning can complicate the business case for circular initiatives. The lack of control over consumer behavior, organizational complexity and external infrastructure limitations were also mentioned as significant challenges by interviewees.

Regarding scalability, the interviewees expressed considerable confidence in the transferability of Company A's circular economy models both within the cosmetics sector and across other consumer goods industries. Further analysis suggests, however, that Company A's most transferable contributions to the sector lie not in its already widespread practices (such as outlet channels or shuttle packaging), but in its technical maturity in two specific domains: refillable systems and the recycling/repurposing of rejects. These areas demonstrate genuine innovation capacity, offering models that other companies could adopt or benchmark against.

Looking toward the future, interviewees identified several strategic priorities for advancing circularity. Regulatory frameworks emerged as critical drivers, with industry leaders positioned to influence policy development through lobbying and demonstration of feasible circular business models. The expansion of refillable and reusable product portfolios was consistently described as one of the main strategic pathway forward, supported by structured efforts to educate consumers and influence product-use behavior. At the same time, end-of-life material management remains a critical area for development, particularly the need to improve product recyclability and scale effective recycling systems across different markets. Finally, it was cited that the successful advancement of circularity will increasingly depend on collaboration beyond the firm level, with progress requiring coordinated action across multiple companies.

The findings of this thesis, however, must be interpreted in light of several limitations. First, the research focuses on a single multinational cosmetics company, which constrains the external validity and generalizability of the conclusions. While Company A is a global player with a mature sustainability strategy, making it a relevant and illustrative case, its organizational scale, resources, and institutional context may not reflect the conditions faced by other firms or by companies operating in different sectors. As such, the patterns observed here, including the prominence of certain circularity strategies and the structure of internal governance mechanisms, should not be assumed to apply uniformly across the wider cosmetics industry or to other consumer goods sectors.

Second, both empirical components of the study (the document corpus and the set of interviews) carry sampling limitations that introduce a structural bias into the analysis. The selection of internal documents, although sufficiently diverse to enable robust thematic and network-based insights, displays a clear overrepresentation of initiatives linked to the Zero Waste program. A similar pattern emerges in the interview sample: despite efforts to recruit participants from heterogeneous roles, three interviewees were directly involved in Zero Waste operations or governance. As a result, the empirical material may disproportionately reflect the logics, narratives, and challenges associated with this program.

Looking ahead, future research should expand the analytical scope beyond a single-company case study and undertake a broader, comparative examination of the cosmetics industry. A multi-firm research design encompassing companies of different sizes, market segments, and geographical distribution would allow for the identification of sector-wide patterns, divergences in circularity strategies, and contextual factors shaping implementation.

Such an approach would also make it possible to assess how regulatory pressures, consumer expectations, supply-chain structures and technological capabilities vary across firms and influence their circular economy trajectories. By integrating multiple cases, future studies could therefore generate a more comprehensive and generalizable understanding of how circular economy principles are operationalized across the cosmetics sector.

This thesis has shown that the transition toward a circular economy in the cosmetics industry represents a complex organizational and technical challenge that extends far beyond simple recycling initiatives. Company A's relatively advanced positioning concerning circular strategies, combined with its organizational scale and institutional influence, positions the company as a potential shaper of broader market dynamics, accelerating the diffusion of circular practices across the cosmetics industry and beyond.

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APPENDIX

Appendix 1: Interviews protocol

Before starting the interview, I explained to the interviewees the goal of the interview and, for those who did not already know me, I presented myself briefly.

1) To start our interview, could you present yourself?
2) What do you understand by circular economy?
3) Did you work on projects aimed at developing the circularity in Company A?
4) How do these projects enhance the circularity in the company?
5) How are employees, suppliers, and consumers involved in these circularity efforts?
6) What are the main obstacles to the circularity in Company A?
7) Do you think that other cosmetic companies could learn form these projects? Are these projects scalable outside of Company A?
8) Do you think these models could be adapted to other industries outside of cosmetics?
9) What do you see for the future of circularity in Company A? And for the cosmetics industry?

Appendix 2: Coding categories for documents content analysis

Circular economy projects at Company A:

1. Refillable products
2. Second Life Channels and Handover Rules
3. Returns Management
4. Bad Stock Generation Prevention
5. Packaging Optimization
6. Tertiary Packaging Reuse
7. Packaging Recycling
8. Sustainable Sourcing
9. Bulk Recycling
10. Water Reuse

11. Other Initiatives

Circular strategies from the 9R framework:

1. Refuse
2. Rethink
3. Reduce
4. Reuse
5. Repair
6. Refurbish
7. Remanufacture
8. Repurpose
9. Recycle
10. Recover

Keywords:

1. Biobased
2. Biodegradable
3. By-product
4. Carbon footprint
5. Climate change
6. Circular business model
7. Circular economy
8. Circular supply chain
9. Circularity metrics
10. Closed loop
11. Consumer return
12. Donation
13. Eco-design
14. Economics
15. Environment
16. Environmental impact

17. ESG
18. greenhouse gases
19. Green supply chain
20. Greenwashing
21. Handover Rules
22. Life cycle
23. Local sourcing
24. Innovation
25. Prevention
26. Product design
27. Product sharing
28. Refill systems/ Refillable packaging/ Refill station
29. Recyclable packaging
30. Recycling
31. Remonetization
32. Renewable energy
33. Reverse logistics
34. Reuse
35. Reusable packaging
36. Resource efficiency
37. Secondary markets
38. Second life
39. Sorting
40. Supply chain
41. Sustainable ingredients
42. Sustainable packaging
43. Sustainable sourcing
44. Sustainability
45. Sustainability norms/ Sustainability laws
46. Traceability

47. Value retention
48. Waste
49. Waste management

Appendix 3: Interviews transcription

For privacy reasons, the names of the interviewees were replaced by their interviewee code.

Interview 1 with I1 (original, mostly in French)
Transcribed with Whisper

Pedro : Je vais poser les questions en anglais, la majorité. Les questions sont écrites en anglais, mais tu peux répondre dans la langue que tu préfères.

I1 : Pas de problème.

Pedro : So, to start our interview, could you please present yourself?

I1 : Alors, moi je suis I1 et je travaille chez Company A depuis cinq ans. J'ai occupé différents postes, d'abord en e-commerce, puis en marketing, et maintenant je travaille dans le développement durable. Spécifiquement, mon poste, c'est *Zero Waste Business Development Manager*.
Mon rôle, dans le projet *Zero Waste*, c'est (…) (specific job description censored by the author). Comme on produit énormément dans le monde pour toutes nos marques — on a une quarantaine de marques —, on ne vend pas toujours tout ce qui est produit. Et l'enjeu avec les cosmétiques, c'est que les produits peuvent périmer.
Donc on fait face à des problématiques de gestion des stocks : s'assurer qu'on est alerté en temps voulu avant une destruction et trouver des solutions pour l'éviter. Moi, je travaille spécifiquement sur un rôle business, avec l'objectif de trouver des canaux alternatifs de vente, qu'on appelle de remonétisation, afin de revendre à prix réduit les anciennes collections ou ce qu'on appelle le *bad stock*.
C'est un job hyper intéressant, avec des enjeux très importants. D'autant plus que les

cosmétiques, c'est un énorme marché mondial et Company A en est un gros acteur. C'est donc vraiment un super poste.

Pedro : Bien sûr ! And what do you understand by circular economy in the context of your job ?

I1 : Alors, ce que je comprends de l'économie circulaire, c'est le fait, dans le cycle de vie d'un produit, d'utiliser le minimum de ressources possible et d'éviter les déchets. C'est vraiment dans tout le 360° du cycle de vie : réutiliser, minimiser les ressources additionnelles, de la création jusqu'à la fin de vie du produit.
C'est tout à fait en lien avec mon travail sur *Zero Waste*. Oui et non, puisque nous, on travaille sur des produits déjà existants, mais il y a quand même une idée de circularité : plutôt que les produits restent en stock et finissent par expirer, on cherche à leur donner une vraie fin de vie utile, en les revendant, plutôt que de les détruire.
Plus globalement chez Company A, il y a énormément de sujets liés à la circularité, comme le recyclage ou d'autres projets auxquels je ne participe pas directement, mais qui existent. Moi, sur le projet *Zero Waste*, je m'inscris bien dans cette logique, de la production jusqu'à la consommation et à l'après-consommation.

Pedro : Oui, oui, bien sûr. Donc les deux prochaines questions sont par rapport à des projets qui sont axés sur la circular economy et comment ces projets peuvent aider à arriver à une économie circulaire. Tu as déjà parlé un peu, mais les deux questions supplémentaires sont : premièrement, est-ce qu'il y a d'autres projets, peut-être ? Et surtout, dans le contexte *Zero Waste*, dans le contexte de remonétisation, comment exactement ça aide à développer cette circularité ?

I1 : Au pire, si je répète un peu ce que j'ai déjà dit, c'est pas bien grave.

Pedro : C'est pas grave, c'est pas grave.

I1 : Donc du coup, comme je disais, mon projet vise à revendre des produits d'anciennes collections ou du *bad stock* à de nouveaux consommateurs. Là-dedans, il y a une vraie circularité, puisque le produit, au lieu d'être détruit, va trouver une utilisation avant d'être recyclé ou jeté.
Je n'ai pas travaillé directement dessus, mais il y a aussi beaucoup de réflexions autour du recyclage. Par exemple, c'est assez complexe sur certains produits comme les parfums, qui

contiennent du plastique, du métal et du verre. Pour les recycler, il faut les démonter un par un à la main, ce qui est très coûteux et long. Donc trouver des solutions pertinentes est un vrai défi. Voilà un peu les projets liés à l'économie circulaire auxquels je suis confrontée.

Pedro : Okay, perfect. And how do you feel that employees, suppliers and consumers are involved in this effort?

I1 : En effet, l'économie circulaire touche tout le monde : les employés, les fournisseurs et les consommateurs.

Les employés, parce qu'ils travaillent chez Company A et que beaucoup d'efforts sont faits sur la circularité (packaging, usines, etc.).

Les fournisseurs, car on a des objectifs et des KPI très précis, liés notamment au programme *Cosmetics for the Future*. Si certains fournisseurs ne respectent pas les critères, on refuse de travailler avec eux.

Enfin, les consommateurs, qui sont clés mais aussi les plus difficiles à mobiliser, car on n'a pas de contrôle direct sur la manière dont ils utilisent ou jettent le produit. Par exemple, plus de 50 % de nos émissions de CO_2 sont liées à l'utilisation par le consommateur. Même si nous faisons beaucoup d'efforts en amont, si une personne reste 30 minutes sous la douche avec son shampoing, cela génère énormément d'émissions. C'est la même chose pour la circularité : on ne sait pas s'il va recycler ou non le produit. C'est donc un vrai défi.

Pedro : OK, très clair. Et quels sont les principaux obstacles que tu vois pour la circularité chez Company A ? Tu avais déjà parlé de la recyclabilité.

I1 : Oui, pour moi l'un des grands obstacles, c'est la difficulté de contrôler la manière dont les consommateurs vont utiliser et jeter les produits. On ne sait pas s'ils vont les recycler correctement. Company A essaie d'anticiper ce flou en travaillant en amont. Par exemple avec les shampoings solides, qui nécessitent moins d'eau et moins de packaging, ou les shampoings sans rinçage. Ainsi, même si le produit est mal jeté, l'impact reste plus faible.

Pedro : Et tu penses que les autres compagnies cosmétiques pourraient apprendre de ces projets ? In other words, est-ce que ces projets sont *scalable* outside Company A ?

I1 : Totalement. Si je reviens au projet *Zero Waste*, le modèle est très facilement *scalable*. Il repose sur deux piliers :

1. La prévention, pour éviter la création de *bad stock* ;

2. La remonétisation, pour vendre les anciennes collections via des canaux alternatifs comme les outlets.
   D'ailleurs, nous avons 28 outlets en Europe, et Competitor B en a plus de 170 dans le monde. C'est donc déjà une pratique assez répandue.

Pedro : And what about outside of cosmetics, do you think it's still scalable ?

I1 : Tout à fait. Le modèle est aussi *scalable* dans d'autres industries. Par exemple, dans la mode, qui pollue beaucoup, on peut appliquer la même logique de prévention et de remonétisation. Pour l'alimentaire, c'est plus complexe à cause des dates de péremption très courtes (parfois deux semaines), ce qui oblige à agir beaucoup plus vite. Mais en adaptant le modèle au contexte et aux besoins de chaque industrie, il est tout à fait transposable.

Pedro : Parfait, et dernière question : What do you see for the future of circularity at Company A and for the cosmetics industry as a whole?

I1 : Je pense qu'il y a encore beaucoup de progrès à faire. Il faudra aussi que de nouvelles lois soient mises en place pour atteindre les objectifs, que ce soit en RSE ou en circularité. Company A, en tant qu'acteur majeur avec des objectifs très ambitieux, peut influencer l'industrie, la société et même les gouvernements. Par exemple, je sais que notre *Head of Sustainability Europe* participe à des panels avec d'autres entreprises et fait du lobbying auprès d'instances importantes pour faire évoluer la réglementation.
Donc je pense que Company A va continuer à être pionnier dans la circularité et plus largement dans la RSE. Mais il reste encore du travail, notamment sur le recyclage, qui est un sujet complexe. Heureusement, la sensibilisation croissante des consommateurs et des employés va aussi accélérer les progrès.

Pedro : Parfait, parfait, merci beaucoup. Je vais arrêter l'enregistrement.

I1 : Ok.

Interview 1 with I1 (translated to English)

Transcribed with Whisper

Pedro: I'll ask the questions in English, mostly. The questions are written in English, but you can answer in the language you prefer.

I1: No problem.

Pedro: So, to start our interview, could you please present yourself?

I1: So, I'm I1, and I've been working at Company A for five years. I've held different positions, first in e-commerce, then in marketing, and now I work in sustainability. Specifically, my position is *Zero Waste Business Development Manager*.

My role in the *Zero Waste* project is (…) (specific job description censored by the author). Since we produce huge amounts worldwide for all our brands — we have around forty — we don't always sell everything that's produced. And the challenge with cosmetics is that products can expire.

So, we face stock management issues: making sure we're alerted in time before a product is destroyed and finding solutions to avoid it. I specifically work on the business side, with the objective of finding alternative sales channels, what we call remonetization, in order to resell at reduced prices old collections or what we call *bad stock*.

It's a super interesting job, with very important challenges. Especially since cosmetics is a huge global market and Company A is a big player. So, it really is a great position.

Pedro: Of course! And what do you understand by circular economy in the context of your job?

I1: What I understand by circular economy is the idea that, in a product's life cycle, we use as few resources as possible and avoid waste. It really means considering the full 360° of the life cycle: reusing, minimizing additional resources, from creation to end-of-life.

It's directly linked to my work on *Zero Waste*. Yes and no, because we work on products that already exist, but there is still an idea of circularity: instead of products sitting in stock and eventually expiring, we try to give them a truly useful end of life by reselling them instead of destroying them.

More broadly at Company A, there are many topics linked to circularity, like recycling or other projects that I'm not directly involved in but that do exist. With *Zero Waste*, I definitely fit into that logic, from production to consumption and post-consumption.

Pedro: Yes, yes, of course. So, the next two questions are about projects that are focused on the circular economy and how these projects can help achieve it. You already mentioned some points, but the two additional questions are: first, are there other projects, maybe? And second, in the context of *Zero Waste*, in the context of remonetization, how exactly does it help develop circularity?

I1: Worst case, if I repeat a little of what I've already said, that's not too bad.

Pedro: That's fine, that's fine.

I1: So, as I said, my project aims to resell products from old collections or bad stock to new consumers. There is real circularity here, since the product, instead of being destroyed, will find a use before being recycled or discarded.

I haven't worked directly on it, but there's also a lot of discussion around recycling. For example, it's quite complex with some products like perfumes, which contain plastic, metal, and glass. To recycle them, you have to take them apart one by one by hand, which is very costly and time-consuming. So, finding relevant solutions is a real challenge. Those are some of the projects linked to the circular economy that I'm exposed to.

Pedro: Okay, perfect. And how do you feel that employees, suppliers, and consumers are involved in this effort?

I1: Indeed, the circular economy involves everyone: employees, suppliers, and consumers. Employees, because they work at Company A and many efforts are made on circularity (packaging, factories, etc.).

Suppliers, because we have very precise objectives and KPIs, especially tied to the *Cosmetics for the Future* program. If certain suppliers don't meet the criteria, we refuse to work with them.

Finally, consumers, who are key but also the most difficult to mobilize, because we don't have direct control over how they use or dispose of the product. For example, more than 50% of our CO_2 emissions are linked to consumer use. Even if we make a lot of efforts upstream, if someone spends 30 minutes in the shower with their shampoo, it generates a huge amount of emissions. It's the same with circularity: we don't know if they'll recycle the product or not. So that's a real challenge.

Pedro: OK, very clear. And what are the main obstacles you see for circularity at Company A? You already mentioned recyclability.

I1: Yes, for me one of the big obstacles is the difficulty of controlling how consumers are going to use and dispose of the products. We don't know if they'll recycle them properly. Company A tries to anticipate this uncertainty by working upstream. For example, with solid shampoos, which require less water and less packaging, or with leave-in shampoos. That way, even if the product is disposed of improperly, the impact remains lower.

Pedro: And do you think other cosmetics companies could learn from these projects? In other words, are these projects scalable outside Company A?

I1: Totally. Coming back to the *Zero Waste* project, the model is very easily scalable. It's based on two pillars:

1. Prevention, to avoid creating bad stock;
2. Remonetization, to sell old collections through alternative channels like outlets. In fact, we have many outlets in Europe, and Competitor B has even more worldwide. So, it's already a fairly widespread practice.

Pedro: And what about outside of cosmetics, do you think it's still scalable?
I1: Absolutely. The model is also scalable in other industries. For example, in fashion, which is very polluting, you can apply the same logic of prevention and remonetization. For food, it's more complex because of very short expiration dates (sometimes two weeks), which forces much faster action. But by adapting the model to the context and the needs of each industry, it's completely transferable.

Pedro: Perfect, and last question: What do you see for the future of circularity at Company A and for the cosmetics industry as a whole?
I1: I think there's still a lot of progress to be made. New laws will also need to be put in place to reach the goals, whether in CSR or in circularity.
Company A, as a major player with very ambitious objectives, can influence the industry, society, and even governments. For example, I know that our Head of Sustainability Europe takes part in panels with other companies and does lobbying with important institutions to help change regulations.
So, I think Company A will continue to be a pioneer in circularity and more broadly in CSR. But there is still work to be done, especially on recycling, which is a complex issue. Fortunately, the growing awareness of consumers and employees will also accelerate progress.

Pedro: Perfect, perfect, thank you very much. I'll stop the recording.
I1: Ok.

Interview 2 with I2 (original, mostly in French)

Transcribed with Notta

Pedro: Uh, so to start our interview, could you please present yourself?

I2: Alors, moi c'est I2. Ça fait 4 ans et demi que je suis dans le groupe et je travaille dans l'équipe environnement DGO. On est une des équipes du département QEHS et, dans cette équipe, je suis responsable du pôle économie circulaire et déchets. Concrètement, j'accompagne les sites du groupe — nos usines, nos centrales et nos tertiaires — dans la gestion de leurs déchets, c'est-à-dire leur réduction et leur valorisation matière.

Pedro: And what do you understand by circular economy?

I2: Alors, c'est très large. Mais si je devais donner une définition rapide, c'est en opposition à une économie linéaire où on extrait, on fabrique, on utilise, on jette. L'idée, c'est de réduire l'extraction de ressources au maximum en amont et d'éviter d'arriver au stade "déchet" en réparant et en réutilisant un maximum. Et puis, quand on a un déchet, essayer de le réutiliser ou de le revaloriser au maximum, principalement à travers le recyclage.

Pedro: OK, perfect. So, I know you worked on projects aimed at developing the circular economy in Company A. Could you tell us about some of those projects?

I2: Yes. Alors, il y a plusieurs sujets, vu que sur une usine on va générer plein de déchets différents. Notre premier déchet, par exemple, ça va être le carton. Les usines reçoivent leurs articles de conditionnement, leurs consommables, etc., dans des caisses en carton jetables, à usage unique. Un de mes projets, c'est d'accompagner les sites dans la transition vers des emballages réutilisables, donc ce qu'on appelle des emballages navettes. Ça, c'est un exemple pour la réduction des déchets.

Un autre déchet qu'on peut avoir sur site, ce sont les produits non conformes rejetés par les lignes de conditionnement. Par exemple, un shampoing trop rempli, mal fermé (qui coule un peu) ou avec une étiquette mal collée, etc. Ce n'est pas toujours possible de les réintégrer sur ligne et de les revendre, donc on est obligés de les jeter. La question, c'est : comment recycler quelque chose qui est à la fois du packaging et du jus à l'intérieur ? On travaille donc sur pas mal de filières pour le recyclage de ces produits, qui ne sont pas vraiment des produits finis mais plutôt des refus. Voilà, ce sont des projets un peu innovants, assez complexes techniquement, et donc challengeants.

Pedro: OK, t'as déjà répondu un peu à la prochaine question, mais… How do these projects enhance the circularity in the company?

I2: Alors, pour les emballages navettes, on génère moins de déchets carton. Et pour le recyclage des produits non conformes, on évite l'incinération et la perte de ressources matières.

Pedro: OK, ouais, c'est clair. And how are employees, suppliers and also consumers involved in the circularity efforts? In this case I assume consumers not that much, but how are the…

I2: Plutôt les deux premiers.

Pedro: Yes.

I2: Ben clairement, ce sont des projets transverses. Pour ce qui est, par exemple, des emballages navettes : nous, on est EHS, mais ceux qui ont vraiment les leviers pour qualifier les emballages dans lesquels arrivent les articles de conditionnement, ce sont les équipes pôles, par exemple les équipes packaging. Donc il faut travailler avec elles.

Pour les pertes sur ligne, bien sûr on recycle, mais on aimerait aussi les réduire, donc on va travailler avec la performance. Quand il s'agit de recycler, il faut travailler avec les prestataires déchets. Donc, on est très dépendants en interne de plein de métiers, et en externe des prestataires et des infrastructures de recyclage disponibles.

Pedro: Et comment on fait pour embarquer ces gens-là ?

I2: Ah oui, pardon ! Eh bien, c'est de la sensibilisation. Il faut leur expliquer pourquoi. Souvent, pour le packaging, la priorité, ça va être le coût, la solidité, la capacité à remplir son rôle d'emballage. La circularité ou l'impact environnemental passe un peu après. Idem pour la performance : ce sont des gens contents quand ils font des pertes économiquement faibles, sans regarder derrière ce que ça représente en tonnage de déchets. Donc il faut mettre l'environnement au cœur de leurs préoccupations et faire du lobbying. Répéter, répéter, répéter. Voilà, c'est comme ça qu'on s'y prend en tout cas.

Pedro: OK. Et quels sont, selon toi, les principaux obstacles à la circularité chez Company A ?

I2: Le fait que beaucoup de métiers soient impliqués. Donc à chaque projet, il faut vraiment bien comprendre le sujet et savoir qui embarquer, et comment les embarquer. Et puis, tout ce qui est recyclabilité et recyclage, c'est, comme j'ai dit, très dépendant de la présence de structures de recyclage dans le pays. On est un groupe mondial, et les infrastructures de recyclage ne sont pas au même niveau partout. Donc un des principaux freins, c'est : est-ce qu'on trouve dans le pays quelqu'un capable de nous prendre nos déchets et de les recycler ?

Pedro: OK, clair. Cosmetic companies could learn from these projects? Are these projects scalable outside of Company A?

I2: Il y a des choses qu'on fait qui sont assez standards dans l'industrie — on n'a pas inventé l'emballage navette, on n'est pas les seuls à le faire. Par contre, il y a des sujets où je pense qu'on est assez pionniers. Je pense notamment au recyclage des rebuts. Je sais que d'autres compagnies cosmétiques le font, je ne sais pas si elles ont le même niveau de maturité que nous. En tout cas, on est plutôt parmi les très bons à ce niveau-là. Et oui, c'est scalable, à condition d'avoir les volumes et à condition d'avoir les prestataires, encore une fois.

Pedro: Parfait. Et en dehors de l'industrie cosmétique, tu penses qu'on peut aussi scaler ce type de projets ?

I2: Alors, ça dépend des projets. Là j'ai parlé de deux projets — les navettes et le recyclage des rebuts — parce qu'ils illustrent bien ce que je fais. Mais comme il y a plein de déchets différents, il y a plein de stratégies différentes. Donc certains projets sont scalables, parce qu'ils ne sont pas spécifiques à la cosmétique. Et d'autres le sont moins, parce que recycler un jus de shampoing ou d'eau de parfum, c'est spécifique à nos contraintes. Donc oui et non, en fait.

Pedro : OK, ça dépend en fait.

I2: Ça dépend.

Pedro: Perfect. And what do you see for the future of circularity in Company A and also for the cosmetics industry in general?

I2: Moi, je pense qu'on est dans la bonne direction. Pour mon domaine — EHS et les sites opérés — j'ai l'impression que, pendant longtemps, la grande priorité a été l'énergie et l'eau, parce que c'étaient d'énormes chantiers. Les équipes environnement sur site ne sont pas énormes, donc elles devaient prioriser. Là, on arrive un peu au bout. En tout cas pour

l'énergie, j'ai l'impression que tout le monde est à la pointe au niveau groupe et externe. L'eau aussi, beaucoup de choses ont été faites. Donc maintenant, il y a un peu plus de temps à consacrer au sujet des déchets.

Pour le groupe en général, je suis contente de voir que le focus est en train d'être mis sur le refill. J'ai envie de continuer à voir des choses sur le refill, sur l'allègement de l'emballage, et qu'on continue à être ambitieux, parce que la force du programme, c'est qu'il est super ambitieux. Il faut qu'on continue cette dynamique, et même si on n'arrive pas à être complètement circulaires, on arrivera à un résultat satisfaisant, et c'est le plus important.

Pedro: OK, juste pour être clair dans la transcription : qu'est-ce que tu entends par "refills" ? C'est bien les produits finis ?

I2: Ouais, ouais. *The Refillable products*. Je ne sais pas si tu as vu la campagne "Join the Refillable products". Oui, j'ai l'impression que la stratégie circulaire est encore très axée consommateur aujourd'hui. Quand on pense circularité dans le groupe, on pense packaging, formule et produits finis. Moi je travaille sur la circularité très en amont, dans la chaîne de valeur. I4 aussi. Donc je ne sais pas si, dans la stratégie groupe, on est le focus principal. Mais quand je réfléchis au futur de la circularité dans le groupe, je pense à la stratégie principale qui est le refill. Nous, on continue à mener nos efforts sur nos propres scopes.

Pedro: Parfait. Merci beaucoup !

I2: Ben je t'en prie !

Interview 2 with I2 (translated to English)

Transcribed with Notta

Pedro: Uh, so to start our interview, could you please present yourself?
I2: So, I'm I2. I've been with the group for four and a half years, and I work in the DGO Environment team. We're one of the teams in the QEHS department, and in this team I'm responsible for the circular economy and waste unit. Concretely, I support the group's sites — our factories, our plants, and our offices — in managing their waste, it is to say, reducing it and ensuring material recovery.

Pedro: And what do you understand by circular economy?
I2: Well, it's very broad. But if I had to give a quick definition, it's in opposition to a linear economy where you extract, manufacture, use, and throw away. The idea is to reduce resource extraction as much as possible upstream and to avoid reaching the "waste" stage by repairing and reusing as much as possible. And then, when we do have waste, trying to reuse it or recover it as much as possible, mainly through recycling.

Pedro: OK, perfect. So, I know you worked on projects aimed at developing the circular economy at Company A. Could you tell us about some of those projects?
I2: Yes. Well, there are several topics, since at a factory you generate many different types of waste. Our main waste, for example, is cardboard. The factories receive their packaging materials, consumables, etc., in disposable single-use cardboard boxes. One of my projects is to help sites transition to reusable packaging, what we call shuttle packaging. That's one example of waste reduction.
Another type of waste we have on-site is non-compliant products rejected from the packaging lines. For example, a shampoo that's overfilled, not properly sealed (so it leaks a bit), or with a misapplied label. It's not always possible to reintegrate these into the line and resell them, so we have to discard them. The question is: how do you recycle something that is both packaging and product inside? So, we're working on several channels for recycling these items, which aren't really finished products but rather rejects. These are fairly innovative projects, technically complex, and therefore challenging.

Pedro: OK, you already answered a bit of the next question, but… How do these projects enhance circularity in the company?
I2: Well, for the shuttle packaging, we generate less cardboard waste. And for recycling non-compliant products, we avoid incineration and the loss of material resources.

Pedro: OK, yeah, that's clear. And how are employees, suppliers and also consumers involved in the circularity efforts? In this case I assume consumers not that much, but how are the…
I2: Mostly the first two.
Pedro: Yes.
I2: Well, clearly these are cross-functional projects. For example, regarding shuttle packaging: we in EHS don't really have the levers to qualify the packaging in which the articles arrive — that's the packaging teams, for instance. So, we have to work with them.

For line rejects, of course we recycle, but we'd also like to reduce them, so we work with the performance teams. When it comes to recycling, we have to work with waste contractors. So, we're very dependent internally on many different functions, and externally on contractors and the recycling infrastructures available.

Pedro: And how do you get these people on board?
I2: Ah yes, right! Well, it's about raising awareness. You have to explain the "why." Often, for packaging, the priority will be cost, sturdiness, and the ability to fulfill its function as packaging. Circularity or environmental impact comes a bit later. Same with performance teams: they're happy when they achieve low economic losses, without considering what that represents in terms of waste tonnage. So, we have to put the environment at the center of their concerns and do lobbying. Repeat, repeat, repeat. That's how we approach it, anyway.

Pedro: OK. And what do you see as the main obstacles to circularity at Company A?
I2: The fact that many different functions are involved. So, for each project, you really need to understand the issue and know who to bring on board and how to get them on board. And then, everything related to recyclability and recycling is, as I said, very dependent on the presence of recycling infrastructure in the country. We're a global group, and recycling infrastructure is not at the same level everywhere. So, one of the main barriers is: can we actually find someone in the country who's able to take our waste and recycle it?

Pedro: OK, clear. Cosmetic companies could learn from these projects? Are these projects scalable outside of Company A?
I2: Some things we do are fairly standard in the industry — we didn't invent shuttle packaging, we're not the only ones using it. But there are areas where I think we're real pioneers. I'm thinking in particular of recycling rejects. I know other cosmetic companies do it, but I don't know if they have the same level of maturity as we do. In any case, we're among the best at this level. And yes, it's scalable, provided you have the volumes and the right contractors, once again.

Pedro: Perfect. And outside of the cosmetics industry, do you think we can also scale these kinds of projects?
I2: Well, it depends on the project. I spoke about two projects — shuttle packaging and recycling rejects — because they illustrate well what I do. But since there are many different kinds of waste, there are many different strategies. So, some projects are scalable because

they’re not specific to cosmetics. And others are less so, because recycling shampoo or perfume rejects is specific to our constraints. So yes and no, really.

Pedro: OK, so it depends.
I2: It depends.

Pedro: Perfect. And what do you see for the future of circularity at Company A and also for the cosmetics industry in general?
I2: I think we’re heading in the right direction. For my field — EHS and operated sites — I feel that for a long time the top priority was energy and water, because those were huge issues. The environmental teams on-site aren’t very large, so they had to prioritize. Now we’re reaching the end of that. At least for energy, I feel that everyone is at the forefront, both within the group and externally. Water too — a lot has been done. So now there’s a bit more time to devote to waste.
For the group in general, I’m glad to see that the focus is shifting towards refills. I want to continue seeing progress on refills, on packaging reduction, and for us to keep being ambitious, because the strength of the program is that it’s super ambitious. We have to keep this momentum going, and even if we don’t manage to be completely circular, we’ll achieve a satisfying result, and that’s the most important thing.

Pedro: OK, just to be clear in the transcript: what do you mean by “refills”? You mean finished products?
I2: Yeah, yeah. The Refillable products. I don’t know if you saw the “Join the Refillable products” campaign. Yes, I feel the circular strategy is still very consumer-focused today. When we think circularity in the group, we think packaging, formula, and finished products. I work on circularity much further upstream in the value chain. I4 too. So, I don’t know if, in the group’s strategy, we are the main focus. But when I think of the future of circularity in the group, I think of the main strategy, which is refills. Meanwhile, we continue our efforts within our own scopes.

Pedro: Perfect. Thank you very much!
I2: You’re welcome!

Interview 3 with I3 (original in English)

Copied and pasted from Microsoft Teams

Pedro: To start our interview, could you introduce yourself?

I3: I'm I3, currently working in Company A's product development as a Data Project Manager. I'm responsible for managing product conception information and leading systems-related projects.

Pedro: What is your understanding of the circular economy?

I3: It's an ecosystem of products or services built around reuse and sharing, with the goal of maximizing either the number of times a product can be used or the number of consumers who can benefit from it, ultimately extending its lifespan.

Pedro: Have you worked on projects aimed at advancing circularity at Company A?

I3: Yes. I've worked on tracing and monitoring production indicators for the group's reusable consumer goods. This involved structuring the data model to connect our reusables with their corresponding refills, evaluating production levels, and studying their impact in terms of packaging weight avoided.

Pedro: How do these projects enhance circularity within the company?

I3: Building a portfolio of reusable finished goods allows consumers to maximize product usage while minimizing the packaging materials associated with it. By offering rechargeable products, we enable consumers, starting from their second purchase, to opt for a lighter version with reduced packaging weight. This significantly cuts down on the overall use of glass, plastic, and cardboard.

Pedro: How are employees, suppliers, and consumers engaged in these circularity initiatives?

I3: They are all involved across different stages—from sustainable product design and consumer education to ensuring an ecological focus throughout formulation, manufacturing, and distribution. In product development, for example, all items are assessed with our Sustainable Product Optimization Tool, which measures their environmental and social footprint across the lifecycle. We're also developing a consumer-facing version to help people make more informed choices.

Pedro: What are the main obstacles to advancing circularity at Company A?

I3: One key challenge is consumer education—helping people clearly understand the benefits of choosing reusable alternatives over single-use goods. From an eco-design perspective, it's also about striking the right balance between creating highly desirable, often luxury-oriented products, and ensuring a positive environmental impact.

Pedro: Do you think other cosmetic companies could learn from these projects? Are they scalable beyond Company A?

I3: Absolutely. The consumer goods sector as a whole generates significant waste—plastic, glass, metals, and more. Reusability initiatives like ours could easily be applied across the industry, provided there's a strong focus on eco-design and marketing efforts structured around consumer education.

Pedro: Do you think these models could be applied to industries beyond cosmetics?

I3: Yes. The entire consumer goods chain—from food and beverages to cleaning products, office supplies, even construction materials like paint and foams, or agricultural inputs—could benefit. Any product currently sold in disposable packaging could, in principle, be redesigned with a refillable system.

Pedro: What do you see as the future of circularity at Company A, and in the cosmetics industry overall?

I3: For Company A, the priority will be expanding the portfolio of reusable products and scaling up their production across all business units, supported by structured marketing campaigns to promote the reuse movement. For the cosmetics industry more broadly, the future of circularity lies in intensifying research into better materials and continuously optimizing the ratio between packaging and formula.

Interview 4 with I4 (original, mostly in French)

Transcribed with Notta

Pedro: So, I will ask the questions in English. If you want, you may answer either in English or in French.

I4 : Ok, français, ça sera plus vite.

Pedro: To start our interview, could you present yourself and present your relationship with circularity?

I4 : Donc moi, je suis la *Sustainability Supply Chain Director* et un de mes principaux liens avec la circularité c'est qu'en fait je suis en charge des opérations et du *Build* du programme *Zero Waste* pour les opérations.
Donc en fait, la stratégie est définie par *Zero Waste* et, en fonction de ça, il y a une grosse partie qui incombe aux opérations : mettre en place les process, les normes, et parfois de nouveaux outils pour pouvoir dérouler le programme *Zero Waste* dans son intégralité.

Pedro: OK. So a question a little bit more theoretical in the context of your job: what do you understand by circular economy?

I4 : Donc l'économie circulaire, telle que je l'entends dans les cosmétiques par Company A, c'est souvent une économie qui permet soit de réutiliser, soit de réemployer, soit d'avoir une économie qui est liée à une boucle fermée.
Donc ce qu'on fait beaucoup, ce sont les *refills* dans le groupe. C'est-à-dire qu'au lieu de racheter un produit complet, on rachète une capsule ou un *pouch* qu'on va pouvoir insérer dans notre packaging d'origine et qu'on peut remplir. Ça, c'est très développé chez Company A. Il y a des objectifs assez clairs dans le groupe pour développer et augmenter cette circularité.
Quand on arrive au programme *Zero Waste*, la circularité, c'est que certains produits reviennent des *retailers*, on les trie, et ensuite on a plusieurs options : soit on les réintègre, s'ils sont en parfait état, dans nos entrepôts ; soit, s'il y a des défauts mineurs ou pour d'autres raisons, on peut les intégrer dans un circuit de seconde vie. On trouve alors une deuxième option, une deuxième vie à ces produits — un peu comme certains vêtements qui, après avoir été portés, sont transmis à des filières pour avoir une seconde vie derrière.

Pedro: Parfait.
So you basically answered the third question, I would say. So you do think that the *Zero Waste* program contributes positively to the circularity of Company A. So I'll go directly to the fifth question, which is: what are the main obstacles to the *Zero Waste* program, maybe nowadays or historically?

I4 : Donc, les principaux obstacles au programme *Zero Waste*… La première, c'est déjà de bien comprendre l'intérêt de mettre de l'énergie sur la prévention et sur certains choix dès les lancements des produits, pour être sûr de ne pas générer de *waste*. Ça demande quand même

soit des changements de mentalité, soit des choix très stratégiques et très radicaux.
Au moment du lancement, accepter de lancer moins massivement dans certains cas. Ensuite, c'est évidemment travailler la prévention dans tous ses états. Et après, c'est avoir des filières de remonétisation qui soient à la hauteur des capacités du pays par rapport aux stocks générés. Ça, c'est vraiment tout un ensemble à prendre en compte.
Et ensuite, il y a des obstacles comme dans tout programme, liés soit aux ressources, soit aux restrictions au niveau développement IT qu'on est en train de faire évoluer. Mais ça prend du temps, ça consomme de l'énergie, des budgets… et parfois on est impatient, on aimerait que ça aille plus vite. C'est une des barrières.
Mais sur le long terme, vraiment, ce qu'il faut faire changer, c'est le *mindset* de certains dimensionnements de lancement produit, pour être sûr dès le début de ne pas générer de *waste*.

Pedro : OK, donc il y a trois points en fait, ou plutôt deux ?

I4 : Oui : la prévention, notamment au niveau des lancements et de la manière dont on gère les stocks. Ensuite, la capacité de remonétisation des pays, donc être sûr d'avoir les bonnes filières quand on a du *waste*, pour être sûr de pouvoir l'écouler. Et enfin, ça peut être soit les outils, soit les ressources, qui ne sont pas un frein structurel mais qui mettent parfois du temps à se mettre en place pour atteindre les résultats escomptés.

Pedro : OK, parfait, c'est clair. And do you think that other enterprises could improve their circularity by learning from *Zero Waste*? Do you think this model is scalable outside of Company A?

I4 : Il est complètement reproductible en dehors de Company A, dans le sens où il a été pensé avec une stratégie, une organisation, une volonté de travailler très fortement la prévention et d'avoir, si jamais on a du *waste*, des capacités d'écoulement pour le gérer. Donc ça peut complètement s'adapter et être reproductible dans d'autres entreprises, pas forcément dans les cosmétiques.

Pedro : Parfait, parce que ça c'est la prochaine question. That's the last question actually.

I4 : En dehors des cosmétiques ? Oui, parce qu'en fait le modèle, tel qu'il est pensé, peut s'adapter. Alors il faudrait faire des adaptations, bien sûr, mais globalement la manière dont il est structuré, oui, c'est sûr que c'est un modèle de transformation qui peut s'appliquer à d'autres entreprises.

Pedro : Pour quel type d'entreprise tu dirais ?

I4 : Ça peut être l'alimentaire — même si les délais sont beaucoup plus courts, il faudrait adapter certaines choses. Ça peut être aussi les biens de consommation, l'équipement de maison… Vraiment beaucoup d'entreprises différentes peuvent adopter ce modèle.
Parce qu'il est basé sur un très fort plan de prévention, une structure pour la remonétisation, et, jusqu'à la fin de vie du produit, sur la manière dont on recycle les produits, avec une gouvernance installée à la fois dans les pays et au centre. Donc oui, c'est complètement reproductible.

Pedro : Parfait. Alors question 8 : did you work in any other circularity projects in Company A, and could you explain and discuss how it helps Company A to develop a circular economy?

I4 : Alors directement, pas forcément. En tout cas, à ma connaissance, il existe dans le groupe des projets de circularité, notamment des boucles fermées entre les fournisseurs de matières premières ou d'emballage et les usines.
Et là, c'est pour le packaging tertiaire. Ce sont vraiment des projets de circularité parce qu'on a une boucle complètement fermée : par exemple, on livre des intercalaires ou des thermoformés qui sont stockés ; quand on a un camion complet, on les renvoie chez le fournisseur, qui les réutilise et nous les renvoie.

Pedro: Perfect. And what do you see for the future of circularity in Company A?

I4 : Aujourd'hui, la circularité chez Company A est de plus en plus forte. Elle se développe dans des programmes liés au *retail*, à la PLV (*promotion sur le lieu de vente*), mais aussi sur les produits finis, avec toute l'économie circulaire des fontaines, des recharges qu'on peut acheter en magasin et recharger chez soi.
Et globalement, ça se développe aussi sur d'autres axes : les achats, les liens avec les sous-traitants, dans les usines, dans les centrales… Donc oui, c'est de plus en plus présent, et ça le sera encore plus dans les années à venir.

Pedro: And for the cosmetics industry in general, do you think it will follow basically the same path?

I4 : Je pense que ça va être une tendance globale. Pour avancer plus vite, le mieux c'est que tout le monde aille dans la même direction en tant qu'industriels.
Aujourd'hui, certains sujets avancent très bien et très vite, d'autres un peu plus lentement,

mais parce que c'est lié à des complexités de systèmes de productivité, et qu'il est difficile de trouver le bon équilibre.
Donc il faut que collectivement on arrive à faire changer, en même temps, les choses nécessaires à la circularité sur toute la chaîne. Mais on ne va pas faire de la circularité pour la circularité : il faut que derrière, les KPI prouvent qu'on améliore certains indicateurs liés à *Cosmetics for the Future*.

Pedro : Dans le cas de l'industrie cosmétique, ça veut dire quoi la durabilité ?

I4 : Oui, ça veut dire moins d'émissions de CO_2, puisque moins de production ; plus de réemploi ; moins de pression sur les ressources primaires. C'est ça que ça veut dire. Ce n'est pas toujours facile à quantifier, mais c'est bien ça.

Pedro : Parfait, parfait. Merci beaucoup.

I4 : Merci.

Interview 4 with I4 (translated to English)

Transcribed with Notta

Pedro: So, I will ask the questions in English. If you want, you may answer either in English or in French.
I4: Ok, French will be faster.

Pedro: To start our interview, could you present yourself and present your relationship with circularity?
I4: So, I'm the Sustainability Supply Chain Director, and one of my main connections to circularity is that I'm in charge of operations and the build of the *Zero Waste* program for operations. The strategy is defined by *Zero Waste*, and based on that, operations handle a large part: implementing processes, standards, and sometimes new tools to roll out the *Zero Waste* program in its entirety.

Pedro: OK. So a question a little bit more theoretical in the context of your job: what do you understand by circular economy?
I4: The circular economy, as I understand it in cosmetics at Company A, often means an

economy that allows either reuse, repurposing, or a closed-loop system.
What we do a lot in the group is refills. Instead of buying a complete product, you buy a capsule or a pouch that can be inserted into the original packaging and refilled. This is highly developed at Company A, with clear objectives to increase circularity.
With the *Zero Waste* program, circularity also means some products come back from retailers; we sort them, and then we have several options: either reintegrate them if they're in perfect condition into our warehouses, or, if there are minor defects or other reasons, integrate them into a second-life circuit. We give these products a second life — similar to some clothing that, after being worn, is passed to other channels for reuse.

Pedro: Perfect. So you basically answered the third question, I would say. So you do think that the *Zero Waste* program contributes positively to Company A's circularity. I'll go directly to the fifth question: what are the main obstacles to the *Zero Waste* program, maybe nowadays or historically?
I4: The main obstacles to the *Zero Waste* program… First, it's understanding the importance of investing energy in prevention and making certain choices during product launches to avoid generating waste. This requires either mindset changes or very strategic and radical decisions.
At launch, it sometimes means accepting smaller initial volumes. Then, it's obviously about working on prevention in all its forms. After that, you need remonetization channels that match the country's capacity relative to the generated stock. That's a whole set of factors to consider.
And then there are obstacles, like in any program, related either to resources or IT development constraints, which we're working to evolve. But it takes time, energy, budgets… and sometimes we're impatient and want things to move faster. That's one barrier.
In the long term, the real challenge is changing the mindset around product launch sizing, to ensure from the start that we don't generate waste.

Pedro: OK, so there are three points in fact, or rather two?
I4: Yes: prevention, especially at launch and in stock management; the country's remonetization capacity — making sure the right channels exist to sell the waste; and finally, tools or resources, which are not structural barriers but sometimes take time to implement to achieve expected results.

Pedro: OK, perfect, that's clear. And do you think that other enterprises could improve their circularity by learning from *Zero Waste*? Do you think this model is scalable outside of Company A?
I4: It is completely reproducible outside of Company A, because it was designed with a strategy, an organization, a strong focus on prevention, and, if there is waste, capacities to manage it. So, it can fully adapt and be applied in other companies, not necessarily in cosmetics.

Pedro: Perfect, because that's the next question. That's the last question actually.
I4: Outside of cosmetics? Yes, because the model, as designed, can adapt. Some adjustments may be needed, of course, but overall, the structure is strong. It's definitely a transformation model that other companies could adopt.

Pedro: For what types of companies would you say?
I4: It could be food — although timelines are shorter, so some adjustments are needed. It could also be consumer goods, home equipment… Many different companies could adopt this model.
Because it's based on a strong prevention plan, a structure for remonetization, and, until the product's end of life, on how we recycle products, with governance in both the countries and the central team. So yes, it's completely reproducible.

Pedro: Perfect. Question 8: did you work on any other circularity projects in Company A, and could you explain and discuss how it helps Company A develop a circular economy?
I4: Not directly, necessarily. To my knowledge, there are circularity projects in the group, particularly closed loops between raw material or packaging suppliers and factories.
This is for tertiary packaging. These are true circularity projects because the loop is completely closed: for example, we deliver dividers or thermoformed inserts that are stored; when a truck is full, we send them back to the supplier, who reuses them and returns them to us.

Pedro: Perfect. And what do you see for the future of circularity in Company A?
I4: Today, circularity at Company A is becoming stronger. It's developing in programs related to retail, POS (point of sale) promotion, and also finished products, with the circular economy of fountains and refills you can buy in-store and refill at home.
Overall, it's also developing in other areas: purchasing, links with subcontractors, factories, and plants. So yes, it's increasingly present and will continue to grow in the coming years.

Pedro: And for the cosmetics industry in general, do you think it will follow basically the same path?
I4: I think it will be a global trend. To progress faster, it's best that everyone moves in the same direction as industry players.
Today, some topics are advancing very well and quickly, others a bit slower, but that's due to the complexities of productivity systems and finding the right balance.
So collectively, we need to change simultaneously what's necessary for circularity across the entire chain. But we're not doing circularity just for the sake of it: the KPIs must prove that we're improving certain indicators linked to *Cosmetics for the Future*.

Pedro: In the case of the cosmetics industry, what does sustainability mean?
I4: It means lower CO_2 emissions due to reduced production, more reuse, less pressure on primary resources. That's what it means. It's not always easy to quantify, but that's the essence.

Pedro: Perfect, perfect. Thank you very much.
I4: Thank you.

Interview 5 with I5 (original, mostly in English)

Transcribed with Notta

Pedro: To start our interview, could you please present yourself?

I5: Okay, um, so, I'm I5. I've been working for Company A for the last 23 years, with many different jobs. I started in IT for a very short time, then I moved to supply chain for about 18 years, in different positions at international and local level in France, mostly in supply-demand S&OP roles.
At the DGO also, I was working with X (name censored by the author) — I don't know if you know her — but I was in her team. In the last years, I've moved more into projects, especially data projects. And when I moved back to France, I joined *Zero Waste*, which was a great opportunity to work on what we call in French the RSE (*Responsabilité Sociétale et Environnementale des Entreprises*).
It's a great way to combine supply chain, business, and sustainability.

Pedro: Perfect. And what do you understand by circular economy?

I5: What I understand from that point of view, for me, circular economy is to avoid adding any waste of materials, of products… Also, of course, to be much more— I think I'm going to switch in French because it's easier for me.
C'est arriver dans un business beaucoup plus vertueux, en fait. C'est essayer de continuer à faire du business tout en étant beaucoup plus respectueux de notre environnement. D'éviter de gâcher énormément de produits, de détruire du matériel, d'incinérer des matériaux, etc., alors que ça pourrait être réutilisé dans un autre contexte.
Et moi, ce que j'entends dans l'économie circulaire aussi, c'est qu'on peut toujours trouver une seconde vie à un produit. Aujourd'hui, en France en tout cas, on arrive à trouver une seconde vie à tous les produits qui nous sont confiés. Tant qu'ils ne sont pas périmés, on arrive toujours à trouver une seconde vie, soit économique, soit via la donation. Parce que la donation est aussi un moyen de donner une seconde vie aux produits, d'accentuer notre part de RSE et de contribuer à la société.

Pedro: You kind of started to answer the next two questions, which are: did you work on projects aimed at developing the circular economy in Company A, and how these projects

enhance the circularity? But I will ask you to develop a little bit more. In what ways do the projects in which you worked help to create the circular economy at Company A?

I5: For me, it's really linked with the *Zero Waste* strategy. The *Zero Waste* projects that we are running in France are the main goal. Today, all the products that are obsolete, or what we call *slow moving*, or end-of-life products, or sometimes products that did not succeed in the normal business, we have to take them in charge and find a second life for them.
And it's not only products that have never been sold, but also returns from our customers. Sometimes in business we accept returns, and all of those products we collect are sorted: we check if they are still okay to be used, or if they are at *péremption*… sorry, *expiration*. I'm mixing French and English, a little Company A way.
And from this sorting, we do what we call *remonetization* of these units.

So, what are the different ways? We have several channels:

Outlets: today we have 10 multi-divisional outlet shops in France, where we sell sorted returns, obsolete and slow-moving products.

Private sales: for friends and family of Company A employees. Very soon we'll have a new big sale across all divisions.

Staff shops: with *Très bonnes affaires* for Company A employees.

Liquidators: especially for CPD, where we have very big volumes that we cannot remonetize fully through shops.

Donations: very important for society. We are leaders in beauty, so it's important we contribute. We donate large amounts of hygiene products (shower gels, deodorants, shampoos) that everyone needs, especially for those who cannot afford them.

With all these channels, together with the divisions, we find a way to give a second life to every product.

Pedro: Just for the record, when you say returns from our customers, we are talking about retailers. We're not talking about e-commerce, for example?

I5: In fact, also e-commerce. Some parcels are returned to the warehouse. We have a specific warehouse for e-commerce, and we include these returns in the sorting process. If the products are okay, we can remonetize them too. Of course, as soon as a product has been

opened, we must destroy it — that's the law. You cannot sell an opened product to someone else.

Pedro: I mean, it makes a lot of sense. And sorry to interrupt you.

I5: Yes, so as I said, we have 10 outlets in France. Then private sales, then staff shops, then liquidators for CPD, and finally donations. These five channels are the core of the *Zero Waste* strategy.

Pedro: Perfect. Very clear. So we're going to move on to the next question. How do you see that employees, suppliers and consumers are involved in these circularity efforts?

I5: With the *Cosmetics for the Future* program, employees are more and more involved. Especially the younger generations — they are ready to help us and happy to participate. *Zero Waste* gives them a sense of purpose: avoiding destructions, doing something meaningful.
For suppliers, it's less on my side because I don't manage them directly, but on packaging, for example, they are key to reducing waste.
Consumers are more complicated. They benefit from low prices in outlets and private sales, but whether they do it for economic reasons or for the planet is unclear. Maybe one day a survey could tell us why they really participate.

Pedro: Perfect, very clear. And what do you see are the main obstacles to circularity in Company A?

I5: At Company A, it's a big machine, with a lot of processes and rules. From a marketing point of view, sometimes what would be good for the planet can be seen as a risk for brand image. Marketers might refuse some initiatives. So the obstacle is finding the right balance between brand image, business, and sustainability. And of course, budget constraints are always a factor. Okay that's my point of view honestly.

Pedro: Yeah, sure. That's why I'm doing some interviews, so I can gather different points of view. Do you think this project specifically could be adapted to other companies? Is it scalable outside of Company A? And even further, outside of cosmetics?

I5: For sure, it's already the case. In France, the law pushes us to find second-life solutions. In cosmetics, companies like Competitor B also do it. In fashion, despite overproduction, they also try to find solutions. In electronics, companies like Back Market already promote

reuse and repair. So yes, it's scalable to many industries. The challenge is simplifying the processes.

Pedro: Perfect, and last question: what do you see for the future of circularity in Company A and for the cosmetics industry in general?

I5: The big step now is recycling. We already work on reuse and avoiding destruction, but the question is: once your product is finished, what do you do with the packaging? Bottles, lipsticks, makeup… The problem is that makeup often mixes different materials — plastics, metals — which makes recycling impossible.
We need to redesign products, especially in makeup, to be made of a single material so they can be fully recyclable. The law will push us in this direction. As a leader, we also have to show the way. I think the biggest challenge for the next years is clearly recycling.

Pedro: Okay. Thank you. Thank you very much.

I5: You're welcome.

Interview 5 with I5 (translated to English)

Transcribed with Notta

Pedro: To start our interview, could you please present yourself?

I5: Okay, um, so, I'm I5. I've been working for Company A for the last 23 years, with many different jobs. I started in IT for a very short time, then I moved to supply chain for about 18 years, in different positions at international and local level in France, mostly in supply-demand S&OP roles.
At the DGO also, I was working with X (name censored by the author) — I don't know if you know her — but I was in her team. In the last years, I've moved more into projects, especially data projects. And when I moved back to France, I joined *Zero Waste*, which was a great opportunity to work on what we call in French the RSE (*Responsabilité Sociétale et Environnementale des Entreprises*) (CSR in English).
It's a great way to combine supply chain, business, and sustainability.

Pedro: Perfect. And what do you understand by circular economy?

I5: What I understand from that point of view, for me, circular economy is to avoid adding any waste of materials, of products… Also, of course, to be much more— I think I'm going to switch in French because it's easier for me.
It's about entering a much more virtuous business, actually. It's about trying to continue doing business while being far more respectful of our environment. Avoiding wasting huge amounts of products, destroying materials, incinerating resources, etc., when they could be reused in another context.
And what I also understand by circular economy is that you can always find a second life for a product. Today, at least in France, we manage to give a second life to all the products entrusted to us. As long as they are not expired, we can always find a second life, either economically or through donation. Because donation is also a way to give products a second life, increase our CSR contribution, and benefit society.

Pedro: You kind of started to answer the next two questions, which are: did you work on projects aimed at developing the circular economy in Company A, and how these projects enhance the circularity? But I will ask you to develop a little bit more. In what ways do the projects in which you worked help to create the circular economy at Company A?

I5: For me, it's really linked with the *Zero Waste* strategy. The *Zero Waste* projects that we are running in France are the main goal. Today, all the products that are obsolete, or what we call *slow moving*, or end-of-life products, or sometimes products that did not succeed in the normal business, we have to take them in charge and find a second life for them.
And it's not only products that have never been sold, but also returns from our customers. Sometimes in business we accept returns, and all of those products we collect are sorted: we check if they are still okay to be used, or if they are at *péremption*… sorry, *expiration*. I'm mixing French and English, a little Company A way.
And from this sorting, we do what we call *remonetization* of these units.

So, what are the different ways? We have several channels:

Outlets: today we have 10 multi-divisional outlet shops in France, where we sell sorted returns, obsolete and slow-moving products.

Private sales: for friends and family of Company A employees. Very soon we'll have a new big sale across all divisions.

Staff shops: with *Très bonnes affaires* for Company A employees.

Liquidators: especially for CPD, where we have very big volumes that we cannot remonetize fully through shops.

Donations: very important for society. We are leaders in beauty, so it's important we contribute. We donate large amounts of hygiene products (shower gels, deodorants, shampoos) that everyone needs, especially for those who cannot afford them.

With all these channels, together with the divisions, we find a way to give a second life to every product.

Pedro: Just for the record, when you say returns from our customers, we are talking about retailers. We're not talking about e-commerce, for example?

I5: In fact, also e-commerce. Some parcels are returned to the warehouse. We have a specific warehouse for e-commerce, and we include these returns in the sorting process. If the products are okay, we can remonetize them too. Of course, as soon as a product has been opened, we must destroy it — that's the law. You cannot sell an opened product to someone else.

Pedro: I mean, it makes a lot of sense. And sorry to interrupt you.

I5: Yes, so as I said, we have 10 outlets in France. Then private sales, then staff shops, then liquidators for CPD, and finally donations. These five channels are the core of the *Zero Waste* strategy.

Pedro: Perfect. Very clear. So we're going to move on to the next question. How do you see that employees, suppliers and consumers are involved in these circularity efforts?

I5: With the *Cosmetics for the Future* program, employees are more and more involved. Especially the younger generations — they are ready to help us and happy to participate. *Zero Waste* gives them a sense of purpose: avoiding destructions, doing something meaningful.
For suppliers, it's less on my side because I don't manage them directly, but on packaging, for example, they are key to reducing waste.
Consumers are more complicated. They benefit from low prices in outlets and private sales, but whether they do it for economic reasons or for the planet is unclear. Maybe one day a survey could tell us why they really participate.

Pedro: Perfect, very clear. And what do you see are the main obstacles to circularity in Company A?

I5: At Company A, it's a big machine, with a lot of processes and rules. From a marketing point of view, sometimes what would be good for the planet can be seen as a risk for brand image. Marketers might refuse some initiatives. So the obstacle is finding the right balance between brand image, business, and sustainability. And of course, budget constraints are always a factor. Okay that's my point of view honestly.

Pedro: Yeah, sure. That's why I'm doing some interviews, so I can gather different points of view. Do you think this project specifically could be adapted to other companies? Is it scalable outside of Company A? And even further, outside of cosmetics?

I5: For sure, it's already the case. In France, the law pushes us to find second-life solutions. In cosmetics, companies like Competitor B also do it. In fashion, despite overproduction, they also try to find solutions. In electronics, companies like Back Market already promote reuse and repair. So yes, it's scalable to many industries. The challenge is simplifying the processes.

Pedro: Perfect, and last question: what do you see for the future of circularity in Company A and for the cosmetics industry in general?

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Pedro: Okay. Thank you. Thank you very much.

I5: You're welcome.

Appendix 4: Correlation analysis

Pearson's phi coefficient (φ) is a statistical measure of association suitable for two binary variables (CRAMER, 1946). This coefficient, which is the square root of the mean square contingency coefficient, is defined as:

$$\varphi = \frac{n_{11}n_{00} - n_{10}n_{01}}{\sqrt{n_{1\cdot}\, n_{0\cdot}\, n_{\cdot 1}\, n_{\cdot 0}}}$$

In this equation, n_{11} is the count of documents where both initiative and strategy are mentioned, n_{10} is the sum of documents where the initiative is mentioned but the strategy is not, and so forth. Likewise, $n_{1\cdot}$indicates the total number of documents mentioning the initiative, and $n_{\cdot 1}$the total number mentioning the strategy, and so on. The coefficient ranges from -1 (perfect inverse association) to +1 (perfect association), with 0 indicating no association. It is important to underscore, however, that correlation does not imply causation. A high φ value reflects a strong co-occurrence pattern in the documents, but it does not necessarily mean that a particular R-strategy is operationally embedded in the corresponding initiative.

The correlation between each initiative and each strategy was calculated, and the results are shown in Table 8. Both the Cosmetics for the Future program and the Zero Waste Program were also considered in this analysis.

Table 8: Correlation between circular economy initiatives and strategies

Project	Refuse	Rethink	Reduce	Reuse	Repair	Repurpose	Recycle	Recover
Cosmetics for the Future	0,29	0,01	0,33	0,17	0,33	0,29	0,56	0,41
Zero Waste	0,11	0,03	-0,17	-0,22	0,36	0,32	0,04	0,27
Bad Stock G. Prevention	0,01	-0,10	-0,10	-0,19	0,29	0,02	0,03	0,10
Bulk Recycling	0,01	-0,19	0,11	-0,11	0,17	0,37	0,58	0,44
Handover Rules	-0,29	-0,25	-0,33	0,01	-0,14	-0,12	-0,12	-0,24
Other Initiatives	0,51	0,20	0,32	0,40	0,40	0,47	0,52	0,56
Packaging Optimization	0,60	0,26	0,52	0,34	0,48	0,42	0,69	0,49
Packaging Recycling	0,41	0,13	0,47	0,15	0,47	0,48	1,00	0,58
Refillable Products	0,31	0,43	0,61	0,40	0,40	0,31	0,38	0,39
Returns Management	-0,04	-0,15	-0,28	-0,29	0,23	0,09	-0,10	0,02
Second Life Channels	-0,04	-0,15	-0,42	0,05	0,23	0,09	0,04	0,18
Sustainable Sourcing	0,38	0,26	0,52	0,45	0,48	0,30	0,69	0,67
Tertiary Packaging Reuse	0,08	0,14	0,17	0,41	0,52	0,41	0,47	0,60

Water Reuse	0,08	0,14	0,36	0,41	0,28	0,04	0,47	0,60

Source: Own elaboration