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The effect of sustainable cosmetic packaging on the environment

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Abstract

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The purpose of this study was to identify and understand people's awareness of sustainable cosmetic packaging and the environmental impact of using plastic packaging. Second, the author wants to discuss the trend of sustainable packaging in the marketing of cosmetics.

The literature review was based on secondary data such as articles, e-books, and printed books. Meanwhile, the fundamental concepts of packaging, packaging materials, consumer attraction and behavior, and marketing in general were covered.

Primary data, collected by the author using an online survey, was used in the study. Quantitative research methodology was utilized in this study. The survey, consisting of 14 questions, was distributed through social media channels and received 63 responses. The questions concern topics such as the respondents' perceptions, awareness, and buying behavior

The study's result revealed the impact of packaging on consumer purchasing behavior. By examination of consumer perception, the author concluded that packaging is quite an important factor for respondents when they are considering whether or not a product is sustainable. Besides, sustainable packaging material, in addition to quality and eco-label or certificates, also plays an important role in decision-making and consumer attention. Other environmental issues associated with product packaging and sustainable cosmetics packaging were also discussed.

Keywords: Sustainable packaging, cosmetics, consumer, perception, environmental

Contents

Glossary

Abstract	2
1 Introduction	1
2 Purpose of the thesis	2
2.1 Thesis Question	2
3 Literature review	2
3.1 Sustainable development	2
3.2 Introduction of packaging	6
3.2.1 History of packaging	7
3.2.2 Type of packaging in the cosmetic industry	8
3.2.3 Normal cosmetic packaging	10
3.2.4 Sustainable cosmetic packaging	11
4 Marketing	12
4.1 Marketing mix	12
4.2 Brand Identity	12
4.3 Relationship between packaging and brand identity	13
4.4 Role of packaging	13
4.4.1 Business aspects	13
4.4.2 Packaging's consumer aspects	15
4.5 Impact of Marketing and Digital Marketing on the industry	16
5 The impact of Sustainable Packaging	17
5.1 Green packaging impact to the economic growth	17
5.2 How product packaging effects the environment	19
6 Attitude of people toward sustainable packaging	19
7 Extended Producer Responsibility – EPR	20
8 Research methodology	22
8.1 Purpose of the research	22
8.2 Research method	22
8.3 Survey	23
8.4 Analysis and Data	24

8.5	Research boundaries and limitations	24
9	Research Result	25
9.1	Discussion	35
10	Strategy & solutions to reduce the waste of packaging and improve the environment 36	
10.1	Reuse	36
10.2	Reduce and Minimize	37
10.3	Remain and Repair	38
10.4	Recycle	38
10.5	Additional solutions	39
11	Conclusion	40
12	References	41

1 Introduction

Currently, climate change as well as the worldwide degradation of natural ecosystems and habitats are creating significant environmental difficulties. Therefore, sustainability packaging is increasingly gaining attention when a consumer makes buying decision, which contributes to improving and reducing the problem of environmental pollution by diminishing the waste of packaging.

Cosmetics is a considerably large industry, as evidenced by reports of consumption around the world. As a result, this has had a significant impact on the environment and the world's economy. Plastic boxes or packaging are closely associated with the development of the cosmetic and personal care product industries, from shampoos to lotions and deodorants. And the situation is only going to get worse.

Every year, the personal care and beauty industry produces more than 120 billion units of packaging worldwide (PPC, 2022). What causes a problem for environmentalists is that most of these plastic containers are not recyclable. With the trend of globalization and the development of the current market economy, markets are becoming more and more saturated. Consumers have thousands of choices for each product they want to buy, and therefore they are becoming more and more sophisticated in their choices. Product quality is still the most appreciated factor, but when placing a product on a stall with dozens of products of the same type, the outstanding product packaging has the ability to make buyers more interested.

Packaging is more than just a product protection tool. It is also a branding and presentation of the company. Packaging has the effect of attracting customers, creating features, and containing information about its origin, quality, and processing method. Due to a lot of environmental problems happening, consumers have started to pay more attention to the product's packaging. Management of waste is an urgent issue because it has a direct impact on the environment, quality of life, human health, the ecology system, and species. The environment is a factor that has a decisive influence on the existence and development of everyone. Therefore, protecting the environment and ensuring sustainable development is a vital issue for each nation and each country.

2 Purpose of the thesis

2.1 Thesis Question

Through the research “The effect of sustainable cosmetic packaging on the environment” the author wants to find out:

How can cosmetic product packaging affect the environment and eco-system?

3 Literature review

3.1 Sustainable development

The following section evaluates the literature about the environmental effects of sustainable cosmetic packaging and the relationship between packaging and brand identity. The relevant information on the general buying behavior of consumers toward sustainable cosmetics packaging will be discussed in this thesis. The literature review will involve theoretical articles from authors since they could be able to ~~give~~ give a concise perspective on the topic, together with e-books that provide a comprehensive view of the significant topic about sustainable packaging. However, the concentration will also be on the current climate impact caused by cosmetics packaging consumption.

The United Nations has defined and agreed on the concept of sustainable development as development that meets the requirements of the present but does not interfere with meeting the needs of future generations “We therefore acknowledge the need to further mainstream sustainable development at all levels, integrating economic, social and environmental aspects and recognizing their interlinkages, so as to achieve sustainable development in all its dimensions” (UN Documents, 2012).

What would a sustainable world look like?

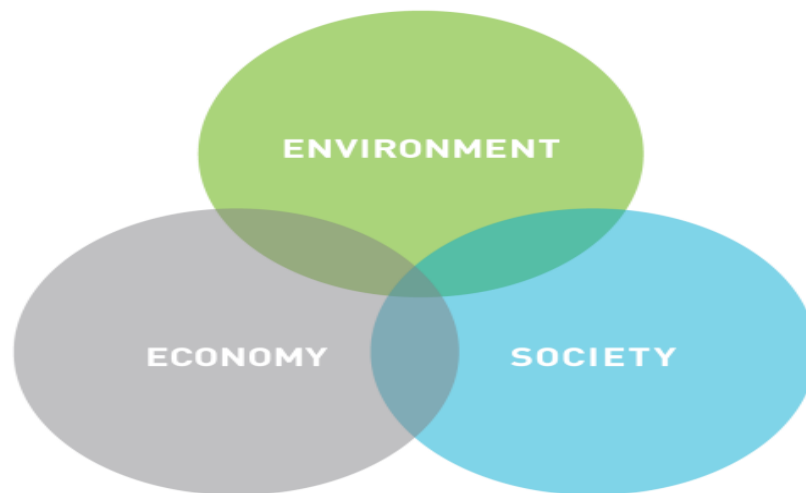


Figure 1: Pillars of Sustainability (Elkington, J.1997)

As shown in Figure 1, intersecting only two factors does not demonstrate sustainability; all three pillars must intertwine to achieve this. It is a development that always keeps a balanced and harmonious combination of all three pillars of development in terms of economy, society and environment. (Purvis. P et al, 2018:685)

Du Pisani J A. (2006:91) has mentioned that “ Economic growth did not prove to be the hoped-for solution to global inequalities. This realization necessitated a paradigm shift to a new notion of development.” Due to this, Du Pisani has researched from different aspects, and the solution to growth problems was introduced - sustainable development.

The joint statement of the Earth Summit, held in Rio de Janeiro, Brazil in May 1992, identified 27 basic principles of sustainable development. The 8-millennium

development goals (MDGs) identified in the Millennium Declaration at the United Nations Millennium Summit (9/2000, New York, USA) achieved many results after 15 years of implementation and since 2016 have been replaced by 17 Sustainable Development Goals (SDGs) for the next 15 years (2016 – 2030) as the 2030 Agenda for Sustainable Development.

However, after 15 years of implementation of the MDGs, the earth is still facing huge challenges, especially the degradation of natural resources, and the impacts of climate change. (United Nations, 2015:61)

In theory, it is necessary to take into account all development factors, including resources and the environment that are often not or barely noticed in decisions. Organizations think resources and the environment will never end, and it is not important to protect them. They often give high priority to the economy, but not to social development, and especially the operation of the environmental pillar has had a bad impact on the progress of development, even causing new problems and affecting the valuation of goods and services, as well as development efficiency. (Braat, L. & Groot, R. 2012 :6)

Social conflicts such as environmental pollution, environmental degradation, and resource depletion are accumulated to the point that they are no longer local problems. Thus, the most basic and popular approach to sustainable development includes an interdisciplinary approach, a multi-sectoral approach, an integrated approach, an equitable approach between generations, and more recently, along with the development orientation of greening, an ecosystem-based approach. The essence of sustainable development is to link development activities together to achieve long-term balance and harmony for future generations (World Bank, 2006:4;7;12;13;14;32).

The Johannesburg Declaration on Sustainable Development confirms that linking the three basic pillars of sustainable development (economic, social, and environmental) is a new development approach in the modern context (Ec.europa.EU, 2002). The interdisciplinary and multi-sectoral approach allows connecting and linking

development activities in industries and development fields at all levels and scales to achieve the Sustainable Development Goals.

The statement of the United Nations Summit Rio +20 Conference, June 2012 titled “The Future We Want” stated that “We call for a holistic and integrated approach to sustainable development” (United Nations, 2021). The Synthesis Report of Country Reports on Sustainable Development at the United Nations Summit Rio +20 Conference pointed out that Countries continue to focus on economic growth and poverty reduction while integrating the environment is still left behind (United Nations, 2015)

A new awareness of sustainable development under the market economy mechanism in countries around the world have been considered as the mainstream development method in the 21st century (Castro, C. 2004:195). In market economies with market relations, the main driving force of all economic activities is profit. Environment and natural resources are considered as assets and capital sources for development. The environment and natural resources must be evaluated, valued, or capitalized as a source of development capital. So, they can be included in the calculations and decision making according to the market mechanism and economy. The value of environmental resources has been ignored and not considered by many countries in their economic growth and development decisions. (Taylor, D. 2004:170)

Our planet is overloaded with non-biodegradable waste, of which packaging made from plastic accounts for a significant proportion. One of the worst issues is the production of toxic waste in the cosmetic industry, and it is quite huge. The global cosmetics

business generates a lot of packaging annually, and much of it frequently end up in the garbage. (PPC,2022)

Product packaging has a great impact on consumer behaviour_ because that is the first thing that catches the eye of the buyer, making them decide whether to buy a product or not (Mazhar, M.,2015:36).

3.2 Introduction of packaging

Packaging is no longer a simple exercise in printing a logo on a carton, or a bottle, to provide recognition for consumers as they browse the busy supermarket shelves. It goes way beyond protecting the fragile contents against damage in transit or providing longer shelf life for fresh ingredients and giving functional benefits of reseal ability, according to Chong Peng (2018).

The packaging of a product is a factor that creates brand value in the form of designs and colors that attract customers and make them associate with the product. Especially, packaging is a tool that helps consumers identify and understand products through the information written on the packaging. Regardless of eye-catching design, the packaging should be built in a way that is simple to use, compatible with the contained product, and has the necessary functional characteristics.

With well-known brands, investing in packaging becomes even more important if they want to affirm their brand position as well as create brand emotions for customers (Kotler, P., 2012: 290-291). The packaging structure can increase the revenue market share; the packaging itself is also an important element in advertising (Srivastava, P. 2021:9), on average 30 seconds of advertising will have approximately 12 seconds of screen time about packaging. For the consumer, product packaging needs to represent the brand and convey descriptive and convincing information about the product.

Packaging also needs to be convenient in transporting and storing goods, as well as convenient for consumption and storage at home. With the current situation, and climate change is caused primarily by human demand, therefore, plastic packaging in the beauty industry become a problem.

Cosmetic packaging creates a brand, and unique cosmetic designs help the product stand out among variable type of product that have a similar function. It also has the effect of protecting the integrity of product quality during transportation and consumption. (Srivastava, P.2021:2-3, 24)

Packaging has long been important in human history to secure the product, and many materials have been discovered to create it. The history of packaging begins with readily available materials such as animal skins, gourds, leaves, and hollowed-out logs. However, as technology has advanced, our packaging has become increasingly sophisticated. Since the industrial revolution, metals and pottery have been developed, leading to the development of other packaging forms.

3.2.1 History of packaging

Right from prehistoric times, people have been known to preserve food by using bags made of bark, animal skins or baked clay. The importance of preserving food for times of famine was soon realized.

Entering the medieval period, growing trade forced people to think of better ways to keep products longer in larger quantities; they used wooden crates to store food, agricultural products, and wine for transportation to other places (The Art and Science of Packaging, 2021:2). But the disadvantage of wooden crates is that they are very heavy, making them difficult to transport. In the end of the nineteenth century, the invention of the cardboard box made a revolution in the product packaging industry. People switched to using cartons made of pre-cut cardboard that, when folded, would create convenient containers (Berger, K.R., & Welt, B.,2005). But most notably with the emergence of plastic and nylon, the 20th century saw the development of commodity production with major changes in product packaging. Packaging using plastic is lighter, cheaper than glass (The Art and Science of Packaging, 2021:10) and protects the goods better than paper or leather. Metallic materials are also used to preserve goods, namely laminated aluminum bags used for pharmaceutical products or metal cans used in beverage production, etc. Today, we can easily see that these materials are still very popularly used.

History has proven that product packaging plays a very important role in the production of goods. With the original purpose of preserving products for a longer time, packaging has become a strategic weapon of manufacturers in the fierce competition for products. (The Art and Science of Packaging, 2021: 11-14)

3.2.2 Type of packaging in the cosmetic industry

Investing in packaging is important for companies in the beauty industry, and this is also an industry with strong competition and numerous competitors in the market.

In addition, many manufacturers have applied bioplastics to product packaging. The biggest use of bioplastics is helping to limit the bad effects of plastic on health because the characteristic of packaging is direct contact with the product inside (Zhanga G ; Zhao Z, 2012:901). So, the material that makes up the packaging is always a matter of concern.

Bioplastics will not biodegrade in the way that fruits and vegetables do and can only decompose under standard industrial processes; otherwise, they will also end up in landfills with traditional plastics.

Creating a consumer product for the market requires many factors, of which packaging is considered the most important one, especially cosmetic packaging (Srivastava, P,2021). Getting finished products for consumers is not an easy thing. Customers always pay attention to the difference and uniqueness of each product. It is necessary to create and design the packaging with those elements in mind so that it has its own character. However, the products on the market are diverse, and depending on the product, the choice of packaging is suitable for each product.

Recently, products packaging are made by plastic commonly used in cosmetic industrial. It is undeniable that plastic packaging is a great step forward because it is widely used in most industries.

A. Plastic:

With low cost and ease of use, plastic containers are being widely used on products available on the market. Colour is always the first element that attracts customers'

attention. Therefore, plastic is commonly used in the storage of many other products. However, plastic has extremely bad effects on environmental protection. It is currently the leading cause of environmental pollution effects because the current level of human use of plastic packaging is very large. This makes it extremely difficult to tackle plastic packaging waste around the world.

Polyethylene terephthalate is a general-purpose thermoplastic polymer of the polyester family of polymers. Polyester resins are known for their excellent combination of properties such as strength, heat, chemical resistance as well as dimensional stability. PET is one of the most recycled thermoplastics, and its plastic identification code is "1". (ChemEurope, 2022)

High-density polyethylene plastic is also known as HDPE sheet plastic. This thermoplastic is made from a string of ethylene molecules and is known for being both lightweight and strong. Because of its weight and strength, the HDPE sheet has grown in popularity as more businesses integrate sustainability initiatives. And the plastic identification code is "2".(A&C Plastic, INC.2022)

At the brand supplier, the packaging is made from virgin PET, HDPE, or other high-quality materials without impurities, both safe for customers and completely protecting the quality of cosmetics in perfect condition. (Shivsharan U.S. 2014: 288-289; WWF,2020:7) quality of the material is also what makes the end-user happy to trust the product. A brand will be noticed when choosing safe and eco-friendly bottles.

B. Paper:

Plastic bags cannot be used as box packaging, so paper packaging was born to meet the above demand. Moreover, paper packaging is used by many units to store dry and direct products. Attracting customers' attention in paper packaging lies not only in the color of images printed on the surface, but sometimes also in special designs to attract customers. Paper packaging is easy to use, easy to recycle, and it contributes to environmental protection_ but has the drawback of being more expensive than plastic bags.

C. Glass:

It is nearly impossible to use plastic, paper, or plastic packaging for high chemical impact products. Therefore, using glass packaging is the most reasonable choice because of the superior inherent qualities of glass. Glass packaging often holds high-class cosmetic jars such as perfume, high-quality products, etc. Compared to plastics and light metals, glass is heavy; due to this, the shipping cost can become costlier and requires more energy in transporting. Besides, the transportation will be contributing to the higher carbon footprint. In short, it takes more time and costs. (Shivsharan U.2014: 286–293)

D. Aluminum:

Compared to plastic or glass bottles, aluminium bottles have many pluses. Firstly, they are used in pharmaceutical and cosmetic products. However, the minus point of aluminium is the high cost compared to other packaging materials. Therefore, aluminum bottles and jars have not been widely used.

3.2.3 Normal cosmetic packaging

Most of cosmetic packaging are made of plastic and they take thousands of years to decompose. More sadly, very few people recycle plastic cosmetic bottles. According to Garnier's research, over 56% of British people, around 4.5 million people, do not recycle their bathroom items because the process is difficult. (Donska, M. 2022). Facial cleansers, shower gel, shampoo, perfume, powder, lipstick - almost every person has at least one product of each type in their home, and with them are various types of packaging, mainly made of plastic.

Beauty products all have layers of packaging that need to be removed to actually get to the product. Not to mention the countless types of wrapping paper and cosmetic carton boxes when shopping online, buyers have to remove about three layers to use the item; firstly, a layer of glossy paper to protect it, a box to store it; secondly, a paper product with detailed information on ingredients and instructions for use and also production information; thirdly, a cover on the bottle cap to ensure that the product has not been unsealed and finally the plastic cover and contain the product inside (Kotler, P.,2012).

After finishing, buying a new product of course will come with a new packaging and box, as a never-ending loop.

3.2.4 Sustainable cosmetic packaging

When hearing the term "sustainable", surely the first thing that comes to people's mind is things that are solid or things that cannot be destroyed. But, when people associate a type of packaging with the term sustainable, they do not mean its indestructibility. Sustainable mean that this type of packaging is environmentally friendly; these types of packaging can reduce the steps or time it takes to process them.

As more than 50% of cosmetic product packaging is plastic (Mordor Intelligence LLP.2020), it is the most popular packaging material. The other packaging materials used in the industry are glass, metal, and paper.

Among various forms of cosmetic packaging, the market for cosmetic packaging may be divided into categories such as bottles, jars, tubes, pumps and dispensers, pens, sticks, roller balls, caps and closures, pallets, and droppers. The market may also be segmented into categories including make-up, nail care, hair care, and skincare.

The cosmetic packaging market is very adaptable since different materials and packaging methods are used for various purposes all over the world. Many new types of cosmetic product packaging are appearing. The familiar brands still keep the old packaging lines, but the packaging materials are now different. "As consumers become more aware of the term 'sustainability' and what it means to them, they will likely expect their favourite brands to adopt an environmentally friendly approach with regard to their product and its packaging" (Falk, J.2009:2)

Packaging is sometimes referred as 'the fifth P' of the marketing mix, beside product, price, place and promotion (Kotler, 2003). In marketing literature, packaging is considered to form a part of the product mix and brand (Ampuero; Vily, 2006). "Increased competition made packaging an important marketing tool" according to Grundey D (2010:87-103).

4 Marketing

As Kotler P. and Keller K. L. (2012:5) analysed "Marketing is about identifying and meeting human and social needs. One of the shortest good definitions of marketing is "meeting needs profitably."

4.1 Marketing mix

A marketing mix is a set of actions and strategies that a business uses to promote its brand or products and services to achieve its target market. It is a bridge between businesses and target customers, helping businesses understand the needs of customers and come up with appropriate strategies.

Marketing mix is extremely important because it is a tool to help businesses understand the real needs of customers. From there, there are appropriate promotion and marketing strategies. The goal of Marketing Mix is to help satisfy the needs of consumers and bring profits to the business. (Kotler, P. and Keller, K. L., page 25)

The initial marketing mix is based on a 4P model that includes Product, Price, Place and Promotion. Czinkota & Ronkainen (2007) deem that product packaging is connected to other variables in the marketing mix (Rundh 2009, p. 988).

4.2 Brand Identity

"They learn about brands through past experiences with the product and its marketing program, finding out which brands satisfy their needs and which do not" (Kotler, P. and Keller, page 242). "As consumers' lives become more complicated, rushed, and time-starved, a brand's ability to simplify decision-making and reduce risk becomes invaluable" (Suri, R.,2003).

When it comes to green cosmetics, consumers prefer well-known brands because the cosmetic brands they are accustomed to having likely provided or exceeded the expected results. Consumer purchasing behavior is significantly influenced by brand knowledge. (Yi Chang, Y., 2017:165; Singhal, A. & Malik G., 2018:516)

4.3 Relationship between packaging and brand identity

The number of plastic packaging waste each year becomes one of the significant environmental challenges. Faced with that situation, many cosmetic companies in the world are trying to change both in terms of packaging materials and product quality. This brings a lot of positive signals to the environment, while also creating a better experience for users.

Since the commercial is a key purchase; the way products are packed has determined how most producers separate themselves from the competitors. Many items are still recognized and referred to by the packaging, and according to Rundh (2009:988) product packaging is a play an important role in marketing. It is also a crucial instrument in marketing activities for consumer goods. Product packaging plays a significant role in building a brand's identity and image and influences many purchases. From purchasing a product to experiencing culture, packaging may radically affect the experience.

There is no doubt that plastic has irreplaceable values in the packaging sector, such as low cost, ease of transportation, storage, and printing output.

4.4 Role of packaging

The packaging effect is primarily responsible for capturing the consumer's attention and initiating the stimulus to the brain during the first phase of the purchase. (Romani S. et al, 2012).

Therefore, relevant packaging is important for brands; it captures the consumer's attention and can influence purchase intention and decision. In fact, 90% of consumers base their purchasing decision on the packaging of the product. Shape, colour, typography, dimension, material, and graphic all play a role in the purchasing process. (Kauppinen - Räsänen 2014)

4.4.1 Business aspects

In a period of fierce competition, product packaging is increasingly asserting its position and important role for businesses (The Art and Science of Packaging. 2021:24). Aware

of this, businesses tend to pay more attention to product packaging design. For businesses, the importance of packaging is reflected in three aspects: culture, distribution and preservation/storage and branding.

- **Cultural** - Through the languages, the images that businesses choose to print on the packaging show their characteristics that other businesses do not have. When looking at the packaging, customers can see which company the product belongs to, and which region or country it is manufactured in. The words and images that the company chooses must be suitable for the product itself as well as the social culture. (The Art and Science of Packaging, 2021:11-21)
- **Distribution and preservation/storage** - After the production process, the enterprise conducts the distribution and preservation of products to deliver to consumers. In this process, the product will be affected by environmental factors as well as the mechanical impact of loading and unloading, transporting on relatively large distances and roads. But thanks to the development of product packaging and these jobs are easier and more convenient (The art of Science of Packaging, 2021:24,43,62). At the same time, businesses also could reduce the number of damaged products, reduce costs during transportation and storage.
- **Branding** -"The product packaging design plays a significant role in branding products in the retail market. The importance of packaging in branding is amplified in the case of cosmetics. The appeal of this industry arises not only from the product itself, but also from its packaging. The manufacturer's brand is represented via the product labelling and packaging" according to Srivastava, P (2021:4)

Branding has been around for centuries as a means to distinguish the goods of one producer from those of another (Aulia, D.,2017). Brands today play a number of important roles that improve consumers' lives and enhance the financial value of firms. (Kotler, P., page 241-242)

Faced with the requirements of the market and the competition of competitors, the innovation of technology, improvement of design, and packaging design for products require a combination of technical, legal, professional expertise and the environment in

a systematic and comprehensive manner. The fact that enterprises can develop a packaging strategy in accordance with customer needs and practical conditions, thereby creating added value for products, enhancing the company's position in terms of environmental protection, emission reduction, and social reputation.

4.4.2 Packaging's consumer aspects

Today, when the economy is growing, customers' requirements for products do not just stop at quality anymore. They require a product to be comprehensive from packaging to product quality inside. For customers, packaging also has its meaning, namely, to help customers better identify, because each product of each company has very different information, colors, and images (The Art and Science of Packaging. 2021:25). In addition, customers often have direct contact with the product, so customers can hardly be confused. In addition, customers are also very interested in the convenience of viewing information and ease of use of the packaging, and if the packaging has an elegant and suitable design, it will help enhance the tastes of customers. (The Art and Science of Packaging. 2021:26)

Currently, businesses are tending to be environmentally friendly by paying attention to packaging materials that are not harmful to the environment. Product packaging should bring practical benefits to consumers; they do not have to worry about using product packaging labels that pollute the surrounding environment and some types of packaging can be recycled or reusable with very beautiful designs and patterns, and colors. Nowadays, packaging is not just a container to wrap products, but it also brings great values that are indispensable for production until it reaches consumers.

When it comes to packaging, choice is extremely important in the decision-making process. Its purpose is to protect the cosmetic product and to ensure proper product quality's factors. But cosmetic packaging has a significant environmental impact, contributing to marine and land pollution and influencing ecosystems.

The primary and secondary layers, as well as the materials used, are the most important packaging concerns (Kotler, P. and Keller, K. L., 2012). These materials include glass, paper, aluminum, wood, and plastic materials. Plastic is the most commonly used

packaging material due to its flexibility and lightweight, but it is not biocompatible and has a negative effect on the environment.

4.5 Impact of Marketing and Digital Marketing on the industry

In the digital age, the explosive era of social networking sites Facebook, Instagram, TikTok, etc., brands also promote marketing and business on these platforms. Besides paying attention to how customers see the product on the shelf, it is also necessary to care about whether the product image is outstanding, attractive, and are they receives a needed attention on the website and social networking sites or not.

With characteristics and connection and sharing, communicating for products and brands on social networking sites requires a good and outstanding image strategy to be able to connect easily with potential customers. Product images need to stand out, attract customers' attention, hold them back and listen to the message the brand wants to convey. Or if the images and content are interesting enough to make customers interested, they will share them on their personal pages, helping the brand spread faster.

Consumers today are increasingly conscious of environmental protection (Blythe, 2005:153; Peattie, 2008). Therefore, each step of brand marketing needs more careful consideration to avoid creating negative reactions from customers.

It can be seen that the trend of greening products and greening services is being implemented by brands to win sympathy from customers. The most successful campaigns do not come from winning more customers, but from the initial important purpose of protecting the environment and implementing that purpose most closely, not only formalistic. The cases below could show the obvious impacts that the green marketing brings to the market as example.

Recently, Innisfree, a cosmetic brand from Korea launched a version of Green Tea Seed Serum in a synthetic wastepaper shell, the inner bottle has a 51.8% reduction in plastic compared to a design with the same capacity. (IF Design award. 2021)

Natural cosmetics company Aveda, famous for its hair products, uses nearly 100% recycled materials for its packaging. (Prohair. 2021)

Some cosmetic brands that have created cosmetics has been designed to be “refillable”. In 2019, Yves Saint Laurent won the Paris Award 2019 in the Skin Care Premium—Refillable category for Or Rouge La Crème. (Cosmetics Business, 2019)

Sulapac Oy is a green packaging company in Finland, specializing in the distribution of plastic alternatives to well-known and trusted companies by Lumene, Channel, Marimekko, Fazer, Bird, Shiseido, Quad pack, and so on. They manufacture bottles, jars, straws, containers, cutleries, mugs, etc. that cater to the food and cosmetic industries. Although they are just a small company, they have been developing very successfully, being named, and appearing in major newspapers such as Forbes, BBC, Vogue, ELLE, Business Insider and many other magazines. (Sulapac Oy ,2022)

Some cosmetic brands that do a great job of encouraging and supporting customers to recycle plastic packaging after use are Kiehl's of L'Oreal or MAC. Every time a certain number of empty bottles are returned to the store, customers will receive a new beauty product for free. Some brands have glass containers that can be used as planters or exchanged cosmetic jars for mini bonsai. According to Saxena, R.P (2008) “companies which can establish themselves with a green image will have the following distinct advantages in the marketplace”.

5 The impact of Sustainable Packaging

Additionally, the production process of biological packaging consumes less energy and emits fewer greenhouse gases than traditional packaging (Worrell, E.,2016). Bio-packaging also has a cost advantage over plastic, including the cost of waste treatment, the production process of bioplastics is not dependent on increasingly scarce fossil fuels which help economic growth.

5.1 Green packaging impact to the economic growth

As claimed by Zhanga G; Zhao Z (2012:902) “Green package, can also be called “ecological package” or “environmental friendly package”, is defined as environmental friendly package, which is completely made by natural plants, can be circle or second use, be prone to degradation and promote sustainable development, even during its

whole lifecycle, it is hurtless to environment as well as to human body and livestock's health". In brief, green packaging can be reused, recycled, or degraded without causing pollution in human life or the environment.

In recent years, in the context of environmental pollution becoming more and more serious, climate change is considered a global urgent issue, green lifestyle has attracted many people's attention and gradually become a trend of the times. The change of users towards green consumption makes manufacturers also have to transform themselves to match new needs and tastes. Green living and green consumption are becoming popular in many countries around the world, especially popular in developed countries, and is spreading strongly to developing countries with middle-income and above (Srivastava L.2010). This is considered a practical and important implementation of the concept of sustainable consumption, in order to reduce the impact of society on the environment.

As a result of improving economic conditions, generous cosmetics promotions, and rising per capita cosmetic consumption, the cosmetics industry has seen strong demand growth in many different nations. The development of e-commerce platforms, which have seen a significant increase in sales in recent years, was also extremely beneficial to the cosmetics business. The expansion of the cosmetic packaging industry is a result of the rising aesthetic consciousness of the populace and innovation by cosmetic manufacturing corporations. The market is anticipated to develop, with women over 30 and skin products as the main drivers. Companies could provide additional details about the advantages of using eco-friendly cosmetics in order to earn trust and loyalty from customers (Matic & Puh 2015: 60)

According to Denish T. & Roshan D. (2022) Due to more consumer awareness, organic cosmetics companies have seen significant growth in Europe and North America, where they are anticipated to continue to develop at the greatest rate. The need for cosmetic packaging in these areas will undoubtedly be impacted by the demand for organic cosmetics. Many organic and natural cosmetic companies have expanded, and another area is anticipated to do the same. In addition, the market for cosmetics packaging has experienced a sharp increase in the past few years due to the popularity of grooming items and beauty products for males.

5.2 How product packaging effects the environment

Cosmetic packaging is a product that adversely affects the environment of land, water, air and affects the life of species on earth. After use, this type of packaging discharged into the environment will not easily decompose and leave bad effects to the environment.

“Today, the beauty industry contributes significantly to environmental degradation” Kukreja, R. (2022). And therefore, the world considers this sector bad for the environment. One of the ways in which this sector is damaging to the environment is the continued use of plastic and cardboard products. A top concern for the environment is the plastic packaging and bottles that come with many beauty products.

Plastics take a long time to decompose and the chemicals on those plastic products pose a risk of soil and water pollution. However, the most harmful to the environment are microplastics, pieces of plastic, it can enter the body of ocean creatures and even humans.

Microplastics find their way into the body of fish, which affects their health and the animals that eat them, including humans. Moreover, the exploitation of wood to produce paper for packaging as well as the amount of gas and wastewater in the production process also contributes to an increased burden on the environment. (WWF, 2020:7), the greenhouse effect has increased and promoted global climate change, sea level rise, intense heat, storms, floods, and droughts

6 Attitude of people toward sustainable packaging

According to a study on green purchasing behaviour among the Chinese population conducted by Zhao et al. (2014), individuals who show a positive attitude toward buying sustainable products also have energy-saving behaviours such as recycling paper, glass, and plastic and not using disposable tableware. Green consumption is the use and purchase of environmentally friendly products that do not harm human health and do not threaten the natural ecosystem. It comes from the desire to protect resources for future generations and improve the quality of life for people.

In the trend of green consumption and environmentally friendly products are prioritized and considered as a standard for high-quality products and services. In the past, consumers could almost only choose plastic brushes and makeup brushes, but now, bamboo and wooden beauty tools have covered many large supermarket chains. Environmental protection has become particularly crucial to consumers in recent years, plenty of packaging is either green, recyclable, or biodegradable (Blythe, 2005:153; Peattie, 2008). According to Lewis, H. et al (2012:150) "Consumers tend to have negative associations with packaging and have limited awareness of packaging-specific environmental issues other than disposal issues (recyclability, reuse, biodegradability and over-packaging)".

Eco-buying or green consumption is not the same as conventional buying decisions. Instead of the immediate gratification of the buyer alone, using green products often benefits society as a whole in the long term (Kim and Choi, 2005).

It's not 100% the consumer's fault for plastic waste problems. Consumers are not wrong when choosing consumer products, namely cosmetics that coincidentally come with plastic packaging. The big responsibility also belongs to the manufacturers themselves when the products put on the market are packed in plastic packaging. The reduction of plastic should start with the businesses themselves; the entire responsibility is not on the consumers. The use of EPR programs has been applied to businesses that consider about environment since it has " A principal reason for allocating responsibility to producers is their capacity to make changes at source to reduce the environmental impacts of their product throughout its life cycle" (OECD,2014:1)

7 Extended Producer Responsibility – EPR

"Extended producer responsibility is often seen as a way to extend producers' decision making to waste prevention across the whole supply chain, making material efficiency a strategic issue" Bautista-Lazo S, Short T says (2013). EPR regulation - extended producer liability is also a matter of concern. EPR shows that the responsibility of the manufacturer does not stop at the product, but the responsibility extends to the management of post-consumer waste. EPR will lead manufacturers to internalize waste management costs into product costs. This process will motivate manufacturers to find

ways to reduce waste in the environment and increase the ability to recycle and reuse packaging.

EPR is defined as “an approach from an environmental policy perspective whereby a manufacturer's responsibility for a product extends to the disposal stage of the product's life cycle”. (M.R. Johnson, I.P. McCarthy, 2013). EPR is an environmental policy that follows the polluter pays principle, EPR holds manufacturers accountable for the environmental impact their products will have throughout the supply chain, from design to disposal.

In 2016, the Organization for Economic Cooperation and Development (OECD) presented a comprehensive study of the existing EPR mechanisms in various countries. The EPR policy for packaging has been around since the late 1980s - 1990s. This mechanism is currently being applied in Asian countries such as Japan, Korea, and Taiwan, members of the European Union as well as other regions of the world.

In each country, the EPR policy for packaging has different characteristics, but there are common basic principles. The regulatory framework needs to clearly define what types of packaging and which businesses must pay fees corresponding to the type and volume of product packaging sold. This fee is used to cover some or all the costs of collecting, sorting, transporting, recycling packaging waste and providing information to consumers.

EPR requires the establishment of a Producer Responsibility Organization (PRO) responsible for running the operation. EPR is not a tax or fee collected by tax authorities and remitted to the state budget. In contrast, the EPR-related financial contribution to packaging is collected and managed by a PRO, not a state tax authority. PRO manages the financial contributions of its member businesses and contracts with local authorities or waste disposal units. EPR means increasing the responsibility of businesses in the packaging value chain. (WWF, 2020:6)

EPR on packaging changes the perception that packaging waste is solely the responsibility of local authorities. The legal framework should clearly define the interaction between local government and PRO (OECD,2014:10).

8 Research methodology

8.1 Purpose of the research

The research conducted due to this thesis has various purposes. The first purpose was to understand about people's awareness of sustainable cosmetic packaging and the environmental consequences of using too much plastic packaging. Second, it was intended to investigate aspects of organizations' environmental friendliness in managing packaging waste and to analyse this information in order to discuss potential significant improvement in the marketing of cosmetics packaging. Another objective was to comprehend the current consumer bias in the cosmetic market, in which traditional cosmetics have been preferable for decades.

8.2 Research method

Kothari.C.R (2004:3) says "Quantitative vs. Qualitative: Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon".

Qualitative research provides insights and an understanding of the problem at hand. It is an unstructured, exploratory research method that studies highly complex phenomena that quantitative research cannot explain. On the basis of observation and interpretation, qualitative research is used to gain an in-depth understanding of human behaviour, experience, attitudes, intentions, and motivations to learn about how individuals feel and think. (Ahmad.S et al, 2019:2829)

Quantitative research is a type of research that uses natural science methods to generate numerical data and hard facts. It uses mathematical, computational, and statistical methods to establish cause-and-effect relationships between two variables. Because the research can be accurately and precisely measured, it is also known as empirical research. The data gathered by the researcher can be classified or ranked, or it can be measured in terms of units of measurement. (Ahmad. S et al, 2019:2829)

Quantitative online survey was used for the thesis to collect data for market research in order to find useful and reliable information. It was observed to be useful because reliable data would require a large sample size. The quantitative survey approach was chosen to gain a more comprehensive understanding of the market and consumer perspectives. Quantitative research is commonly used in market research. Online surveys, online questionnaires, polls, and other online data collected can be used to gather data from customers in market research. Fujimori et al. (2014) chose a quantitative approach to collect data on the study outcome variables from oncologists and patient participants.

8.3 Survey

Survey research is clarified as “the collection of information from a sample of individuals through their responses to questions” (Check & Schutt, 2012:160)

This research type provides a variety of methods for recruiting participants, collecting data, and utilizing various instrumentation methods. Survey research can employ quantitative research, qualitative research strategies or both. (Ponto J, 2015:168)

“Survey research is a useful and legitimate approach to research that has clear benefits in helping to describe and explore variables and constructs of interest.” Ponto J said (2015:171).

A survey was discovered to be the most useful and effective method of obtaining the needed data. The questionnaire survey and responses to the questions were developed in accordance with the research objectives, and information about the packaging market, particularly sustainable cosmetics, has been discovered. The survey was created with Google Forms so that the data could be easily transferred to Excel. The questionnaire has been kept short, and the questions will be simple for the participants as Kothari (2004 :103) said “ Simple words, which are familiar to all respondents should be employed” and “ questionnaire should be comparatively short and simple i.e., the size of the questionnaire should be kept to the minimum. Questions should proceed in logical sequence moving from easy to more difficult questions”.

The primary research objectives of this questionnaire were to discover consumers' attitudes toward sustainable cosmetics packaging, their level of awareness about

environmentally friendly cosmetic packaging in marketing, and how their interests influence their purchasing habits for this kind of product line.

The data for this study was gathered using a cross-sectional, closed-ended online survey and Likert scale, ambiguous questions. Because the goal of the research was to gain an understanding of consumer perspectives, a survey was determined to be the best way to obtain that information. Applying primary data ensures that the research has the most up-to-date information.

The survey was not targeted to a specific target group since the goal of the research was to gather information about general consumer perceptions. The survey was promoted on Facebook and Instagram, with maximum target of 50 respondents, it is not easy to be receiving 50 replies within a short period of time. But surprisingly, the final number of responses received was 63, more than the goal author was set from the start.

8.4 Analysis and Data

The survey was displayed for multiple diverse groups of people where most of the users are approximately aged 16 to 40+, groups with foreigners of varying nationalities, ages, and gender living in or visiting Finland. Also, the survey was distributed in WhatsApp groups with university students; one group containing approximately 30 possible respondents. The survey was repeatedly through these platforms. In total, the survey was posted 4 times on Instagram, 5 times on Facebook, and 2 times on WhatsApp. Participants were not individually chosen to answer the survey. The aim of the research was to collect at least 50 responses. When the author decided to end the survey for analysis, there were 63 responses.

After the survey, the result was put into Excel tool and the "Filter" function was used to analyse it. After that, the analysis result is put into the "Discussion" section of the thesis.

8.5 Research boundaries and limitations

The first boundary is that the surveyed people are limited within social media users, as it is the only way that the author distributed the survey. The reason for the boundary is the author's time and physical constraint during the research period. The data for middle-

aged from 50-60 age groups would be limited because most respondents were in the typical age group of social media users.

Second, the respondents are limited to people within the author's social circle, as it is due to the nature of the method of social media. That may also have some effect on the result. For example, the amount of people caring about cosmetic could potentially be higher than if the survey was on random people on the street.

However, to reduce the limitations, the survey was designed to be as neutral as possible, so unethical or negative consequences are unintended. There wasn't any requirement for respondent's name, address, email, or any information that could expose the participant's identity, so the respondent would be more comfortable answering. Also, the gender option for the survey included those who do not identify, as binary or simply have gender preferences other than male or female. Additionally, the respondents are not required to answer all questions, so people who got the survey are more likely to complete it but not skip it entirely.

9 Research Result

The questionnaire used for this study contained a total of 14 questions, with the easier questions at the start and more complicated to the end.

First question asked people about their awareness of sustainability concept, if they are familiar with it then the following questions will be ready, useful, and meaningful for them to answer, otherwise, they are not going to make it to the end. There are 21 people who know about it well and 20 people understand very well. 14 participants do know about it, 5 people understand what it is, and 1 person doesn't know about it at all.

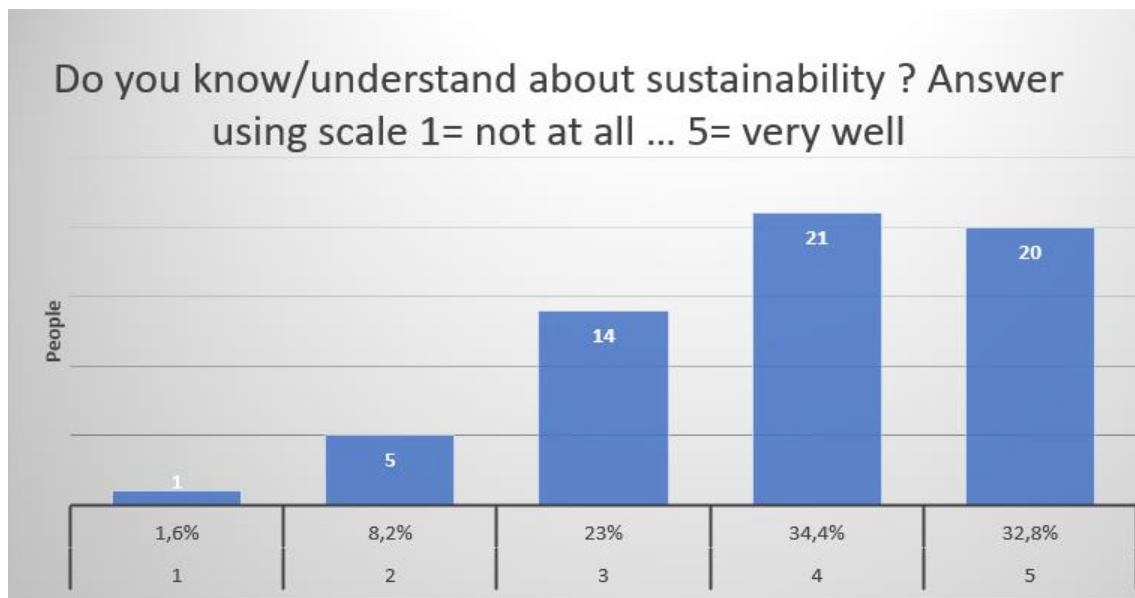


Figure 2: Survey Question 1 and result

Second, Identifying the participants' gender was the second question, the most basic one. Respondents were required to answer this question. Most participants were female (69,8%), and male was 30,2%, and no one responded "prefer not to say". According to some studies, women are more likely to engage in environmentally conscious behaviour and have higher intentions to make green purchases (Zelezny & Schultz, 2000).

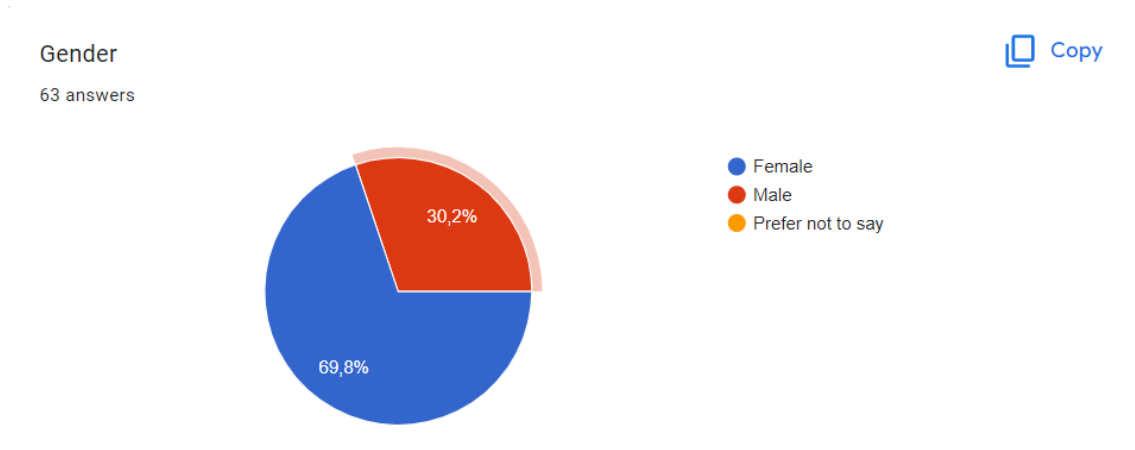


Figure 3: Survey Question 2 and result

The next question inquired about the respondents' ages. The answer options ranged from under the age of 16 to above the age of 40. The aged 16 to 30 were the most likely to select this answer, taking account for 80.61% of all respondents (50 in total). The next

most popular answer came from those aged 30 to 40, with 16.1%. The remaining responses were aged under 16 have the same percentage as those over 40, only 1.6%, with a mean of one response for each.

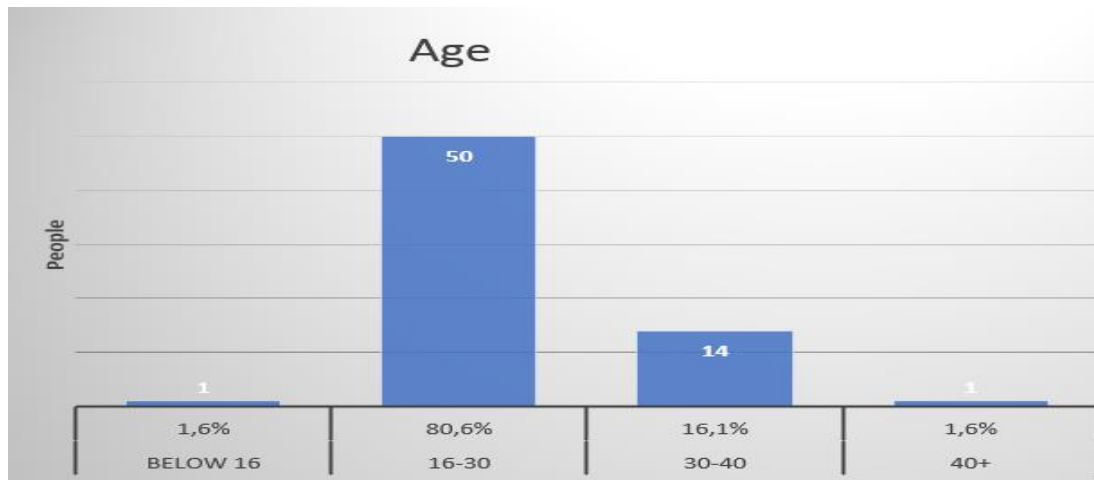


Figure 4: Survey Question 3 and result

The fourth question concerned the participants' nationality. As the survey was shared on my social media, the majority of the responses came from Asia, accounting for 63.9% of the total. Other European countries were the second most popular choice of nationalities, with 27.9% choosing this option. America comes in second with 4.9% of the answers. Only 3.3% of the answer is African. Finally, no one responded that they are from Oceanian.

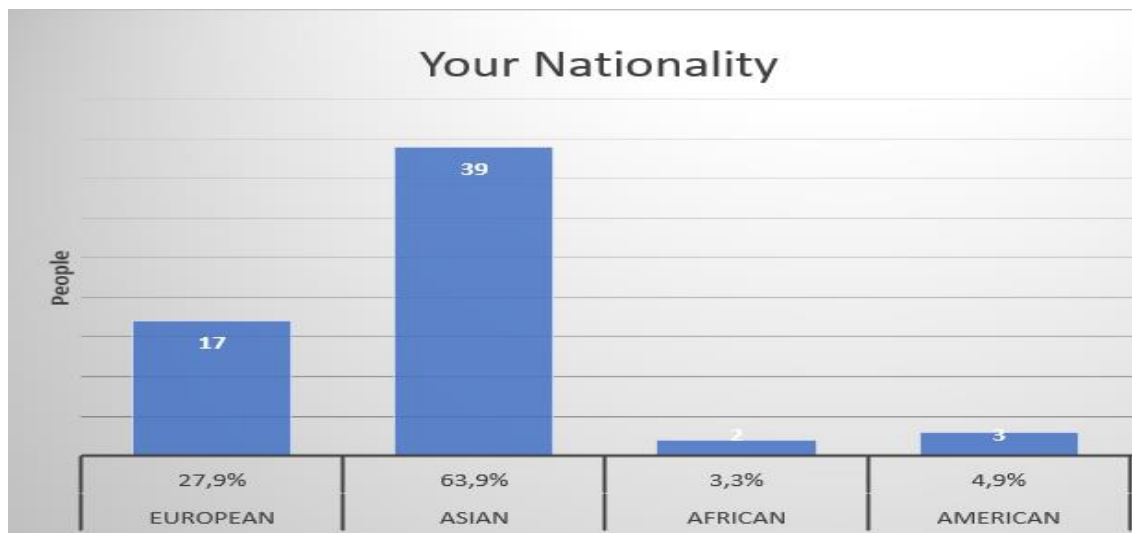


Figure 5: Survey Question 4 and result

The following question asked if people followed influencers or keep up with the beauty trends, and public figures who provide the company's reputation through promotions and other forms of brand awareness. The number of responses was nearly similar, with 36 people (58,7%) choosing 'yes' and 26 people (41,3%) choosing 'no.'

Do you follow influencers or keep up with beauty trends ?

63 answers

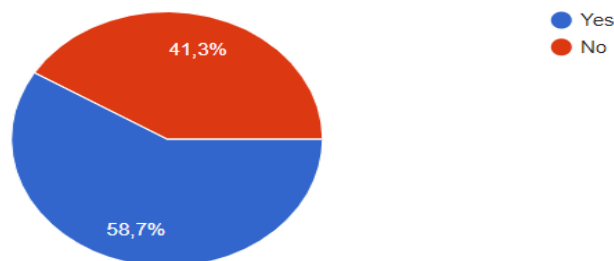


Figure 6: Survey Question 5 and result

As a result, this survey was just not designed to examine only perspectives of make-up, but rather any cosmetics that include product lines used for hygiene to other things related to physical conceptual concerns, the question: How often do you purchase cosmetics products? This question was critical for analysing its interconnection with other research questions. The most common response (37,1%) was a few times a year,

followed by once a month (33,9%), and once a year (16,1%). The last two options selected were: few times a month with 8,1% and weekly with 4,8% of answers.



Figure 7: Survey Question 6 and result

Furthermore, the following question was posed: "How could you get to know and buy these products?" Many people preferred mouth-to-mouth for cosmetics identification; 29% of participants chose recommendations from friends and family. Online advertisements accounted for 25,8% of responses, followed by in-store recommendations and from influencers, have the same percent is 17,7%. Even if consumers leave their homes with the intention of purchasing a specific type of product, 70% of purchase decisions are made in the store (Kauppinen- Räsänen, 2014), just 8,1% of people knowing from other sources, and finally, 1,6% of revealing through traditional advertisements.

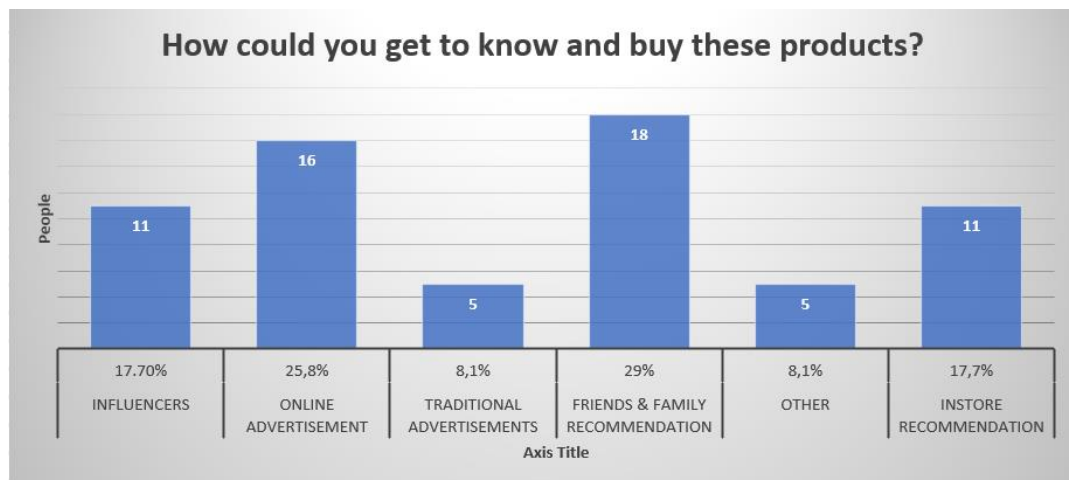


Figure 8: Survey Question 7 and result

The following question is which aspects will affect respondents during their sustainable cosmetics purchase decision. Quality was the most preferred aspect (51,6%), with ethical value coming in last at 4,8%. Packaging was the second most valued aspect (19,4%), followed by price (12,9%), and finally, popularity received 11.3% of responses.



Figure 9: Survey Question 8 and result

A Likert scale question is applied, this question “How important is packaging for them to consider whether or not a product is sustainable?” is evaluate the level’s agreement of respondents. The response in the knowledge of them is quite clear and the result was tight, 21 persons think it quite important to them at level 3 (33,9%), it is definitely crucial also for the same amount at level 4 (33,9%) and 17 attendants think the

packaging is very important for a product to be sustainable. Only 3 person think it not so important but still need to have it with the product (level 2)

How important is packaging (e.g. material) for you to consider whether or not a product is sustainable?

62 câu trả lời

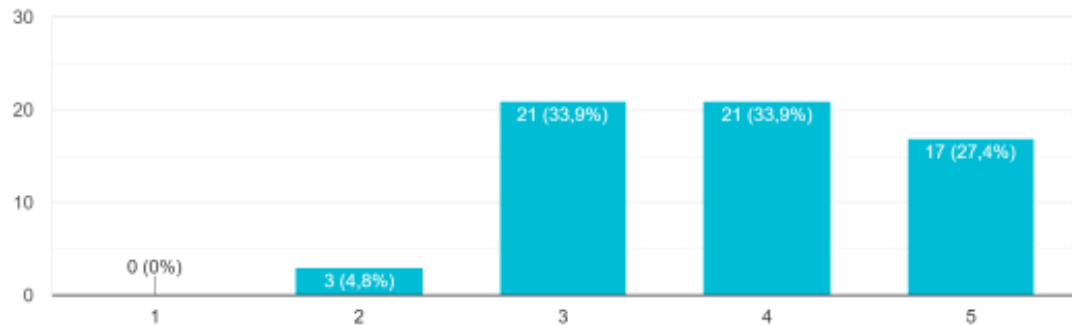


Figure 10: Survey Question 9 and result

Furthermore, the survey investigated whether people purchased green cosmetics. Although, this question was not limited to 'yes' or 'no' responses in order to include those who are unfamiliar with the concept of green / sustainable cosmetics or who certainly do not have any opinion on the subject. 48.4% - 30 people preferred buying green cosmetics "sometimes" ,15 people (24,2%) said they did purchase green cosmetics, but "rarely," and 13 people (21%) said they buy them "very often." and 2 more do not understand what it is but wanted to know. Only 1 people (1,6%) did not buy these products at all and one person (also 1,6%) expressed no interest in the field.

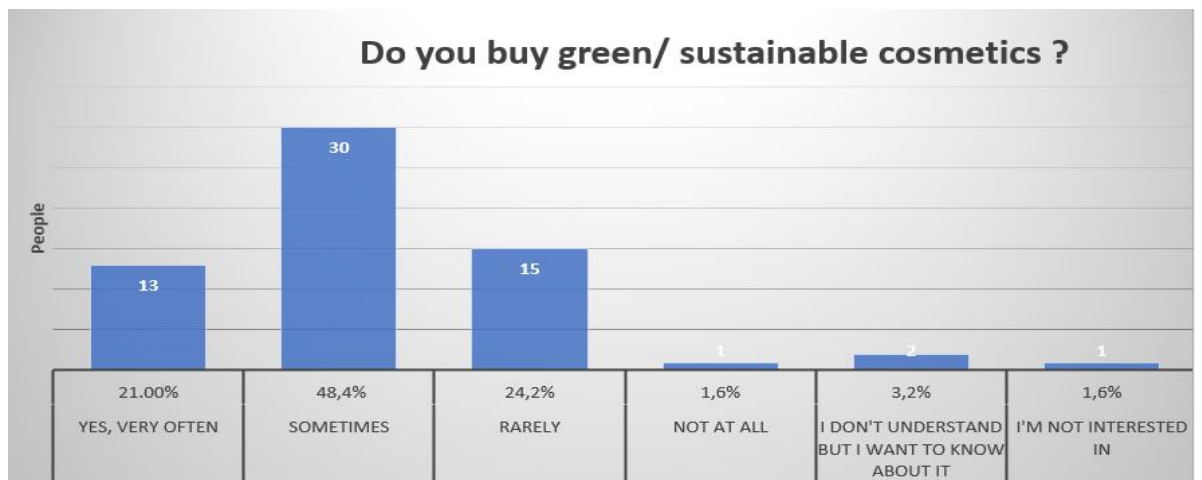


Figure 11: Survey Question 10 and result

The survey asked the participants what they considered to be green/sustainable products in order to assess their definitions. 35% of people thought these products were "organic products." The most popular choice was "product with sustainable packaging," which received 27,4% of responses. Consistently, 25,8% of people thought that a product with an "eco-label or certificate" was an appropriate answer. A green cosmetic, according to 8,1% of respondents, is a cruelty-free product. Finally, only two people (3,2%) identified these cosmetics as participating in non-profit projects.

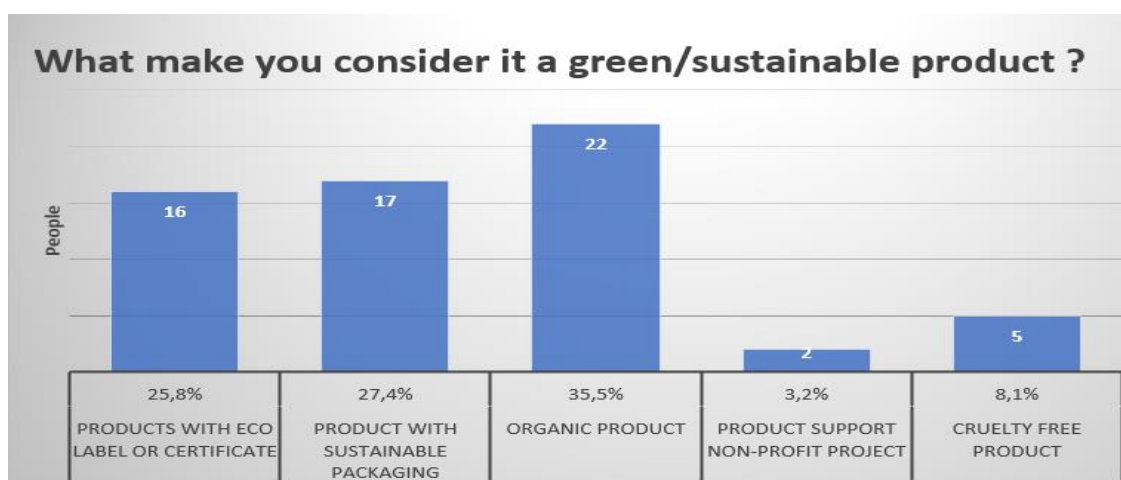


Figure 12: Survey Question 11 and result

Furthermore, some indications of people's trust in the eco-friendly claims made by manufacturers of these types of cosmetics. More than a quarter of people (48.4%)

appear to trust those certain products only depending on the company or the product type. 37.1% of people said they totally trust the claims. 12,9% were unsure whether they trusted those claims. And 1,6% had no faith in any of these claims at all.

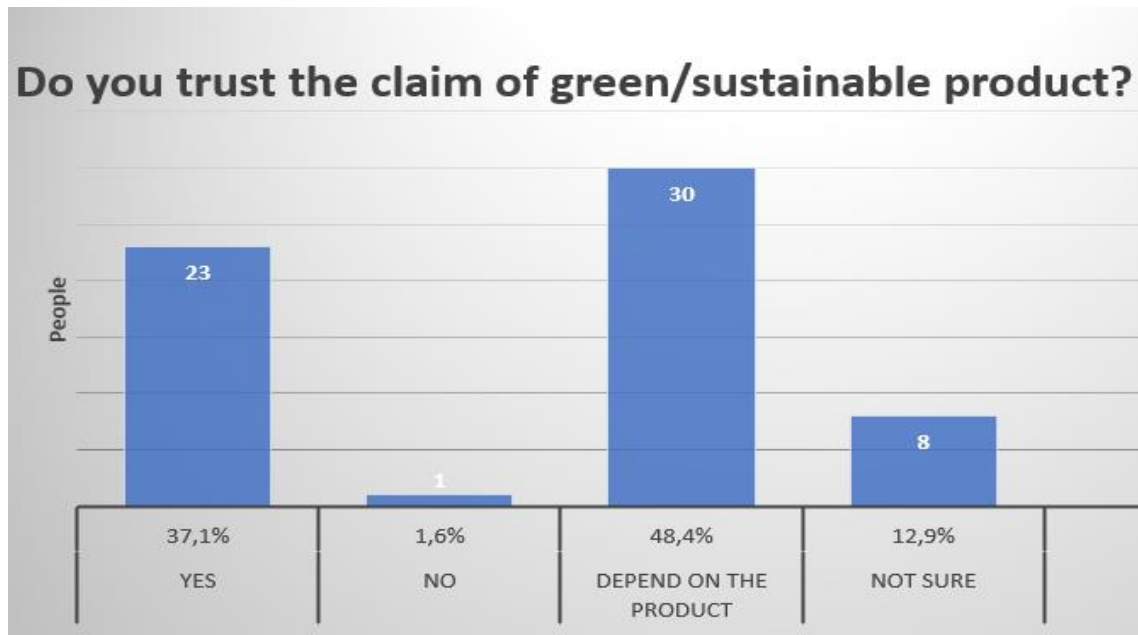


Figure 13: Survey Question 12 and result

Following that, respondents were asked if they were familiar with any brands that manufacture green cosmetics. The answer was 'yes' 85.7% of the time and 'no' 14.3% of the time. It shows that nowadays, cosmetic companies realize the trend and the power of sustainability products toward people's awareness about environmental issues.

Do you know any brand that produce green cosmetics ?

63 answers

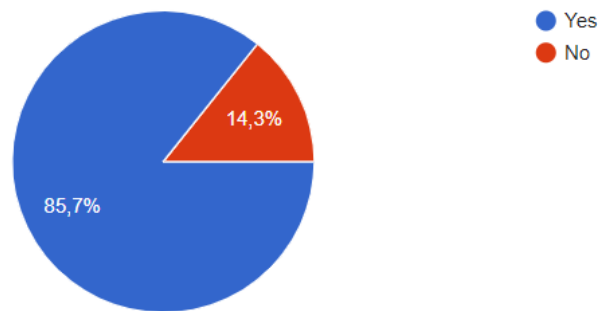


Figure 14: Survey Question 13 and result

Finally, the final question was nominal, asking participants to provide a name or names of brands that they believed produced green cosmetics. Quite a lot of them responded by naming one or more brands. "Lush" was the most common response to this question. Lush is a 26-year-old British company that manufactures and sells hair and face creams, soaps, shower gels, shampoos, moisturizers, lotions, scrubs, masks, and other cosmetics. (We are Lush, 2022) A response to this research question does not imply that the brands referenced in the response are in actuality green brands. A further reason for this research might also see how legit these companies' claims of being sustainable are.

If yes, which one ?

54 câu trả lời

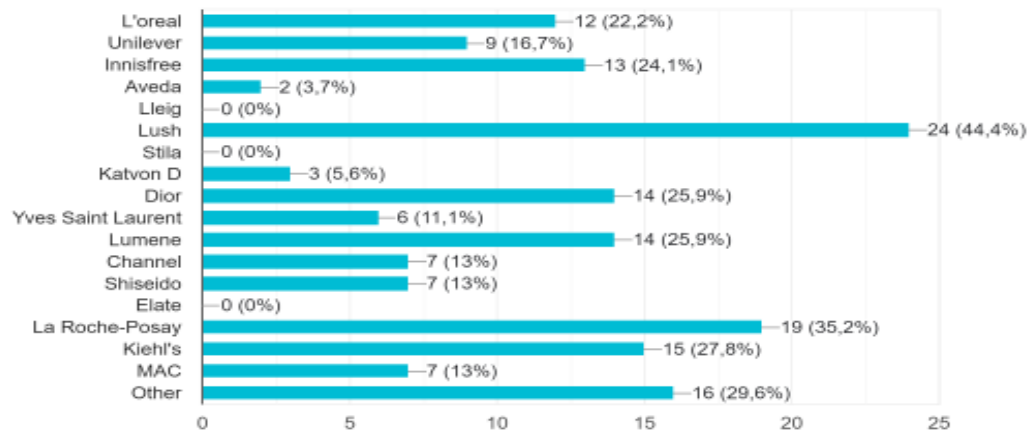


Figure 15: Survey Question 14 and result

9.1 Discussion

When comparing the questions "How often do you purchase cosmetics products?" and "Do you buy green/sustainable cosmetics?", participants who purchased cosmetics, were more likely to purchase green cosmetics. Those who purchased overall cosmetics less than once a year were less likely to purchase green cosmetics.

The majority of participants, who are also women, know and understand the concept of sustainability. More than one-third of women from ages 16-30 get to know the products through online advertisement. The author's hypothesis for this is that they spend more time on their phone than other age groups. Meanwhile, male participants' sources of information on these products are quite equally distributed among the options.

For the majority of respondents, the frequency of buying cosmetics is a few times a year, and for most female participants is once a month, the hypothesis of the author is they might submit for monthly cosmetic purchases from their favourite brand. In general, 44% of women will focus on the quality of a sustainable product since most of them are usually and occasionally buying them. Most respondents consider the sustainable product as a product with an eco-label or certificate and organic also female. Most male respondents answered that they consider whether or not a product is sustainable by its packaging.

The author's hypothesis for that is because the product surveyed is mainly made for women's use, therefore it is less likely that men would consider it further than packaging. The hypothesis supported by the result is that the ratio of men in the survey doesn't know any or less green cosmetic brand is higher than women.

10 Strategy & solutions to reduce the waste of packaging and improve the environment

It is necessary to renew thinking in the packaging strategy with many options. Businesses should extend their waste collection, sorting, and recycling services. This is required for all businesses, and it must be done if plastics or plastic films are not included in the government's recycling program.

The most significant aspect of minimizing the negative impact of packaging is recycling, reusing, and repackaging to help shorten the product life cycle. If the package does not leave circulation, the environment will not be polluted. Recycling and repackaging are also far less expensive and energy-intensive than new manufacturing. The packaging sector must seek to eradicate potentially hazardous compounds contain ingredients that can lead to illnesses including allergies and cancer and certain contaminants might make recycling problematic.

Another way to reduce the amount of plastic used is to reuse bags, jars and other plastic products. Instead of throwing away plastic products that are still usable, we can take advantage of their durability to help protect the environment, as well as save ourselves money. Not just plastic bags, most products made from plastic can be reused in the same way. By using this method, plastic waste discharged into the sea or landfill will be reduced, the health of animals and people will be protected.

10.1 Reuse

People can find a solution to reuse their packaging. Looking further, it is a way to reduce a new stage of packaging production, which means no pollution energy is generated. Reuse bottles, and jars if possible. Reusing plastic bags and paper bags will save you money, and the next generation will also thank that action and should also be mindful of the packaging material with reuse intention.

Reuse old products or materials to create new products or store them for other uses and use them repeatedly until the end of their life. Some packaging such as plastic water bottles, plastic jars, etc. can only be reused a certain number of times. Often these products will have a special symbol to represent this information, do not ignore these recommendations because it can accidentally load toxins into the body when using these products to store food or drink.

10.2 Reduce and Minimize

To cut down on plastic, priority on using beauty products whose packaging is made from more eco-friendly materials like paper, wood, fabric, glass, or metal. Reducing waste results in changing lifestyles, and ways of consumption. Companies could utilize paper and take advantage of it. When paper is put into recycling, the percentage of ink is less, the brighter the color, the easier it is to recycle the fewer chemicals to handle.

Consumers should show attitudes toward single-use products in plastic packaging. For example, one-time masks, one-time shampoos, and conditioners in plastic packaging are convenient but produce a lot of waste. There are groups of consumers who "say no to samples" instead of receiving disposable samples, they go to the store to experience the product.

If companies are using plastic packaging, the most practical solution is to reduce the thickness of the plastic film. Depending on the packaging structure and preservation requirements of the product, the thickness of the printed film can be reduced, such as the OPP, PET, or PA layer. (Bahraini A. 2018)

In addition, organizations may consider reducing the thickness of the extrusion glue layer, as well as the solder layer. The most common solder pastes you can reduce thicknesses are LLDPE and CPP (Bahraini A. 2018). By reducing a few ingredients in the packaging, companies have contributed to reducing packaging waste in the environment.

Promote the optimization of the production process in terms of the environment, use resources efficiently, have low emissions and try to change consumption plastic habits. Certain types of plastic such as PET, glass, steel, and aluminum can all be recycled to

continue creating new cosmetic packaging. The reuse of materials helps to limit the impact of energy consumption and natural resource loss.

10.3 Remain and Repair

The manufacturer ensures the formation and provides services on warranty, maintenance, replacement of components, and repair to prolong the life cycle of the product.

10.4 Recycle

This concept is not too strange, when a packing can be recycled, it is already contributing to a more sustainable environment. The good news is that there are many forms of packaging that are being recycled today. Discarded plastic containers will be collected, washed, melted, then recycled for reuse.

It is difficult to eliminate the use of plastic in life because of its convenience. Nowadays, many manufacturers have developed several types of recyclable plastic. Consumers after using the cosmetics need to sort the bottles and send them to a place where they can be recycled.

The way to tell if plastic packaging is recyclable is to look at the recycling symbol and number marked on the bottom of each bottle. The numbers will tell us what plastic the packaging is made of and whether it is recyclable or not. Accordingly, there will be 7 types of plastic used for packaging. Among them, #1 and #2 are the two most easily recycled plastics, which are PET/PETE and HDPE because they are relatively clean and pure plastics. #3 to #6 (PVC, LDPE, PP, PS) are plastics that are difficult or impossible to recycle. #7 are products made from other types of plastic or mixed, not pure, making recycling extremely difficult and if released into the environment without treatment, it will take hundreds of millions of years to decompose. (Bahraini A., 2018)

It's not 100% the consumer's fault for plastic waste problems. Consumers are not wrong when choosing consumer products, namely cosmetics that coincidentally come with plastic packaging. The big responsibility also belongs to the manufacturers themselves when the products put on the market are packed in plastic packaging. The reduction of

plastic should start with the businesses themselves; the entire responsibility is not on the consumers.

10.5 Additional solutions

There are several other ways such as putting a high environmental tax on plastic packaging or propaganda and using promotion to help people and customers understand the harmful effects of using plastic packaging on the surrounding environment, which directly affects their lives and future.

To make this industry more environmentally friendly, consumers should build a habit of using natural products, especially green cosmetics packaging and search for alternative products or no packaging products. Cosmetic packaging using recycled products is only reasonable if customers have a habit of recycling. Plastic packaging is thrown into sewers, lakes, drainage dams, clogging sewage pipelines, increasing the likelihood of urban flooding in the rainy season, from allowing mosquitoes and bacteria to multiply and develop when diseases are contagious.

Destruction of the ecosystem caused by the plastic bags lying in the ground make the soil not retain water, and nutrients, making the soil degraded, and not porous, nutrients, from slowing the growth of plants, not developing, transferring nutrients for plants, and affecting the ecosystem development.

Plastic is also swallowed by the sea creatures, they often mistakenly think plastic bags are seaweed and delicious jellyfish, so after eating those toxic chemicals and materials, they will die, and plastic is once again discharged into the environment. Plastic items could accidentally be wrapped around their necks and suffocate them.

Therefore, we need long-term solutions to solve plastic waste to protect the environment. But before that, we must act to slow down the process of plastic waste in the environment. One of the most convenient ways to reduce the amount of plastic waste is to replace plastic in our cosmetics routine with more reusable and sustainable materials, such as cloth and paper.

Education and strict government regulations can raise awareness about the dangers of plastic to the environment.

In some poor countries, where waste segregation is primitive, this is not yet possible. But not all products must have packaging. Only liquid products containing water in their composition need sturdy packaging. As for dry cosmetics, there is practically no need. They can be placed in boxes made from biodegradable materials such as cartons made from corn starch or bagasse, with a desiccant package inside to contribute to the work of limiting pollution and protecting the living environment.

To ensure hygiene as well as quality, the beauty industry is the leading cause of plastic waste generation. Some cosmetic brands have launched products that can be refilled after use. This extends the life of bottles and jars, minimizes the need for new materials, and reduces CO2 emissions.

11 Conclusion

The purpose of this thesis was not to criticize current business and management paths but to highlight the new standards that are needed to form a sustainable future.

Nowadays packaging not only protects the product but also plays a great role in increasing product value, but most of them made from plastic. Polymer materials from petrochemicals are a potential hazard to the ecological environment because they are not biodegradable, only mechanical, and thermal effects can destroy them, but they produce many toxic substances, harmful and requires huge costs to deal with. Supermarkets and other selling points prioritized the production and distribution of green products, and at the same time using environmentally friendly packaging and items instead of single-use plastic.

The trend of green consumption and green living is forecasted to continue to grow strongly in the coming time. In addition, greening production also shows the responsibility of businesses to the community and society to protect the environment and the common ecosystem. This is not a small effort on the arduous "go green" path of cosmetic brands. In the future, there will certainly be more new names in the cosmetics industry, brands

possessing abundant investment capital and modern technical infrastructure to create a breakthrough for this potential segment.

The environmental damage caused by cosmetics is much greater. Consumers have the right to reduce the amount of this poison in the environment by not using any products and not supporting any brand that is indifferent to environmental issues. Consumer demand has prompted many companies to "green" their products.

Completely removing packaging from cosmetics is a big challenge and cannot be done right away. This is a journey that requires the cooperation of brands, manufacturers, and consumers. Many pioneering brands in the movement to reduce cosmetic plastic packaging have created an impetus for other brands to follow. We just cannot walk on the old road while it disappears beneath our feet.

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