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SUSTAINABILITY IN THE COSMETIC INDUSTRY VALUE CHAIN

Bachelor's thesis

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chain
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ABSTRACT

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This bachelor's thesis focuses on examining the sustainability of cosmetic industry value chain. Sustainability plays an important role in the steady growth of the cosmetics industry with circular economy as a driving force. Due to lack of non-renewable resources, circular economy offers solutions by circulating products and services with the idea of nature-to-nature consumption.

The subject is provided by the commissioner, Oulu University of Applied Sciences. The aim of this thesis is to provide broader information about sustainability in the cosmetic industry value chains. Objectives are to find out what drives cosmetics industry towards sustainability and how to evaluate sustainability in a company value chain. The subject idea is based on WAX Interreg research projects' upcoming work package that is focused on creating sustainable and circular economy-based business models for cosmetic companies. Their project focuses on cosmetic companies in Nordic countries with the intention of creating value in circular economy and sustainable product life-cycles.

The thesis structure's theoretical background is based on variety of sources about sustainability in the cosmetics industry, value chain analysis and circular economy as a driver of sustainability in the field. Theoretical knowledge will set a base for the qualitative research conducted. The qualitative research consists of a semi-structured interview with pre-selected themes of sustainability, circular economy and evaluating them. Results from the interview were expected to answer to the research questions "*How to evaluate sustainability in cosmetic value chain*" and "*What drives cosmetic industry towards sustainability*".

The results show, that sustainability and circular economy keep on growing in the cosmetics industry with plenty of opportunities. Consumers are aware of the product ingredients and have higher expectations leading to changes in consumption habits. Companies are to evaluate their operations throughout the whole cosmetic value chain in economic, environmental and social dimensions. Sustainability in cosmetics demands finding the cost-effective sustainable options and solutions. It requires constant innovation, research and development of value chain activities in addition to company's partners and outside operators.

For the commissioner, the results of this thesis will broaden the understanding of the sustainable cosmetic industry and analyzing the whole company's value chain. Resulting to evaluate sustainability when creating sustainable business models with concrete emphasis on circularity of cosmetic products.

Keywords: Sustainability, value chain, cosmetics, circular economy, environment

CONTENTS

INTRODUCTION	2
1 SUSTAINABILITY AND COSMETIC INDUSTRY	4
1.1 Trends.....	6
1.1.1 Social media	6
1.1.2 Clean beauty.....	7
1.1.3 Green beauty.....	7
1.1.4 Ventures	8
1.2 Triple layer business model canvas	8
1.2.1 Environmental layer	10
1.2.2 Social layer	11
2 VALUE CHAIN.....	12
2.1 Primary activities.....	14
2.2 Support activities.....	15
3 CIRCULAR ECONOMY.....	17
3.1 Product Life Cycle.....	18
3.2 EU's action plan	20
4 METHODOLOGY	22
5 RESULTS.....	24
5.1 Circular economy	24
5.1.1 Products.....	25
5.1.2 Environment.....	26
5.1.3 Society and stakeholders.....	26
6 CONCLUSIONS	28
7 DISCUSSION	31
REFERENCES	33
APPENDIXES.....	37

INTRODUCTION

The aim of this thesis is to provide the commissioner with information about sustainability in the cosmetic industry value chains. The subject came straight from the commissioner, Oulu University of Applied Sciences, to focus on studying sustainability in cosmetics with an emphasis on circular economies. This idea is based on WAX Interreg research projects whose next project is focused on creating sustainable and circular economy-based business models for cosmetic companies. Their project focuses on SME's in Nordic countries with the intention of creating value with circular economy and sustainable product life-cycles.

This thesis will answer the following research questions:

1. *How to evaluate sustainability in cosmetic value chain?*
2. *What drives cosmetic industry towards sustainability?*

To answer these questions in theory and in concrete examples, the structure of this thesis divides into theoretical background and a qualitative research part. The first chapter gives an introduction to today's cosmetics industry, sustainability and major trends that accelerate sustainable growth of the industry steadily. In addition, the triple layer business model canvas by Osterwalder and Pigneur (2010), introduced in the chapter, is an example of how to evaluate a cosmetic company in all dimensions of sustainability: economic, environmental and social levels, to create a sustainable business model.

The value chain analysis in the second chapter, based on Michael E. Porter's book (2004), offers another point of view in sustainable business model creation. To integrate sustainability, a company must consistently evaluate the entire value chain and its activities. With value chain analysis a company is able to recognize the proper areas for sustainable development from design and production to end-of use phase of a cosmetic product with circular economy principles integrated.

Circular economy supports the principles of sustainability and value chains in terms of competitiveness and developing activities that create sustainable value. It accelerates the development in cosmetics industry to create sustainable value chain models. This circular thinking

changes the linear consumption economy towards a sustainable future where we meet the needs of the present without compromising the future generations.

The qualitative research part includes a themed interview with a Finnish cosmetic company's sustainability manager. The interview offers a concrete outlook on sustainability in cosmetic markets in the Nordic countries. It is based on three important themes: sustainability, circular economy and evaluating these factors within a business.

The results of this thesis will allow the commissioner to deepen their base knowledge to start working on creating cosmetic business models. It will help the commissioner understand which things to consider when bringing circular economy to the core of a business. In addition, understanding how to evaluate sustainability in all dimensions and activities inside a company's value chain.

1 SUSTAINABILITY AND COSMETIC INDUSTRY

Fast growth in population changes the dynamics of our future in terms of consumption and limited resources we cannot keep up with. We face changes in climate, loss of resources and biodiversity which yells for vast consumer behavior changes. (Sahota, 2013.) "Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs" (Grant, 2020. Cited 2.3.2020.). It encourages businesses to make decisions long-term with sustainability goals and development in every corner.

This chapter introduces the cosmetics industry and its connection to sustainability with some major trends that accelerates the growth of sustainable cosmetics. For businesses to integrate sustainability into their operations, the chapter also introduces the triple layer business model canvas by Osterwalder and Pigneur (2010) which is focused on sustainability in every dimension of the business in economic, environmental and social layers.

Businesses must define their products and activities in the cosmetic industry according to the European regulations. Well-defined cosmetic products and business activities set a base for sustainable development and sustainable alternatives. In addition, it allows to define the sales towards fitting consumer segments. A cosmetic product by the European regulation on cosmetics is defined as:

- - any substance or mixture intended to be placed in contact with the external parts of the human body or with teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odors. (Bom, Jorge, Ribeiro & Marto 2019, 3.)

In this study the focus is on sustainability of cosmetic products in general as sustainability plays an important role in the future of cosmetics industry as consumers' mindsets and knowledge about products are expanding. Consumers are more aware of their purchase decisions and the industry ethics. The markets grow day by day and the only way for companies to stay in the train forward is that they must be innovative with their sustainability choices. (Bom et al. 2019, 4.)

The figure below illustrates the steady, approximately five per cent, annual growth rate of the cosmetic industry globally from year 2004 to 2018 in concrete figures. One significant observation this figure shows is that the growth has not been negative, i.e. the industry has not declined, in any year between 2004 and 2018. The industry is divided into six main categories: make-up, perfumes, hair care, skincare, oral cosmetics and toiletries. The industry production is led by multi-national corporations such as L'Oréal and Unilever around the world. (Shahbandeh, 2020a. Cited 11.2.2020.)

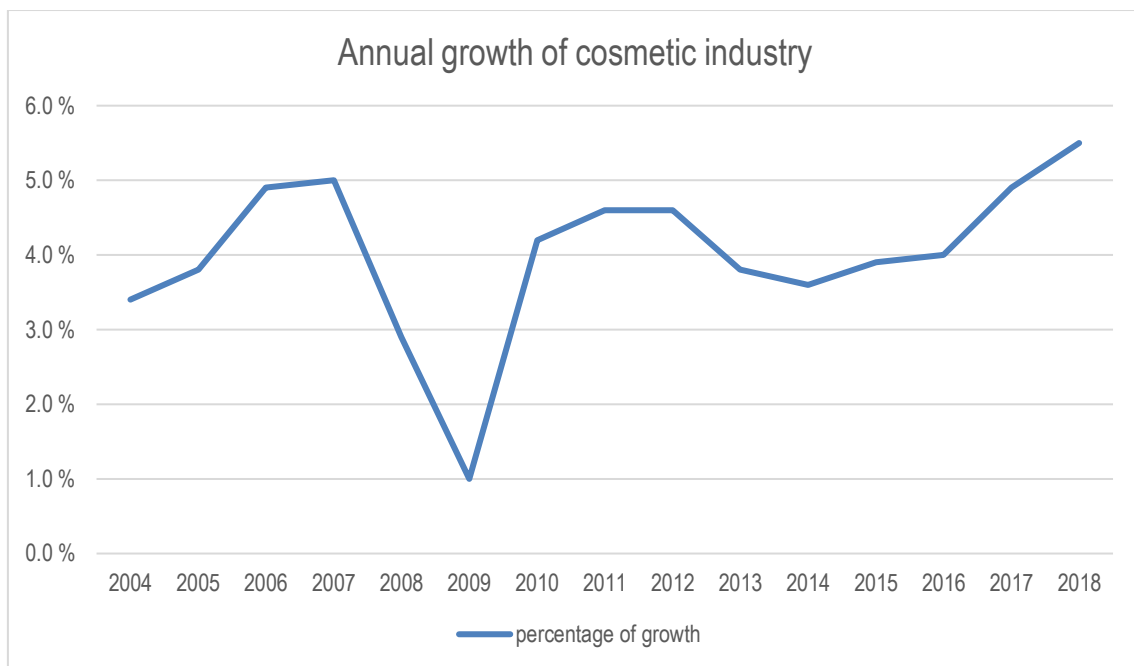


FIGURE 1: Annual growth of the global cosmetics market from 2004 to 2018. (Shahbandeh 2020a. Cited 11.2.2020.)

Thus, the future for sustainable cosmetic manufacturers is promising as the interest towards sustainable cosmetics among consumers is vastly growing globally. The number of consumers and retailers that demand natural or sustainable ingredients is increasing steadily as well. For example, the organic beauty markets are evaluated to reach approximately 25 billion by 2025. (Acme Hardesty, Cited 4.4.2020.)

As mentioned previously, the finite resources and environmental changes are big factors for the companies' initiatives for driving the cosmetic industry towards sustainability. With problems of shortage in raw materials, water and energy, the companies need to focus on efficiency and sustainability. The media and non-governmental organizations (NGOs) put the pressure up higher for a brand profile as the public awareness rises due to the NGOs releases, reports and campaigns.

On the other hand, these drivers bring benefits for companies and sustainability can bring about efficiency and profitability, improve morale and performance and help manage risks which relate to reputation and brand image. (Sahota, 2013.) Over the years, regulations, consumer needs and expectations as well as knowledge about products have grown which means companies must keep up with the changes of industry and its everchanging trends. Consumer awareness through social media brings new trends into the markets each year and the opportunities are endless.

1.1 Trends

Consumers' desire for sustainable and safer beauty products drives the cosmetic industry innovations. Companies are to be more innovative and interested towards the consumer needs as well as do their research well enough to stay in with the competition. Competition and consumer expectations drive businesses towards new innovations which accelerates the growth of the markets and creates new trends in the industry. Trends develop every year when new innovations come through and go viral within certain consumer segments. Some examples of the current trends that drive sustainability forward in the industry to mention are: social media, clean beauty, green cosmetics and ventures outside traditional business.

1.1.1 Social media

Consumers today are more demanding than before as their product expectations are higher and information about cosmetic products is more reachable and informative. They are able to evaluate critically products by e.g. their sustainability, ethicality, origins and production methods. Social media creates a platform for sustainable marketing and changing consuming habits. (Sahota, 2013.)

Before the social media era companies had to rely on major advertisement campaign to target potential customers. Today the major influence on cosmetic industry demand and trends are the social media channels Instagram and YouTube. There are plenty of opportunities for new ways of reaching consumers and making the brand visible as well as showcasing the brand image visually. Anything posted in social media can go viral and create brand awareness as well as strike conversation among consumers. A campaign or a post with an important message can become a trend and shape the cosmetic industry or at least put pressure on other brands to respond to

important topics of the industry. The most significant topic of these would be sustainability on the fire line. Consumers are aware of their actions effecting the environment which makes them question the brand's concerns of these matters. (Valentine, 2019. Cited 12.2.2020.) Consumers of cosmetics will do their research, search answers from online, read reviews and are influenced by their friends or social media influencer's' opinions. Today, a YouTuber with hundreds of thousands or millions of followers can have an impact on a brand by making a single video of a product review online resulting in the product being already sold out of stock in a matter of minutes or hours.

1.1.2 Clean beauty

The cosmetic industry is shifting to clean beauty i.e. non-toxic products. This means that consumers learn about the hidden toxins in the cosmetic products and find alternatives. 'Clean Beauty' is based in two criteria: non-toxic ingredients and labels with information aiming at transparency. It is a movement that wants to spread awareness of the health risks that lie on toxic cosmetic products as the industry is still not regulated enough on these matters. The ultimate goal is to make the clean beauty a norm, not only giving scientific data and information about ingredients. In 2019, the idea of clean beauty brought such trends as: Clean Korean beauty, plant-based and sustainable ingredients, zero-packaging "naked" products, non-toxic deodorant and Cannabidiol (CBD) plant which helps in e.g. skin inflammation as a supplement, oil or other extract. Predicted or hoped clean beauty trends for 2020 are: moisturizers tailored for specific concerns, minimal ingredients (less environmental impact), waterless skincare (less water consumption), unisex products, diversity in shades of color, highly pigmented non-toxic makeup, non-toxic perfumes and Sun Protectors e.g. sun creams. (Thegoodfaceproject. Cited 12.2.2020.)

1.1.3 Green beauty

Clean beauty focuses on non-toxic products that are not necessarily natural or green while the green beauty ensures full environmentally sustainable sourcing in their production. Today, there can be various companies misleading their consumers by the term 'green beauty' or 'eco-friendly' and claiming their products' ingredients are 100 per cent natural and safe. These products would be free of toxins, pesticides, allergenic substances, pollutants, radiation and are biologically degradable. Consumers have to do work to actually examine the cosmetic brands when looking for green products.

Green beauty products are not tested with animals and most products are certified natural, organic or vegetarian. Green brands focus on creating packaging that is recycled and makes an effort in terms of environmental issues in their value chain as well as donate to green causes. Reasons for a consumer turning to using natural or organic cosmetics are traceability of organic ingredients and finding products with low levels of harmful substances when suffering from sensitive skin or skin irritation. (Csorba & Boglea 2011, 172-173. Cited 17.3.2020.)

1.1.4 Ventures

Retailers from various industries are experimenting new areas of business with beauty, targeted pricing, increase in transparency and sustainable alternatives and social media. Traditional brands are beginning to offer beauty or personal care products aside with clothing to grow their business scale. For example, Hennes & Mauritz, a worldwide clothing brand increased their beauty product assortments in the UK by 94.8 per cent from 2018 to 2019. A sports clothing-brand Lululemon has announced a gender-neutral personal care collection. These companies have great possibilities in controlling price points in different demographics of the consumers. (Biron, B. 2019. Cited 12.2.2020.)

Probably the biggest dominator of the market are the millennials who are very educated about the industry and their purchase decisions in quality products. A great step forward is the increase of brands' transparency. Consumers educate themselves about product ingredients and the production when choosing the right product. They seek for sustainable products that are free from toxins and other harmful ingredients which leads to an even more transparent industry where companies cannot get away with unsubstantiated claims and hiding their product information. (Biron, B. 2019. Cited 12.2.2020.)

1.2 Triple layer business model canvas

To make a difference in future of consumerism, cosmetic companies need to focus on delivering superior value to their customers, development and finding ways to be sustainable in every step of the product life-cycle – all the way from the ingredients to the end consumer. For the global economy to be sustained by the planet, businesses must adapt the “triple bottom line” of

sustainability. It integrates the environmental, economic and social dimensions of sustainability. (Bom et al. 2019, 3.)

The triple layer canvas is a creative tool for business models to support sustainability through innovative approaches both outside-in and inside-out. Looking outside-in companies can create diverse cross-pollinating business model ideas when an outside model is adapted or translated into the organization. An inside-out approach instead focuses on the current model of the company and explores outside potentials to change parts of the current one. (Bom et al. 2019, 2.)

The original Business Model Canvas by Osterwalder and Pigneur (2010) sets the basis for the triple layers. It is focused on nine building blocks that form a tool for an organization to create, deliver and capture value. These nine blocks create a strategy covering four main areas of business: customer, offer, infrastructure and financial viability. An organization serves customer segments and create value proposition by solving customer problems and satisfying their needs through communication, distribution and sales channels resulting in revenue streams. The key resources consist of the organizational assets that deliver these elements by performing key activities and key partnerships e.g outsourcing. And finally, all these elements result in the cost structure. (Osterwalder, Pigneur & Clark 2010, 15-17.)

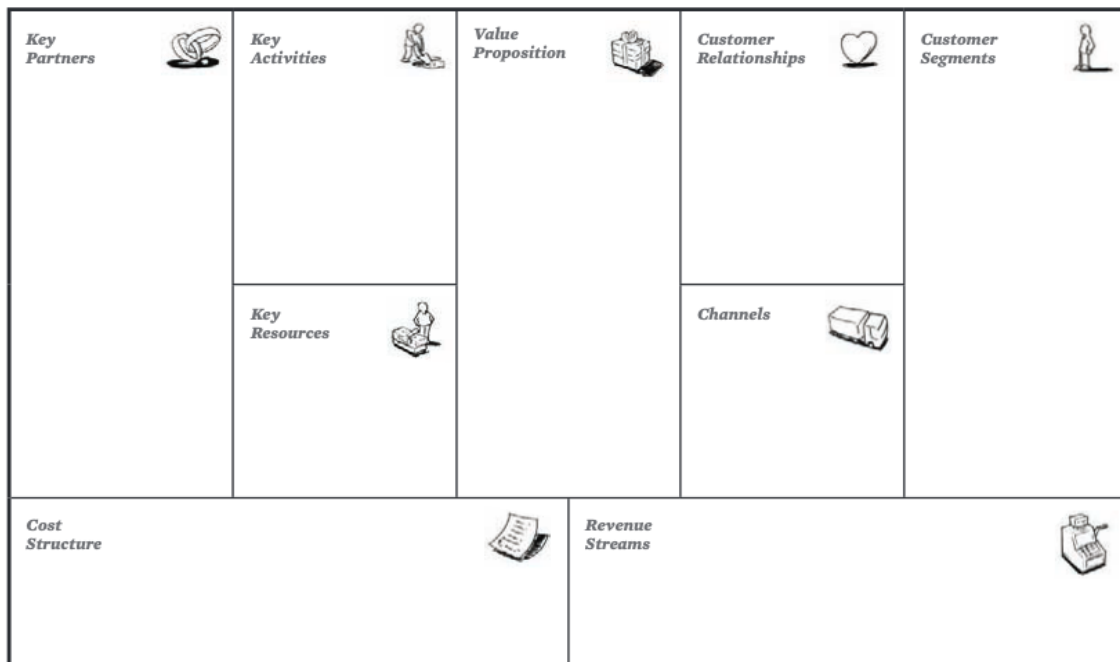


FIGURE 2: The Business Model Canvas. (Osterwalder 2010.)

The canvas has been complemented with new layers to highlight the connections between economic, social and environmental layers which form an integrated triple bottom line perspective to planning a sustainable business model. The economic layer creates a base for these two other

layers. (Bom et al. 2019, 2.) The two layers of social and environmental are in focus here and are, therefore, discussed in more detail in the following subchapters.

1.2.1 Environmental layer

The environmental layer sets the basis for the impacts focused on Life Cycle Assessments (LCA) that measure the impacts through the full product life cycle. The layer focuses on finding answers about how to generate more environmental benefits rather than impacts. The layer includes seven phases to be developed for sustainability; supplies and out-sourcing, production, materials, distribution, use-phase, environmental impacts and end-of-life phase. (Joyce & Paquin 2016, 4-5. Cited 15.2.2020). Environmental Risk Assessment (ERA) for safety of ingredients and Environmental Management System (EMS) ensuring the optimization of resources and manufacturing can be useful tools for supporting the sustainability in these layers. (Cosmeticseurope, p. 7, Cited 5.4.2020.)

Supplies and Out-Sourcing considers the 'core' materials and production activities that support the organization's value. These affect the cosmetic carbon footprint e.g. with water and electricity processes. *Production* includes the manufacturers' involvement in transformation of raw materials into high value offering with sustainable production. (Joyce & L. Paquin 2016, 5.)

Materials are the key resource components, so-called bio-physical stocks. For example, the manufacturers purchase large amounts of materials to create a product while in service fields the organizations purchase materials as assets e.g. computers or office space. "*Distribution* represents physical means by which the organization ensures access to its functional value" (Joyce & L. Paquin 2016, 5.)

In *Use phase* a company can not only focus on the life cycle until it reaches the customer as it is the moment where the use phase begins. Depending on the product and its longevity, the customer is expected to have information and availability for maintenance, repair and disposal of the product. *Environmental impacts* consist of the ecological costs of the organization's actions. Performance indicators are related to human health, ecosystem impact, natural resources, water and energy consumption, water use and use of emissions. *Benefits* refers to the extend beyond environmental impact and financial values. (Joyce & L. Paquin 2016, 6.)

End-of-Life phase leads companies to end their consumption of the functional value and starting to make some changes to their materials. This positive change can come from the company itself or from e.g. the governments' restrictions on substances given by European Commission and recycling requirements by Environment Agency. This is a vast problem in the cosmetic industry especially, as the ingredient substances are not restricted enough that can lead companies finding various ways to hide their actual ingredients. As a result, consumers may be clueless of what they are actually purchasing. End-of-Life could mean a positive thing for any business in media if they are ready to tackle their issues leading to a more responsible and sustainable image and value for the brand. (Joyce & L. Paquin 2016, 5.)

1.2.2 Social layer

Social layer is focused on the stakeholders' management approach for exploring organization's social impacts. It seeks for balance of stakeholder influence as it goes both ways – individual stakeholders can have a great impact on organization as well as they can be influenced by the organizations' actions. This layer is influenced by stakeholders' perspectives. (Joyce & L. Paquin 2016, 4). It creates 1) a mission of social values, 2) provides space to consider employees as a core stakeholder, 3) recognize potential impact of business on society as a whole, outreach of built relationships and considers how value proposition addresses the needs of end-user. (Joyce & L. Paquin 2016, 8.)

The cosmetics industry has an important role regarding the society with responsibilities to implement a sustainability agenda which includes improving sustainability practices and informing consumers about sustainability as well as the sustainable use of products. Companies are to follow legislation and inform consumers truthfully in respect of competition. Social education of cosmetics is to be educational influencing consumer behavior and purchase decisions. Cosmetic companies can contribute to social aspects by reporting their Corporate Social Responsibility (CSR) reports that assure transparency and environmental sustainability. (Tuddenham 2012, 21-28. Cited 4.4.2020.)

2 VALUE CHAIN

A value chain can be used as a tool for analyzing a company's competitive advantage in a systematic way. It analyzes how the company activities are interacting and affecting each other to find out the sources of competitive advantages. It will point out the already existing and potential sources of differentiation and increase the understanding of companies' most relevant and important key activities. (Porter 2004, 33.) This chapter is focused on introducing how to evaluate company's value chain and how to analyze it in all aspects and dimensions to find right places for sustainable development supporting the overall value chain.

Value presents the amount a buyer is ready to pay for product or service, and it is measured by the revenue, reflection of the price in terms of a company's product command and the cost unit. Value chain consists of the total value activities and margin to differentiate the physical and technological activities. Value activities can be divided into two categories: primary activities and support activities. These consist of nine building blocks for companies to use for creation of a valuable product. (Porter, 2004.)

Furthermore, in order to understand the value chain, a company determines which primary and support activities create value. All of these activities creating value and affecting the competitiveness can be divided into three distinct groups: *direct*, *indirect* and *quality assurance*. Activities affecting value directly are assembly, parts of machining, sales force, advertising, product design etc. To be able to perform the activities, there must be indirect activities such as maintenance, scheduling, facility operations, sales force and research administration and vendor record keeping etc. Finally, to ensure the quality the essential activities are monitoring, inspecting, testing, reviewing, checking and adjusting etc. (Porter 2004, 44.)

In a larger picture, a value chain is a part of a *value system*. In a single-industry, a *supplier value chain* creates and delivers value to the firm, and it, is followed by the *value chain channels* that affect the buyer in the end. The basis for differentiation is to understand the firm and the product's role and effect in the *buyer's value chain* as it will determine buyer's needs. To eventually gain and maintain the competitive advantage the company must also understand how the firm fits into the overall value system. (Porter 2004, 34.)

To examine a company's value chain and competitiveness, its value activities shall first be defined. Broad functions are subdivided into activities which can proceed to narrow levels of activities of which the scale depends on the purpose why the value chain is being analyzed. The basic principle is to separate activities that 1) are of high cost, 2) have high potential of differentiation or 3) have different economics. (Porter 2004, 45.)

Differentiation in value chain

Differentiation from other companies in the same field is a driver for competitive advantage and an important element of industry structure. Companies face problems when they view it from the product or marketing point of view and not as arising from the value chain as well as not paying sufficiently attention to cost differentiation or sustainability factors. The sources of differentiation come from providing a unique product that brings value to its customers. It allows companies to sell with premium pricing and gain benefits such as brand loyalty even in downturns. (Porter 2004, 119.)

Uniqueness drivers

Drivers of uniqueness in a company value chain are the reasons why a service or a product is unique to its consumers. Without recognizing those, a company cannot evaluate the sustainability of their product and its differentiation. These drivers develop from the policy choices a company makes – what activities to perform and how. (Porter 2004, 194.)

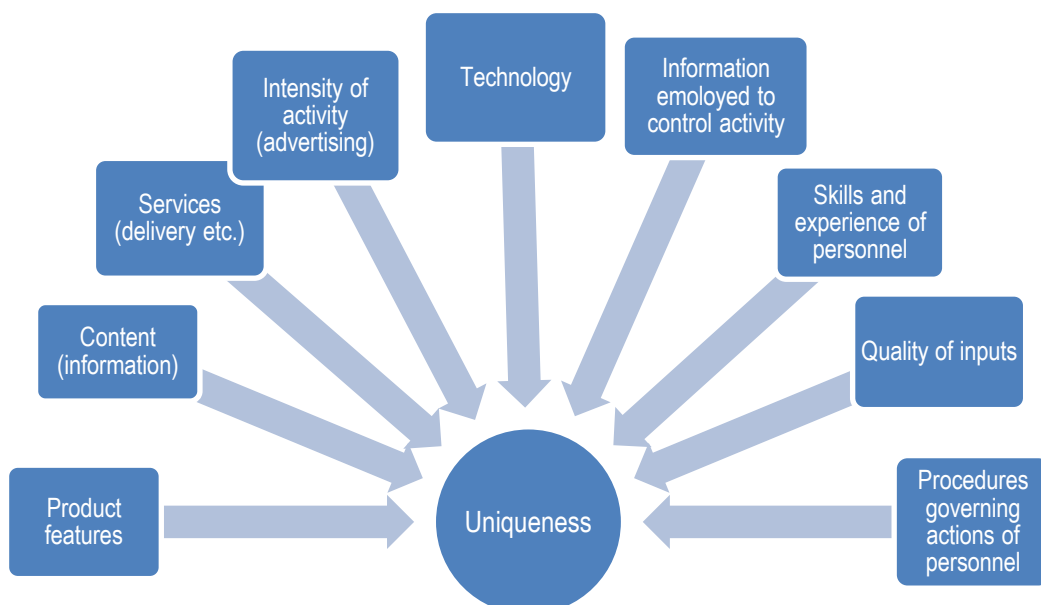


FIGURE 3: Uniqueness drivers in value chain

Linkages in value chain

Value activities are related to each other by different linkages that are in relationship between the cost and how they are performed. They can lead to competitiveness by optimization and coordination as well uniqueness, when an activity is affected by another. Most obvious linkages, as mentioned before, are between primary and support activities as well as within the value chain. To meet buyers' needs for uniqueness it requires coordination between suppliers and different channels. A business needs to decide on the best timing to begin an activity, on which scale to perform it and after all, learning how to perform it better. It might include choosing the best location, institutional factors or integration into new value activities that could e.g. enable better control over performance. Eventually, it is critical to examine which activities drive the sustainability of differentiation in the best way. (Porter 2004, 125-126.)

2.1 Primary activities

To identify the primary value activities, a firm must discover technologically and strategically distinct activities. The primary activities are focused on the physical activities for product creation, sales and transferring it to and from the customer. All in all, there are five different categories of primary activities described below. For a cosmetic distributor, the inbound and outbound logistics are the most critical while for a service company (e.g. a cosmetic shop) it would be the **operations** block. (Porter 2004, 38-40.)

Inbound logistics includes receiving, storing and disseminating inputs to product e.g. manufacturing, warehousing, inventory control and management, scheduling vehicle and returns to suppliers while **outbound logistics** include the actual collecting, storing and delivering the product to buyers. **Marketing and sales** include inducing the customer to buy the product by advertising, promotion, quoting, channel selection, pricing and sales force. Finally, providing **service** to maintain and enhance the value of product e.g. repair, installation, product adjustment and supplying parts for the product. (Porter 2004, 40.)

Together all the actions that are required for consumer satisfaction are parts of a well-functioning supply chain. The value chain itself, can be considered as a process which adds value to the supply chain by exceeding the cost of providing goods and services. (Tarver, 2020.)

2.2 Support activities

There are five types of supporting activities: Firm infrastructure, human resource management, technology development and procurement. They will support the company's primary activities by providing technology, purchased input, human resources and a plenty of various firm functions. Furthermore, these supporting activities will have an impact on the primary activities as well as to the value chain itself. As an exception, the firm infrastructure has no direct line to primary activities but supports the whole chain. The performance of any building block activity will affect the buyer's needs contribution and differentiation of the company. (Porter 2004, 38-39.)

Human resource management is focused on all activities from hiring, training, development and compensation of personnel in a company. It supports the whole value chain as it affects the competitive advantage through the employee roles that determine skills and motivation. Having "the best people" can be the key for success in some companies. (Porter 2004, 42.) It is important for any business to take into account the real importance and understanding of the scale the human resource management's role for the success. Companies must recognize the importance of well executed recruitment processes and up-to date training of personnel to have the right people that are motivated and share the same goals and values as the company represents.

Technology development today consists of activities for improving the product and processes. The range can vary vastly in different companies and fields as technology can be used in different ways from preparing documents to transporting goods and creation of the product itself. Technology development can support many of the company's activities such as accounting or telecommunication for order entry. In addition, it takes form in product design, media research, marketing, equipment design and servicing. (Porter 2004, 42.)

Procurement involves the functions of purchasing inputs used for a company's value chain, e.g. raw materials, supplies, items used for consuming e.g. machines, equipment and space (buildings, offices). It is worth keeping in mind that these activities are present in every value activity. Parts of company items can be purchased traditionally, e.g. raw materials, while parts via office managers

(temporary workers), plant managers (machinery), salespersons (meals) or chief executive officer (consulting). Procurement itself can only be of a low-cost activity to a firm but it can significantly impact the whole firm's overall cost and differentiation. (Porter 2004, 41.)

3 CIRCULAR ECONOMY

As the commissioner's next project will focus on circular economies in cosmetic industry business models, this chapter focuses on the circularity term itself. The chapter goes deeper into the circular economy that supports sustainability in cosmetic industry and drives it forwards. Circular economy is introduced from the perspective of the cosmetic products' life-cycle assessment, and as the commissioner is focused on Nordic countries, there is a viewpoint of the EU's actions on moving Europe towards circular economies in all industries.

Circular economy supports the sustainable development of cosmetic value chains. The business model of circular economy, referred as the "butterfly model", has become influential over the past years. This circular transition challenges the linear economy with circular transition perspectives in technical, design, supply chain and logistics. Linear economy focuses on simple process from extraction of materials to their disposal which leaves very little attention to important details such as pollution in this so called, simple process. Following the linear production and consumption models, all of the waste generated from them will eventually end up contaminating the environment. Circular economy creates alternatives for this linear thinking loop with circulation of resources within production and consumption. Circular businesses focus on finding ways to the consumption of goods and services without being dependent on original resources and preventing the linear loops of consuming and disposing. It answers the question of how to promote productivity while considering the externalities as well (Sauvé, Bernard & Sloan, 2016.)

Circularity can be divided into three distinct principles: First principle is to preserve and enhance the company's natural capital by renewables and balancing them. Second principle optimizes resources by circulating products, components and materials. Finally, it leads to minimizing systematic leakage and negative externalities by fostering effectiveness of the systems. (Hopkinson, Zils, Hawkins & Roper 2018, 71-72.)

The concept aims for sustainable economic growth, boosting for competitiveness and differentiation and creating new jobs. The linear economy is becoming more expensive due to lack of non-renewable resources. What drives to circular economy are the major trends of cosmetic industry, new consumer generations, urbanization and employment and technological development. To challenge the linear consumption of cosmetics, an international concept of moving consumption

and production towards sustainable alternatives, product life cycle assessment and European Commission's involvement in transforming industries towards circular economies are discussed more in the following subchapters.

3.1 Product Life Cycle

Product life cycle assessment (LCA) methods are drivers in circular economy and the triple layer business model canvas (see chapter one), which binds the three pillars of sustainability – environmental, social and economic aspects together. These methods assess the environmental impacts of products, services, business itself with its policies and processes. The opportunities and challenges lie in finding the right spots and ways to maximize product value and materials by reducing the use of natural resources and leading to a positive social and environmental impact. (Antikainen & Valkokari 2016, 5.)

Internationally the LCA is a structured concept for quantifying the emissions, resources consumed and the environmental and health impacts of cosmetics. Applying LCA helps companies to move towards sustainable consumption and production. (Cosmeticseurope 2018, 6-13.) Sustainably developed service throughout the product lifecycle and applying LCA thinking approaches will help cosmetic brands to develop improved environmental profiles. It is crucial to co-operate and measure the whole product life-cycle in order to tackle possible issues concerning the carbon-, environmental or water footprints. The figure below illustrates a cosmetic product's life cycle and the steps to develop and examine how to create a sustainable cosmetic product. (Cosmeticseurope 2018, 4-5.)

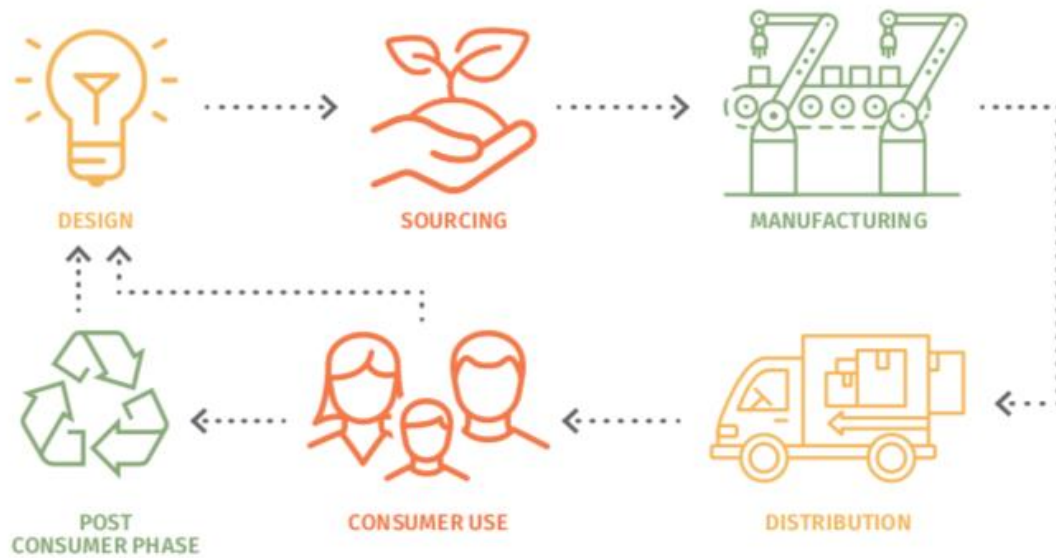


FIGURE 4: Cosmetic product life cycle. (Cosmeticseurope 2018.)

Sustainable sourcing of cosmetic ingredients and raw materials yells for cooperation with transparency and sustainability in supply chain with the suppliers. Companies need to move towards renewable and bio-based materials in their products packaging by focusing on sustainable bio-plastics (biomass instead of oils) and reducing deforestation by using sustainable alternatives from tree-based products. (Cosmeticseurope 2018, 7-8.)

In manufacturing the focus should be on finding technologies for reducing energy and water consumption, emissions and waste. This can be done by changing energy sources into e.g. renewable energy, solar power, biomass and hydropower, biomethanisation and reusing wastewater. This is not limited to manufacturing but also to designing responsible buildings for cosmetic companies. A very significant problem especially for cosmetics is manufacturing waste which is expensive to dispose. In addition, a critical source of any cosmetic product, water is a factor that creates lots of pollution to be reduced with water risk assessment. Sustainable innovations like reusable or refillable transportation boxes of ingredients are examples for new design thinking and in the right direction towards circularity. (Cosmeticseurope 2018, 11-13.)

Transportation of goods creates emissions where new ways for sustainable distribution channels come in helpful. Road and air transportations are shifting to rails and sea as well as to electric or hybrid vehicles. Sizes and locations of warehouses, packaging and routes for transport are things to evaluate in this phase. Responsibility of sustainable products does not end when the product

reaches the consumers. The cosmetic industry is to be innovative with product development and educating consumers about water consumption, using and recycling products the right way. (Cosmeticseurope 2018, 15.)

3.2 EU's action plan

A driver of Circular Economy is the European Union's launched Circular Economy Package which is focused on "closing the loop" in product lifecycle by recycling with the benefit of economy and environment. (Antikainen & Valkokari 2016, 5). This action plan accepted by the European Commission in 2015 is focused on transforming Europe towards circular economy by developing a resource efficient, low carbon, competitive and sustainable economy where the resources are maintained for as long as possible. It will boost the EU by protecting businesses' resources and prices as well as bring more opportunities and efficient ways for producing and consuming. (European commission, 2015. Cited 16.2.2020.)

Businesses and consumers drive the circularity globally, but the EU needs to play a role in this development with correct regulatory framework, concrete actions and favorable conditions for innovation businesses and stakeholders. The targeted approaches are e.g. an increase in job potential, commitment to eco-design, strategies in decreasing effects of plastics, chemicals, waste, critical raw materials, consumption and public procurement. Innovation and investment are on the other side of the EU initiatives that thrive circular economy and support it in each step of the value chain. Better regulation principles, consultation and impact assessment are crucial factors in developing cosmetic industry towards circular economy, as the industry is not enough regulated in terms of prohibited raw materials and transparency. (European commission, 2015. Cited 16.2.2020.)

Product's life begins from production phase in which the design, and production has a great impact on the whole process of waste generation, resource use and sourcing. Design thinking will improve products durability and its disassembly to recover materials and components. The commission's actions are to revise legislative proposals on waste for extended producer responsibility and for promoting reparability, upgradability, durability and recyclability of product requirements in circular economy in future (Ecodesign Directive). In production, the focus must be on sourcing sustainable raw materials globally which refers to sustainable commitment and cooperation across value chain. (European commission, 2015. Cited 16.2.2020.)

Consumption in circular economy is a consumer's choice shaped by the information they receive as well as the regulations concerning household waste. Consumers' issues lie in transparency and trust in businesses' and brands that might use claims that do not meet legal requirements. This phase is one of the most valuable ones in cosmetics, where consumers educate themselves on information about products, price and raw-materials. Product price affects the consumers purchasing decisions which also shows in the cosmetic value chain. (European commission 2015, 19. Cited 16.2.2020.)

Waste management determines the waste hierarchy in circular economy. It encourages businesses to choose the best options for best environmental outcomes. There are important procedures to be made to increase high-quality recycling, waste collection and sorting to reduce landfill. To increase the security of supply, materials are recycled into the economy as new raw materials called secondary raw materials. Barriers lie in the uncertainty of quality in raw materials e.g. in purity levels and sustainability for recycling. On the other hand, improvement on the uptake of these secondary raw materials and facilitation of recycling, promotion of non-toxic cosmetic materials and improvements in tracing harmful chemicals will improve the circulation in cosmetics. It is also important to facilitate cross-border circular economy with laws and regulations, e.g. simplifying cross-border formalities and data reporting. (European commission, 2015. Cited 16.2.2020.)

To achieve transformation of a business to a circular economy, the change must be a systematic set of innovatively rethinking the ways of producing and consuming in all steps of value chain. It requires development in business models and new technologies, processes and services as well as encouragement. In addition, it requires public and private financing to be able to meet the needs of new technologies and processes, and all actors in value chain to be cooperative. (European commission, 2015. Cited 16.2.2020.)

Some main challenges lie in practicality and a so called 'public good' problem. The environmental costs are public to consumers while they are not aware of the benefits producing a non-durable goods. For the companies, manufacturing costs for long lasting goods are more expensive than for non-durable goods in the linear economy. The costs of a product – environmental and human health issues and production and consumption – should be integrated into the price. This means that the connection in sustainable development and circular economy is the aim to internalize cost of environmental damage in productive activities. (Sauvé et al. 2016.)

4 METHODOLOGY

This thesis is based on a qualitative approach to study sustainability in the cosmetics industry with an emphasis on circular economies and sustainable value chains. A qualitative research is a term for a wide variety of research methods and approaches to the study. The information is nonquantitative and consists of interview materials, notes, documents, visual materials and internet sites. (Saldana & Leavy 2011, 3-4.) A qualitative research divides into a variety of genres which in this thesis is selected to be a case study. In a case study, single unit is analyzed – for example a person, group, event or an organization. (Saldana & Leavy 2011, 8.)

The method for qualitative research in this thesis is a semi-structured interview with pre-selected themes to single company in the cosmetic industry field. The selected company for an interview had to fill the criteria of being a Finnish cosmetic company that already has experience on sustainable development and circular economy to be able to answer to the research questions. The results are to offer a case company perspective to the thesis themes and useful information for the commissioner.

The case company chosen for the interview was a Finnish cosmetics company Lumene Oy as it has a long history in sustainable development and experience in the Finnish as well as international cosmetic markets. It is a brand that is focused on operating responsibly throughout the whole product's life-cycle and making sure they offer quality and safe products to their consumers. Lumene has a close relationship with the beautiful Finnish nature that is their inspiration in creating sustainable and wild-crafted Nordic beauty. In addition, they have been an industry leader in circular economy of the Nordic countries for years. (Lumene. Cited 23.4.2020.)

The interview was held with Lumene's research & development and sustainability manager Tiina Isohanni. The interview was an open discussion about pre-selected themes in a thirty-minute phone call. The themes were selected to answer to the research questions and the thesis theory background. To be able to get as much informative answers in such a short amount of time, the themes and some leading questions prepared beforehand were based on two internet research materials. The material was gathered based on the themes from Lumene's websites and an article about circular economy of their business from STT Viestintäpalvelut Oy websites.

The open discussion included open questions and some leading questions to keep the interview on track and to earn concrete examples about the case company's procedures. The themes are divided based on the research questions. The first question "*How to evaluate sustainability in cosmetic value chain?*" yields for answers about evaluating sustainability and value chains and the second question "*What drives cosmetic industry towards sustainability?*" searches for sustainable development and using circular economy to support the growth of sustainable cosmetics industry. Themes chosen based on the criteria were 1) sustainability, 2) circular economy and 3) evaluating them. The following chapter of results will deepen the understanding of how these themes in terms of Lumene's operations.

For the theoretical framework, the selection of knowledge base divided in varied manners. Value chain analysis is directly based on a common e-book from Michael E. Porter (2004) while sustainability and circular economy theory is based on e-publications, e-books, e-journals, websites, brochures, statistics and a blog post. This thesis includes a wide theory base to analyze how the interview results compare to already existing information about creating sustainable business models with circular thinking inside the whole value chain.

5 RESULTS

The qualitative research interview results are presented in this following chapter and will be analyzed more in depth in the next chapter. The results are based on the research materials to which the interview was held with Lumene. In the interview, three themes introduced below were discussed as an open discussion:



FIGURE 5: Qualitative research interview themes.

Based on these themes, the results introduce Lumene’s sustainability actions and circular economy that are based on the map in the next subchapter. After that, the results show the most important sectors that appeared around the map inside these themes: a sustainable cosmetic product, environmental effects and the social responsibility level.

5.1 Circular economy

Circular economy is a way for 50-year-old Finnish brand, Lumene to control their involvement in climate change and make a change as a pioneer in the Nordic cosmetic markets. Their journey in this circular thinking has begun 20 years ago from utilizing Northern raw materials of derived currents. It began from their factory and the next step will be to move towards sustainability actions in logistics and raw material suppliers. The figure below illustrates the circularity of their business as a map of seven principles that support the way of moving from linear to circular consumption model taking into account all levels of sustainability: environment, economic and social layers. These seven principles Lumene’s sustainability actions work around to are: 1) product development and sustainable procurement, 2) carbon neutral and watersmart production, 3) committed consumer, 4) nature-to-nature raw-materials, 6) Nordic nature and 7) society and stakeholders. (STT Viestintäpalvelut Oy, 2020. Cited 24.4.2020.)

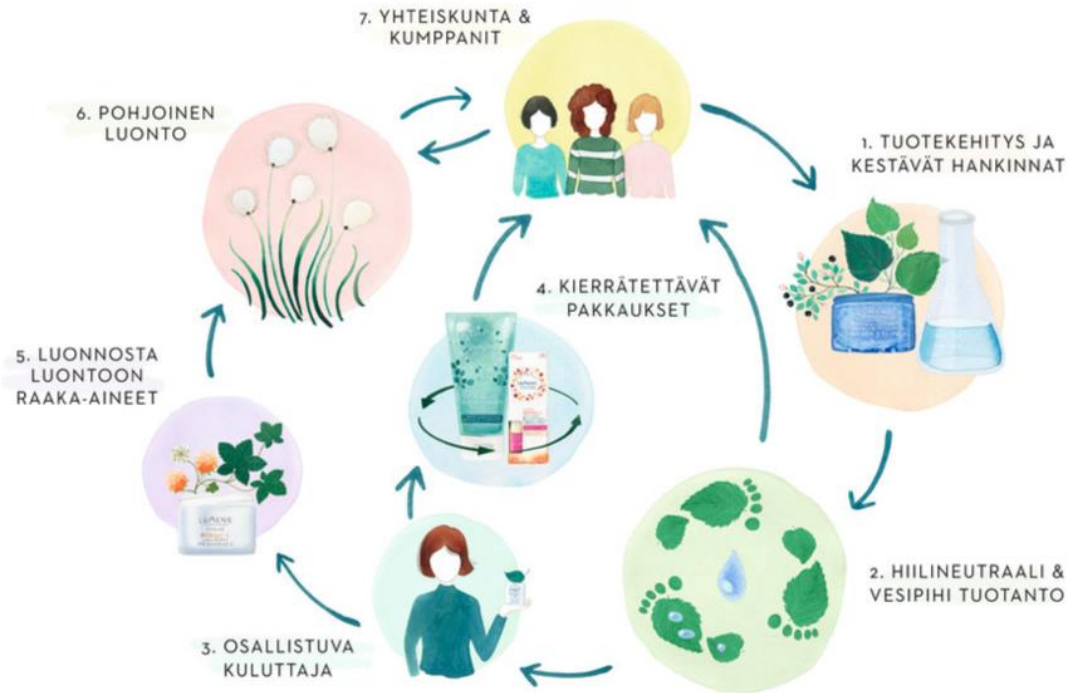


FIGURE 6: Circular Economy map by Lumene. (STT Viestintäpalvelut Oy. Cited 24.4.2020.)

5.1.1 Products

According to the interview, Lumene's focus is on the safety of their product ingredients and evaluating them with the help of a toxicologist to find the right combinations of ingredients. To ensure this, it includes choosing the right suppliers and raw materials that are sustainable and safe, evaluating them and creating strategies for fixing or developing any emerging critical points. Today, the raw materials of skin care products are 100 per cent vegan, cruelty-free and 80-100 per cent natural and biodegradable. Year 2019 brought recyclable plastic into packaging and 2020 is bringing recyclable cardboard into the markets.

In addition, it was pointed out that the brand has taken initiative about sustainable recycling of consumers' used products and created a recycling guide to help consumers dispose and recycle in the right way. To make it easier, they examine which raw materials are the easiest for consumers to dispose, abandoning materials that are found difficult to dispose and finding better alternatives e.g. by abandoning metal parts of packages.

5.1.2 Environment

Regarding the environmental aspects, the interview pointed the utmost importance of evaluating and tracking the progress of sustainability efforts and development it is important to have up-to-date information from all suppliers and partners. Lumene gathers official reports about e.g. their carbon footprints, environmental impacts and water and electricity consumption levels. In addition, it is extremely important to continuously evaluate the safety of cosmetic products and raw materials.

The company is producing almost everything in their factory in Espoo, Finland and they are buying their raw-materials from companies e.g. in Kainuu and Lapland, Finland. (Lumene). Using raw materials from derived current of forest- and food industries prevents wasting natural resources. The materials used grow in the wild nature which means there is no need for fertilization or watering lowering the impacts of logistics. (STT Viestintäpalvelut Oy, 2020. Cited 24.4.2020.)

It was also mentioned in the interview that sustainable production for Lumene and using these currents makes it easier to manage production and everything is close as the production and raw material handling happens inside Finland. Since 2010, the company has focused on their WaterSmart-program to influence their water footprint. The cosmetic industry is dependent on clean water and the global awareness of this issue has risen. The program has enabled them to lower their water consumption by a third and the progress is going forward even today but the pace is slower than in the beginning where big changes had big effects. Another initiative concerns the renewable electricity in production. Currently the electricity is from renewable sources of Eco district heating and the initiative is to become carbon neutral by 2025.

5.1.3 Society and stakeholders

Finally, the social aspects discussed in the interview expressed the importance of responsibility as one of Lumene's starting points in doing sustainable business which means concrete actions in responsible raw material procurement, customer satisfaction and the common good. It is important to secure quality and safe products throughout the whole product life-cycle from research and development to production and use-phase. (Lumene, 2020. Cited 24.4.2020.) In addition, it was pointed out that is not only important to have sustainable partners sharing same values but to be able to answer to their retailers' expectations and values as well.

Additionally, the research materials pointed out that in the beginning of 2020 Lumene created a survey for its stakeholders about the company's responsibilities and operations to find out the main development points to start working on. There were four main themes that emerged that are the focal points of their Global Responsibility Report (GRI) which will be published later this year. These themes are: selling responsible and sustainable products, transparency, sustainable production and corporate social responsibilities (CSR). The company is working in cooperation with domestic companies and organization, the Finnish nature conservation union and different Finnish educational institutions. (Lumene, 2020. Cited 24.4.2020.)

6 CONCLUSIONS

Population growth, changes in climate and the loss of biodiversity requires changes in consumption habits in the cosmetics industry. (Sahota, 2013.) The idea of sustainability is to meet -- “ the needs of the present without compromising the ability of future generations to meet their needs” (Grant, 2020). This encourages business in making long-term decisions with sustainability goals and finding sustainability alternatives. The results support this thinking, as the case company (Lumene) sets their core business around the main driver of sustainability, circular economy.

The results of the thesis's emphasis are on the three interview themes of sustainability, circular economy and evaluating them to find solutions for creating a sustainable value chain with circular thinking. These themes support the theoretical background discovered in the thesis joining all dimensions of sustainability into the value chain in all dimensions: economic, environmental and social levels. In the theoretical background these dimensions are supported by the Triple Layer Business Model canvas by Osterwalder & Pigneur (2010) – a tool for analyzing a company's sustainability to create a sustainable model. Another perspective is the value chain analysis by Porter (2004), which allows companies to evaluate an entire company's value chain, all activities performed, to integrate sustainability.

To support these dimensions, the chosen case company's interview was based on three themes that allow the commissioner to discover concrete actions to focus on regarding the theory. The case company focuses on sustainability of their value chain via circular economy surrounding the circular economy map (see appendix 1). The map is based on taking into account all levels of sustainability: environment, economic and social layers. These seven principles Lumene's sustainability actions work around to are: 1) product development and sustainable procurement, 2) carbon neutral and water-smart production, 3) committed consumer, 4) nature-to-nature raw-materials, 6) Nordic nature and 7) society and stakeholders. (Lumene. Cited 23.4.2020.)

As discussed in the chapter two of triple layer business model canvas, the most important dimensions – environmental and social level, were highlighted in the theme interview based on the circular map. The main outcomes of the interview resulted into being divided into three areas: environmental aspects, social responsibility and a sustainable cosmetic product. An obvious remark is that in cosmetics industry and circular economy, it is about creating a sustainable

cosmetic product which led the results of the interview in the third area. The figure below introduces the main results in conclusion:

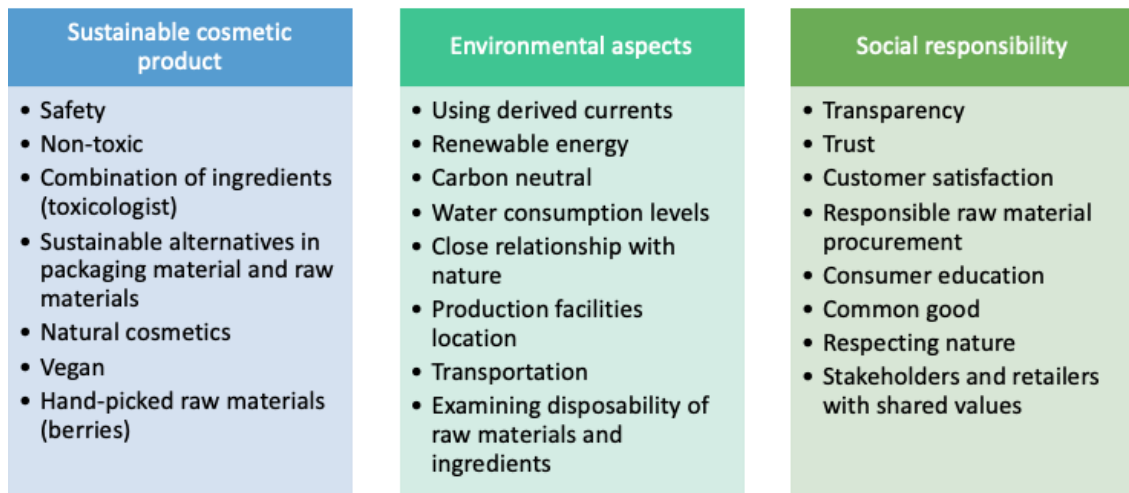


FIGURE 7: Interview results by themes

Comparing the results of the interview to the theory, there are lots of similarities in terms of which areas, as just mentioned, are most critical to evaluate and develop to follow the value chain guidelines. The commissioner gains concrete examples and areas on which to focus on when with environmental aspects to consider, how social responsibility is linked to business operations and which aspects are important in developing a sustainable cosmetic product.

According to cosmeticseurope, the Product Life Assessment (LCA) method applied helps companies move towards sustainable consumption and production. To create a **sustainable cosmetic product**, it all about finding sustainable alternatives, reducing the use of natural resources and leading to a positive and social environmental impact. It also requires constant co-operation between partners, measuring environmental effects and sustainable sourcing of raw materials with transparency. The social responsibility lies in educating consumers with water consumption, using and recycling cosmetic products the right way. (Cosmeticseurope, 2018.) The case company results bring these same thoughts on surface as the figure above shows. Lumene introduces for example their way of examining partners and environmental aspects, holding a social responsibility with consumer education and finding sustainable alternatives in packaging materials.

The Life Cycle Assessment (LCA) is as well measurer of environmental impacts through the full cosmetic product-life cycle in the Triple Layer Business model canvas by Osterwalder and Pigneur (2010). The environmental layer for sustainable businesses in the model focuses on finding environmental benefits and includes seven layers for sustainable actions; supplies and out-

sourcing, production, materials, distribution, use-phase, environmental impacts and end-of-life phase. (Joyce & Paquin 2016, 4-5. Cited 15.2.2020). These **environmental aspects** in the interview prove that sustainability actions are to be done in all those describes actions. Lumene's sustainability with circular economy takes into account for example these following actions: hand-picking raw materials, production close-by, using derived currents, producing in Finland, using sustainable packaging materials e.g. recyclable plastic and cardboard. For the environment they are evaluating the environmental effects e.g. carbon footprints and expect up-to-date information from suppliers and for consumers, they have recycling guides for products for the end-of-life cosmetic phase. More about the supplier's and other social responsibilities of sustainable business is covered in the next paragraph.

Lastly, the **social responsibility** discussed in the interview showed that for the case company it is important to share same values with all partners, meet consumers' and retailers' expectations and focus on trust and transparency with common good. Respecting nature and educating consumers with sustainable procurement leads to trust and good brand image. According to Tuddenham (2010), the industry has responsibilities in implementing a sustainability agenda and informing consumers about sustainability and sustainable use of cosmetic products. This can be done by reporting Corporate Social Responsibility (CSR) that assure transparency and educating consumers truthfully to influence consumer behavior and purchase decisions. (Tuddenham 2012, 21-28. Cited 4.4.2020.)

7 DISCUSSION

Having a clear timetable helped staying focused when having only a limited time until graduation and writing my thesis. The idea of the study and its title have remained the same meanwhile the research questions and themes have changed and become clearer during the writing process. It took some time for me to understand the value chain process, distinct it from a supply chain and find out how to introduce the linkages to sustainable cosmetics. All in all, the thesis focuses on understanding sustainability and the major driver of it in the cosmetics industry and circular economy which supports creating the overall sustainable value chain in all aspects of business. The topic of sustainability and circular economy is very present and an important topic for future studies for developing and moving the industry's companies towards sustainability in all aspects of business in the European Union.

For the upcoming WAX project about sustainable business models in circular economy, this thesis sets a good base for analyzing business models, value chains and sustainability. It will help them understand how to use principles of circular economy and circulating cosmetic production. When I started this thesis, the commissioner offered four distinct thesis topics to choose from. The other topics regarding the WAX Interreg research projects were focused on 1) marketing cosmetics in another Nordic country versus in Finland, 2) survey about Finnish cosmetic industry operators' interests towards natural waxes and 3) visibility of sustainable development in marketing communications of cosmetics. In addition to these topics, new studies about other cosmetic operators' thoughts and experiences regarding sustainable value chains and circular economies can be created in future. Moreover, there are ideas in studying this thesis' case company more in depth in terms of circular economy or the value chain in all aspects of primary and support activities.

This was a great learning experience regarding creating a report with wide theoretical background, finding linkages between all themes and chapter and concluding them with the results. I learned about research methodologies of doing the research with a themed interview for the first time. The process started slowly and plenty of things piled up at the end, but overall, I got good results and I am content with the chosen references about circular economy and sustainability. One thing to add would be another source to support the value chain chapter.

What has affected my thesis process is the short timeline and having a full-time job at the same time. With having more time, I would have liked to be able to have more results to analyze or organize another interview to compare Lumene's thoughts to. However, I am more than content to the results and the process outcomes and my personal development during this time. Regarding the results, Lumene's upcoming Global Responsibility Report from stakeholders would have been an interesting add to the research materials.

Finally, an area to discuss outside the theoretical background and the qualitative research results. Additionally, the theme of opportunities and challenges in the cosmetics industry surfaced in the interview with Lumene. For any cosmetic company moving towards more sustainable and circular economies it is important to mention these areas as well. Companies will face great opportunities and challenges in that path of finding ways to be cost-efficient while developing sustainable options. According to the interview, some companies' perceptions of sustainability is that it brings costs and can be very expensive. Whereas actually, it depends on whether the company is evaluating the ways of doing sustainable business and examining the benefits it can bring in a correct manner. Consumers are more aware about their purchase decisions, products' raw materials and study sustainability of brands. Showing consumers how a company can move towards sustainability and how they have tackled challenges they may phase build that trust and transparency.

Another factor pointed out was to focus on outside operators' actions and how to evaluate their trustworthiness. It can be difficult sometimes to evaluate other operators' sustainability actions and how they provide their data. Meanwhile the easier starting point is to evaluate one's own sustainability actions that are easier to have a straight effect on regarding material and packaging choices. To point out an international aspect discussed in the interview, the international cosmetic industry challenges are for example differences in countries' legislation, import and the product durability. When importing cosmetic products abroad you must think about the sustainability and durability of products during transportation conditions and afterwards.

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APPENDIXES

APPENDIX 1: *Circular Economy map (Lumene.)*

