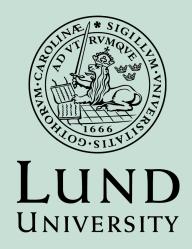
TETRADATION

Bachelor Thesis/Love Persson/2021



TETRADATION

Coloring the Colored Cosmetics Industry Greener

Love Persson

Degree Project for Bachelor of Fine Arts in Design Main field of study Industrial Design From Lund University School of Industrial Design, Department of Design Sciences

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2021

ISRN: LUT-DVIDE/EX--21/50530-SE



Abstract

Within the colored cosmetics industry today most brands are only in it to win it. This market is worth billions of dollars and everyone wants a cut. We are overwhelmed by this industry on most social medias but mainly on instagram where we are constantly encouraged by influencers to try the latest on the market. The colored cosmetics industry promotes overconsumption.

The most common packaging materials for colored cosmetics today are glass and plastic. We are all very well informed regarding all the negative aspects of plastic but did you know that glass isn't that great that everyone tells you. In fact, industrial glass is based on silica sand that is classified as a finite resource since it takes thousands to millions of years to form. The more silica sand we use the closer we bring this raw material to exploitation. The colored cosmetics industry was in great need of packaging innovation.

By sending out a survey to common users of colored cosmetics assumptions could both be confirmed and disproved. After studying the history of colored cosmetics and realizing that human beings had always, to some extent, been obsessed with the color of the skin, a demarcation to only liquid foundation was made. By learning more about the circular economy, a business model that doesn't compromise our world's resources, and taking much inspiration from Tetra Pak, a foundation packaging mostly made out of carton was developed for the brand COVER FX. Carton is a renewable material and easy to recycle.

We should care about this since we have a limited amount of natural resources and to break obsolete patterns we need to always strive for innovation.

This project was not a collaboration with the target brand.

Acknowledgement

I would like to express my sincere gratitude to **Anna, Claus, Charlotte** and **Jas** for always challenging my thinking and preparing me for my future as an industrial designer. I am forever grateful for all that they have taught me during the last three years.

In this project I have also had the opportunity to get invaluable feedback from my assistant supervisor **Therese Eklund**. Thank you for taking the time for me and being genuinely interested in my project.

I would like to thank my classmates for being such a supportive group of people, spreading so much love. I would especially like to thank **Amelia, Emma. W, Iris, and Tim.**

Olivia, thank you for always being one text away. I value our friendship highly.

Thanks to my twin sister **Therese** for always believing in me even when I'm doubting myself.

Also thank you for reminding me to rest.

Lastly, **Joel**, my greatest love and best friend. Thank you from the bottom of my heart for your endless support. Your pep talks have kept me going. This journey has not only been mine, but ours. You have helped me more than you could ever know.

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MOTIVATION

Background

I support several influencers on instagram through following them. I do this since many of them highlight topics such as self esteem, confidence, body positivity, humor, women's rights and so much more. I don't follow them so I can get inspired by the latest fashion trends or get discount codes but I am fed with this anyway, both in my feed and stories, everyday. I want the honest and personal part, but to get that, I also end up triggered by all fast fashion, discount codes and makeup commercials.

When we were about to start with the bachelor project I had recently got exposed to enormous amounts of make-

up reviews, new makeup launches and observed influencers releasing their own brands since there is a lot of money to profit from in this industry. I had so many questions at this point. What happens with all the makeup that isn't being used? Is it possible to recycle the formula? Why is there always so much packaging material?

Colored cosmetics is the formal term for make up and includes foundations, eye shadows, powders (blush, bronzing, contouring, lipsticks/lipgloss), concealers, nail polish etc.



Example of colored cosmetics

Colored Cosmetics Market Value

Global market value 2020 USD 64.1 billion

Revenue forecast 2025 USD 86.9 billion

(Grand View Research, 2019)



Global Goals

To further base this project onto something well known and trustworthy the global goals were analyzed. Number 12 of the goals fitted the initial thoughts behind the project and lead to the formulation of the very broad initial brief

TARGET 12.5 SUBSTANTIALLY REDUCE WASTE GENERATION

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

TARGET 12.2 SUSTAINABLE MANAGEMENT AND USE OF NATURAL RESOURCES

By 2030, achieve the sustainable management and efficient use of natural resources.

(The Global Goals. 12. Responsible consumption and production.)

Initial Brief

Prevent overconsumption and minimize abundance of waste within the colored cosmetics industry

ANALYSIS

Where to Start?

How to decide the approach of the project was not the easiest thing to do. The area was very unfamiliar and it wasn't just to dive in and hope for the best. It was necessary to both confirm and disprove my own assumptions from the start.

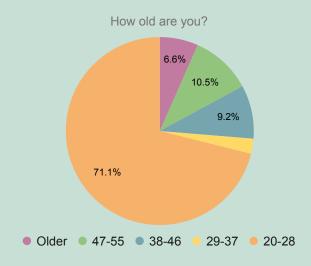
To reach common users of colored cosmetics the most appropriate way to go during this pandemic seemed to be with the help of a survey. A survey that was published on Instagram and Facebook. To reach a larger range of age, individuals were encouraged to share the survey with their own friends. The hope for the survey was also to get new perspectives and somehow lead the way.

Survey Questions

- 1. How old are you?
- 2. When do you buy colored cosmetics?
- 3. Do you buy more colored cosmetics than you can use?
- 4. What do you do with colored cosmetics you are not satisfied with?
- 5. Do you recycle your colored cosmetic containers correctly?
- 6. Do you feel that you are informed within how to recycle left-over formula?
- 7. Do you feel that the colored cosmetics brands you buy are engaged in recycling and sustainability?
- 8. Where do you usually buy colored cosmetics?
- 9. If you buy it in a store, what is the main reason?
- 10. If you buy it online, what is the main reason?
- 11. Is it common that you buy a whole palette when you are only interested in a few shades?

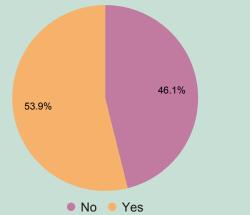
Commenting Survey Result

in total 76 individuals answered the survey



The spread of the age range among those who answered the survey. It would of course be a better result if the segments were more evenly distributed. As it is in the diagram most of the answers are represented by younger individuals.



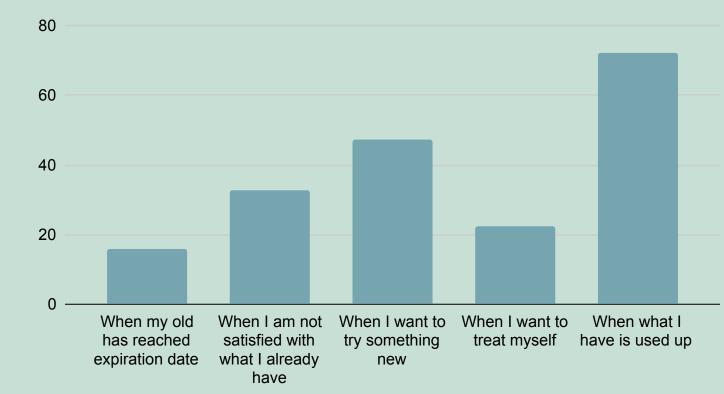


It's chocking to see these numbers, I hear a strong alarm bell ringing. It feels like the respondents were honest and that's good. Now they are aware of their behaviour.

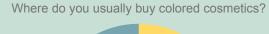
Number of respondents

When do you buy colored cosmetics?

Multiple choice



From this bar chart it can be understood that a big factor of buying new colored cosmetics is when individuals want to try something new. And many also buy colored cosmetics when they are not satisfied with what they already have. The result of this question also shows that quite a few buy colored cosmetics when what they have has reached expiration date. Where a further question comes to mind: Is colored cosmetics unusable when it has reached expiration date?





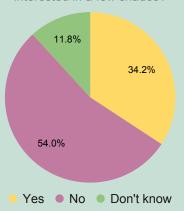
Main reasons to buy colored cosmetics in stores

Color matching/Feel formula/Get expert help/ Get the product immediately

Main reasons to buy colored cosmetics online

Cheaper/Greater range/Easier to overlook & filter/ Convenient if you know what you want

Is it common that you buy a whole palette when you are only interested in a few shades?



The answers to this question reflect that this is a problematic situation. A following question to this would be: is it such a big part of the overall problem within this industry?

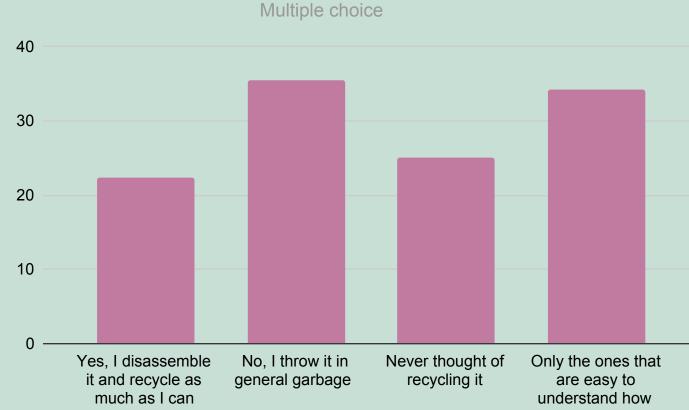
What do you do with colored cosmetics you are not satisfied with?



Almost 60 of the total 76 respondents don't want to use colored cosmetics they are not satisfied with and choose to stack it at home. Around 40 individuals throw or give it away. Extremely few use it anyway, even though they are not satisfied.

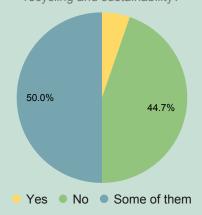
Number of respondents

Do you recycle your colored cosmetic containers correctly?

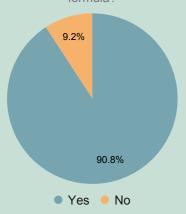


As seen, general garbage is the most common way to get rid of colored cosmetic containers. As many as 25 individuals had never thought of recycling it which is quite unusual for swedes, a country where recycling is at the forefront. Since the survey was anonymous it's hard to tell the respondents nationality but it can be assumed that the majority were swedes. Many also answered that they only recycle the ones that are easy to understand how. A follow up question to this would be: What do those containers look like? A question the survey lacked.

Do you feel that the colored cosmetics brands you buy are engaged in recycling and sustainability?



Do you feel that you are informed within how to recycle left-over formula?



Half of the respondents don't feel that the colored cosmetics brands that they buy today are engaged in sustainability. Why is that? Why is it not important for companies to do differently? Do they feel that they have no responsibility?

There should have been a following up question if they answered yes. It would have been great to see the answers.

Additional Comments From the Survey

"Packaging is such a big part of the feeling of joy."

"It is often difficult to squeeze the last out of foundation tubes."

"I reflected on this problem last time I had to throw away a product, it was both glass and plastic and I didn't know where to throw it, so it went into brännbart. The container was still working fine and I would rather have bought some kind of refill container than buying a new product."

Summary of Survey

It was interesting to analyze the result of the survey, some assumptions were confirmed, others disproved, exactly as expected. The main takeaways was that most individuals actually buy more colored cosmetics than they can use. The desire to try something new is a key factor for buying new colored cosmetics. Not everyone had thought of recycling colored cosmetics containers and many only recycled the ones that were easy to understand how. Many that confidently answered that the brands they buy today are engaged in recycling and sustainability. The biggest factor to buy colored cosmetics online was convenience.

It's hard to say something about the different age groups represented since there was no even spread. The additional comments are gonna be kept in mind further on.

Legislation on Colored Cosmetics in EU

How safe is colored cosmetics from a chemical point of view?

"In general, the vast majority of cosmetic products available on the Swedish market are safe to use." ... "EU cosmetic products are not pre-screened or approved by authorities before being placed on the market. Instead, it is a so-called responsible person who is responsible for ensuring that the product is safe and follows the rules." (Läkemedelsverket. Kosmetika.)

History of Colored Cosmetics

It was far from easy to get an overall picture of the history of colored cosmetics, a very time consuming process since It was very hard to find. No source had a complete overview and some sources contradicted each other. I gathered as much as I could, sorted out, and thought that the easiest way to show my finding was to conduct a timeline and try to cover the most important parts of the general history. It was much easier to find more specific information, like the first mascara. Studying the timeline afterwards it was obvious how mankind always had been quite obsessed with the color of the skin since that was the most frequent theme of my research.

Timeline of Colored Cosmetics Throughout History

The parts of history that involve skin color have a white frame. And as stated before, skin color has had a central role. With that said, more than half of the information on the timeline has been framed.

4000 BCE

Egyptian men and women color, decorate and define their faces with a paste made of copper and lead ore. For decorating the eyes they use a bright green paste made of copper minerals and kohl.



1500 BCE

In China and Japan individuals are universally applying rice powder to fulfill the desire for a white face. Eyebrows are hardly existing and henna is used to stain hair and skin.

300-400 CE

Henna is widely used in India to paint on the human body, especially hands and feet. This pigment is also to some extent popular in the North African cultures.

15th-16th Century

Italy and France are in control of the cosmetics industry in Europe. Lead in face powder is replaced with arsenic.

3000 BCE

Women in Greece use lead to paint their faces white and the pigment from mulberries is used as rouge.



1000 BCE

Greeks use chalk or lead powder to whitening their face. To pigment lips they apply ochre clays mixed with red iron.

14th Century

The women of the highest class in England desire a pale face color and cover themselves up with egg whites.

Early 18th century

The Swedish woman Eva dela Gardie invented a way to transform farina into a non poisoning powder.



20th Century

The purpose of makeup is to look as young as possible. A great selling point since the use of colored cosmetics increase. To achieve youth many women feel a need for someone to help them which opens up for the era of beauty salons.

1915

T L Williams innovated an early mascara when he mixed Vaseline with charcoal for Maybel, his little sister. In 1917 Maybelline sold the first cake mascara.



16th-17th Century

European men and women experiment with many different products (for example white lead paint) to be perceived as paler in the face. This because a darker skin tone meant that you were working outside.

19th Century

Zinc oxide powder replaces the leadbased one as an attempt to find something less toxic but with the same effect. During this time colored cosmetics are seen as something vulgar but it is still acceptable amongst actors.

Early 20th century

Swedish women only used powder for the facial skin, other kinds of colored cosmetics were seen as inappropriate.

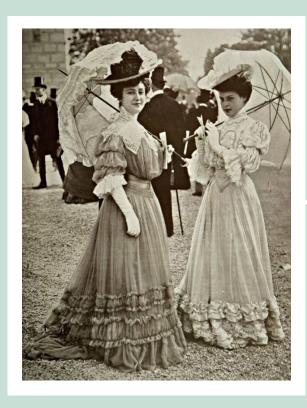
After world war II

TVs were spread more widely and beauty contests were broadcasted in the early 1950s. The colored cosmetics industry got an upswing.

History of Skin Color Ideal

The Great shift in The Western World

Even if the history mostly reflects a pale ideal that is not the reality today. It is of value for this project to also highlight the big shift in skin color ideal, comparing the past with our modern world. I have only lived while tanned has been the ideal to strive for. When I was younger my mother sometimes went to the solarium to get a tan. Today most of my friends use sunless tanning so they can look tanned all year round. That's a big shift compared to the history where individuals even protected their skin with parasols on sunny days. What we didn't know then and what we know today is that the UV radiation from the sun is in large quantities harmful to us humans. Even if we have sunless tanning today individuals still spend a lot of time in the sun. Maybe mankind was smarter before, not regarding the aim of being pale but protecting themselves from the sun.



From the middle ages up until the Industrial Revolution Individuals strive for a pale skin tone since a sunburn was synonymous with labour outside. Toxic white powder was used.

During the 1980s the great mass wanted to be tanned all year round. The new invention was solarium.

Today many still want to be tanned all the time. Since high exposure to UV radiation isn't to prefer spray tanning and sunless tanning have been invented.

In the 1960s tanned skin became a status marker. Tanned individuals could afford a vacation.

Scientists discover that high exposure to UV radiation can cause skin cancer.



Skin Color is Seasonal & Unique

It's of great importance to also mention the need of vitamin D, a vital substance for the human body. This vitamin is produced by the body when the skin is exposed to UV radiation. A fair-skinned person only needs 15 minutes in the sun during summer for the body to form enough vitamin D (Strålsäkerhetsmyndigheten. 2017. *Sol och D-vitamin*). For an individual with darker skin the exposure needs to be longer since the higher level of melanin in the skin acts like a UV protection (Cancerfonden. 2010).

Even though many of us use sunscreen to protect our skin from the sun, our skin tone changes with the seasons, more or less. How much the skin color changes depends on the skin tone and the ability to form pigments. (Cancerfonden. 2010). Another interesting thing to discuss is the uniqueness of the skin tone. Can two individuals have the same skin tone? In a study 2011 Omer A Musa, Jehan E Abdel Rahman, Aamir A Magzoub and Mohamad T Abdel Mageed investigated the uniqueness in skin color in the general population as well as in identical twins. Their conclusions were that not even identical twins have the exact same skin color and that the difference was significant. They stated that this could be a new identification method as fingerprints are today (Omer A Musa 1, Jehan E Abdel Rahman, Aamir A Magzoub, Mohamad T Abdel Mageed. 2011).

The Revolution of Foundation

Inclusiveness

Further research within the view on skin color today, it was found that before Fenty Beauty launched it's foundations in 2017 this area within makeup was far from inclusive since lighter shades were the only available (Lauren Christiansen. Jilt. 2021). Fenty started a revolution among brands within this field. Inclusiveness is more important than ever and rightly so.

FENTY BEAUTY

















Demarcation

At the beginning of the project the brief was very broad since the focus area within colored cosmetics hadn't been chosen. Based on the findings of the research a demarcation to colored cosmetics only involving the skin could finally be determined. It was necessary to narrow down the brief further and an even stronger demarcation became liquid foundation.



Greasepaint used within the theatre was commercialized in 1890. The closest product to liquid foundations today. Invented by Carl Baudin (Britannica. *Theatrical Makeup*).

Confused

To get stuck in a project is very common and this was not an exception. It was complicated because of the fact that the initial wide brief was more specific, but I was more confused. By going back to the brief reading it over and over trying to figure out what was blocking the way forward, I realized what it depended on. It was the relationship between the words consumption and waste. Realizing the fact that overconsumption and waste were not necessarily connected to each other, even if they could be. A decision

to only focus on the part of the brief involving waste was made. The choice was based on the fact that overconsumption is mostly tied to human behaviour and psychology, something that I'm not too familiar with. Already tackling the colored cosmetics industry was hard enough for me. I also felt that designing some sort of packaging could be a fun challenge since I had only touched this area within industrial design once before, only on the surface.

Narrowing Brief

Prevent overconsumption and minimize abundance of waste within the colored cosmetics industry

Overconsumption

Marketing Human Behaviour Impulse buying Waste

Cosmetics formula Packaging material

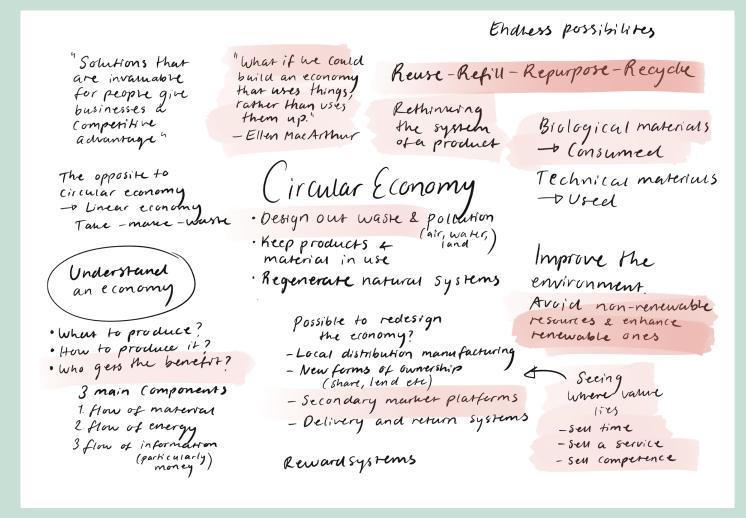
Redefined Brief

Minimize abundance of formula- and packaging **waste** within the colored cosmetics industry

IDEATION

Circular Economy

After a tip from Charlotte Sjödell this project continued with a plunge into the circular economy. The circular economy is crongly intertwined with global goal 12 as was referred to in the beginning of this report. The circular economy is both about the goal itself but mainly about the approach towards it. Another key factor for a successful circular economy is that it's economically profitable. It was from learning more of this that I could come up with a couple of concepts that in some way could lead me back to my brief.



A concluded summary of circular economy with the help of Ellen MacArthur Foundation's homepage.

(Ellen MacArthur Foundation. Circular Economy)

Concepts

A company can collect it's own foundation containers in glass. Clean, refill and sell again.



A company can collect other brands' foundation containers in glass, refill with their own formula and sell.



A subscription of foundation refill in carton packaging



A platform to sell foundation second hand instead of throwing it away



A packaging that is easy to empty completely



Evaluation of Concepts

Concept 1 & 2

When formulating these two quite similar concepts I had primarily one of the main three focuses of the circular economy in mind, to keep products and material in use. I was also inspired by childhood memories. I remembered that I had watched a tv program many years ago where the cleaning process of soda bottles was demonstrated. I also thought about how my grandparents always bought glass bottles and returned them later to be cleaned and refilled. A system that slowly went extinct. A system that could maybe be implemented within another area?

The concepts would live up to "keep products and materials in use" but there are many things in both concepts that speak against them. The concepts demand much logistics and also effort from customers, they have to drop empty ones off at some sort of collecting spot. Except this there could be a gap between the number of sold foundation glass containers and

returned ones which could require some newly produced glass containers after all to meet customer needs. Another difficulty with concept 2 could be the lack of visual brand language since different types of containers could confuse customers. To build a brand it's advantageous to strive for coherency. It could also be illegal to use other brands' containers even if the intention was good.

Negative aspects regarding the cleaning process in both concepts is the use of water. The machines could be very expensive and not worth the effort. Machines are often programmed to work a certain way, sometimes settings can be adjusted more or less. The cleaning process could be a concern especially in concept two since the glass containers wouldn't have the same shape.

Evaluation of Concepts

Concept 3

Is it possible to design a leak proof carton packaging not looking like another dairy carton? Has this been tried before even if I can't find anything about it? What are the limitations of this material? Carton is a material that is being folded to make the structure sturdy which means that there will be edges where the material has been folded. Carton can't become any organic shape such as glass and plastic. The material would have influenced the shape since not everything is possible. Carton as a material could also be positive as lighter materials is synonymous with lighter transportation weight resulting in less CO2 emissions. The survey that was sent out in the beginning showed that quite many had never thought of recycling colored cosmetics containers. Carton is a renewable material and many know how to recycle it.

Many in the survey also answered that the main reason for buying colored cosmetics online was due to convenience. Therefore I thought of a subscription to make this concept more desirable since the packaging material probably would look and feel cheaper. A subscription could also imply personalization in how often the customer wants a new foundation or would like to change to another shade depending on the season.

Disadvantages with the concept could be that the customer can't see or feel formula in real life and has to be sure of their foundation shade.

Concept 4

To even consider something like this it would be a great start to do a quick test to see how consumers would respond to the proposal. Are they interested in a second hand market within this area or could the hygienic factor be a problem? Another negative factor of the concept would be that it would be hard to tell when the product was opened. If the concept somehow would work anyway, there would be less waste of both formula and packaging material and more individuals could afford more expensive foundations.

Concept 5

This concept would primarily respond greatly to the circular economy by designing out as much waste and chemical pollution as possible which is a good accomplishment. Anyhow, this feels more like a subconcept to any other and should be taken into consideration always. Therefore this is something to always have in mind. An additional comment from the survey read "It is often difficult to squeeze the last out of foundation tubes". It's not strange that the customers want what they have paid for and they shouldn't have to struggle to get out the formula. That could be a deal breaker and result in turning to another brand the next time. A situation every company should be working against if they want to maintain customers.

Further Evaluation of Concept 1 & 2

By learning more about glass as a material

Glass is a brittle material, which means that if an equivalent content is to be packed in a glass container compared to another material such as carton for example, more glass mass is required (Tekniska Museet. 2019). The "wall" of the container must be thicker if it is made of glass, which gives a larger packaging volume. In addition to the fact that glass has a high density, the larger mass also contributes to weight, which in turn means that transports of glass have a higher load weight and emit more carbon dioxide compared with lighter transports.

Container glass is a composition of silica sand, soda and lime (Arun Kumar Varshneya. Britannica). As a matter of fact silica sand is classified as a finite resource which depends on the fact that it takes thousands to millions of years for sand to form (National Ocean Service. 2021).

Sand is the second most consumed natural resource in the world, after water. The competition for sand has led to criminal gangs entering the trade to make money on the black market. This in turn makes sand an incredibly vulnerable natural resource that is actually in need of strict regulation (Vince Beiser. BBC. 2019).

With this for me new information concept
1 and 2 were not interesting anymore. I
didn't want this project to contribute to
sand exploitation to any extent. The gap
mentioned before about a possible gap
between the number of sold foundation
containers and returned ones could lead
to a necessity to have some sort of newly
produced containers as a backup. Even if
the raw material could be recycled glass,
and not sand, using glass when it's not an
absolute necessity is still an issue. It signals
nonchalance against the fact that the
world is running out of sand. Recycled glass
should be used where it is absolutely vital.

The True Waste of Glass

These five glass containers with different kinds of content were found at KICKS. As seen, the wall and bottom are of thicker glass. As stated before, that is necessary when it comes to this material in consideration of its brittleness. The thickness helps the container to withstand outer impacts.











Key Factors From Evaluation

"Container glass is a composition of silica sand, soda and lime (Arun Kumar Varshneya. Britannica). As a matter of fact silica sand is classified as a finite resource..."

"Sand is the second most consumed natural resource in the world, after water. The competition for sand has led to criminal gangs entering the trade to make money on the black market."



Along the shores north of Dakar, sand is loaded for illegal trade.

"Carton as a material could also be positive as lighter materials is synonymous with lighter transportation weight resulting in less CO2 emissions."

"The survey that was sent out in the beginning showed that quite many had never thought of recycling colored cosmetics containers. Carton is a renewable material and many know how to recycle it."

Chosen Concepts

After thinking about both advantages and disadvantages of all concepts and learning more about glass, concept number 3 felt like the winner. It could be exciting to look further into something that isn't an obvious solution. When individuals buy foundation today they don't have the option to buy it in a carton packaging, but could it maybe be the future? I also decided to keep concept number 5 in the back of my mind when continuing the project journey. Design out waste is extremely important within the circular economy.

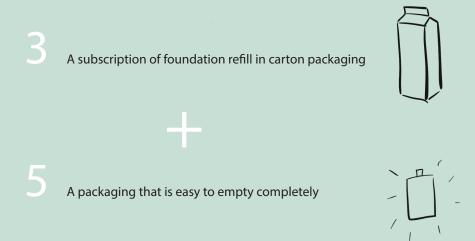
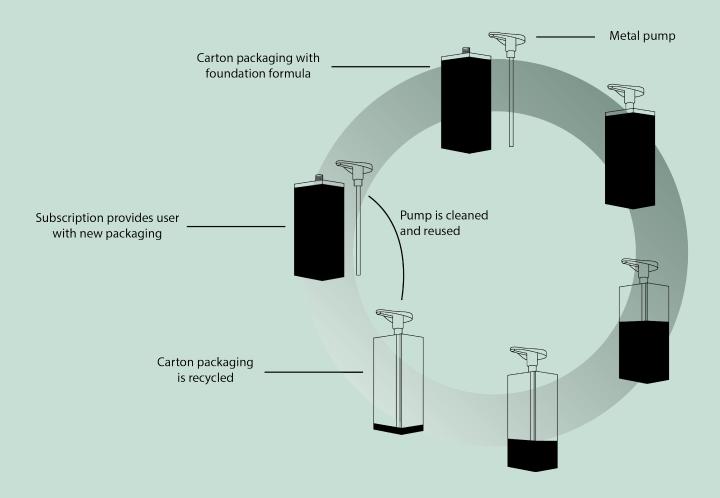


Illustration of Chosen Concept



Function Analysis

Offer easy emptying	N
Not be messy	D
Be enduring	N
Be leak proof	Hf
Express luxury	D
Store approximately 40 ml	D
Provide dosing	N
Be hygenic	D
Offer closing	N
Provide standing position	Ν

This function analysis involve both the carton packaging and the pump. "Offer closing" means that the pump should be able to be twisted and "lock". Easy to dose is also an attribute of the pump mechanism.

FURTHER RESEARCH

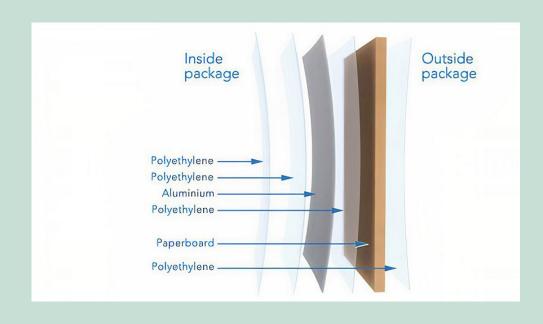
Tetra Pak

If Tetra Pak can produce carton packages for milk and other liquids it should work for foundation as well. It came naturally for me to think of Tetra Pak when thinking of leak proof carton packages. I live in Lund, where the company has its headquarter, my boyfriend works there as a mechanical designer and most of my food and beverage packages I buy are designed by Tetra Pak. I think many living in Lund or southern Sweden in general have a strong connection to this well established company.





Tetra Pak's Carton Material

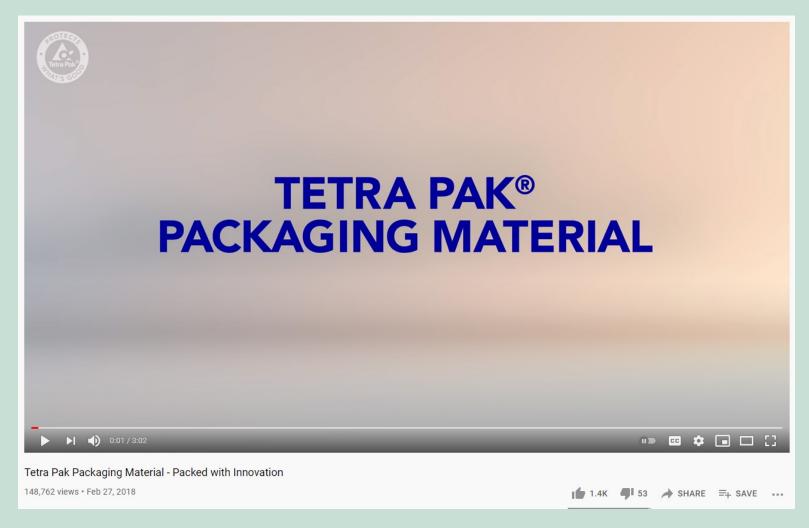




The layers have different functions

The cardboard afford sturdiness to the packaging but also provides a smooth surface to the printing (Tetra Pak. *Packaging material for Tetra Pak carton packages*). Approximately ¾ of the packaging material is cardboard (Tetra Pak. *Frågor & Svar*).

To protect the packaging from outside moisture the cardboard has a thin layer of polyethylene. The polyethylene is also used as a type of glue between the cardboard and the aluminum foil. The foil protects the inside from light and oxygen, especially important when it comes to food (Tetra Pak. *Packaging material for Tetra Pak carton packages*).



https://www.youtube.com/watch?v=fR-esiS1Pn0&t=10s

Therese Eklund

Former employee at Tetra Pak

To Understand possibilities but also limitations within the carton packaging industry I asked Therese Eklund, who has been working on Tetra Pak, for help. A summarize of our conversation below.

Smaller packages are often made out of a thinner leak proof carton material to be easier to fold. A smaller packaging is not a problem since the folds are made when the carton is in a flat position and is very precisely made by a programmed machine. However it's not ideal to do a very small complex shape.

"Plastic windows" can be made almost any size, a really small one should not be a problem at all. These so-called windows are usually avoided when it comes to dairy products and other beverages, in your case it can be a good method to show the shade but

there are also disadvantages with this design. When the volume is lowered, there is a risk that it will look greasy. This feature also makes the packaging more expensive to produce.

The plastic thread for the screwcork is applied to the carton when it's in a flat position, before folded together. This means that it can't be placed in a glue joint that is in the center of the top. Instead it's often placed on the front half.

When it comes to recycling, the packages are recycled as cartons even with this plastic thread is still left. The cork, on the other hand, belongs in plastic recycling.

Matte packages instead of glossy ones is possible.



Confirming the possibility to make really small packages. This packaging for example only holds 20 ml.

Details That Express Luxury

For a carton packaging to be able to compete with other foundation containers, in general glass, it was desirable to make it appear luxurious despite a cheaper material. To further understand what I symbolize with luxury, I went on an excursion to Åhléns, Lagerhaus & KICKS.



Framing of text/ Gold stripes/engraved text/metallic logo/minimalistic text/Intentional overlapping graphis/Almost the same color of text and container

Interview at KICKS

While visiting KICKS I took the opportunity to ask a shop assistent a few questions. She wanted to be anonymous.

What do you think feels luxurious about a product packaging?

- Minimalistic, it should not happen a lot. Only necessary information should be on the packaging.

Can you give me an example to make it more clear what you mean?

- I sense this brand to the left as luxurious while this yellow brand next to it express playfulness to me.



Interview at KICKS

I have noticed that most packagings have metallic details, Do you think those details express luxury?

- Well now that you say it, it really is a lot of gold and silver. And yes I think it is seen as luxurious by many buyers, especially since so many brands actually have it.

Do you think it is important in general for packages that you see a hint of the contents?

- I actually do not think so, it's not what attracts me

If you think about foundations, do you think it is important for these products?

- I do not really know. The color is of course visible in glass containers, but many brands sell foundation in plastic tubes that are not transparent. I do not think it is a must actually.

If you saw two similar packages, one in glass and one in plastic, which one would you choose?

- Hmm I do not know. But if I held them in my hands and felt the weight, I think I would have chosen the one in glass. I think I associate weight with quality.

I get the feeling that the glass containers I see here in the store have gotten bigger and bigger, do you agree?

- Well it probably just feels that way, I think it depends on the design.

What do you think about making a foundation container in carton?

- It sounds very interesting and would be something new within this cathegory. Many customers are looking for more sustainable choices.

Reflection of Interview

Even if I already had looked for packaging details that I related to luxury it was eye opening to hear how someone else reasoned. This shop assistant also did a comparison which got me thinking that it's often good to also clearly know what you are not aiming for. In this case it could have been of value to also look for attributes that felt like something else than luxury to understand the goal better.

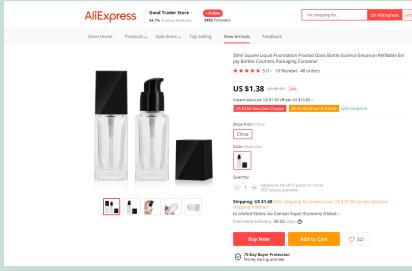
This interview reflects one individual's personal thoughts on what luxury is and everyone is of course entitled to their opinion even though others don't agree. We all have our own perception of things and I think it's important that we are not forced to think a certain way. Something I think is luxurious someone else might think is boring. There will never be one single answer to what luxury is.

Lastly it made me glad that the interviewee had a positive attitude towards my idea since it's challenging today's industry. She also said that many are more conscious and looking for more sustainable alternatives where I believe my concept could be a great fit, filling an existing gap.

Is 30 ml a Magic Number?

Another thing I realized when visiting kicks was that I could only find foundations with the same volume, 30 ml. I couldn't find any container with more or less formula. Later in the project I understood that this was because many companies order their containers from the same supplier and then personalize the containers with the brands graphic profile. It is therefore easier to have a standardized volume, for liquid foundation 30 ml is the magic number.

Standardization is often a very good thing but in this case it's worth mentioning a big problem. Companies order containers that the suppliers offer. Since plastic and glass is the most common container material it's not a coincidence that these materials dominate the colored cosmetics industry. A solution to this could be that the brand itself produces its own packages to have more control over the whole production chain, from raw material to end product. Suppliers are the easy way to go, brands need to be braver.



Example of how easy it is for a company to buy containers.

Target Brand

COVER | FX

Why this brand?

Cruelty free

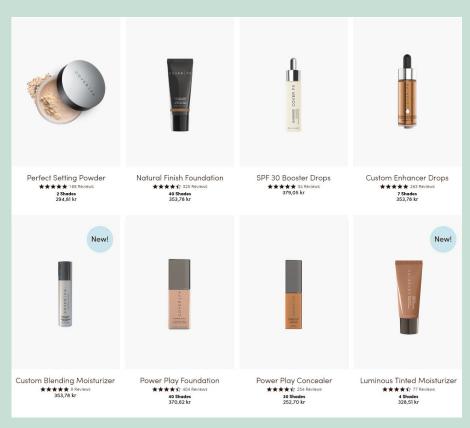
Vegan

Inclusive

Virtual try on foundation

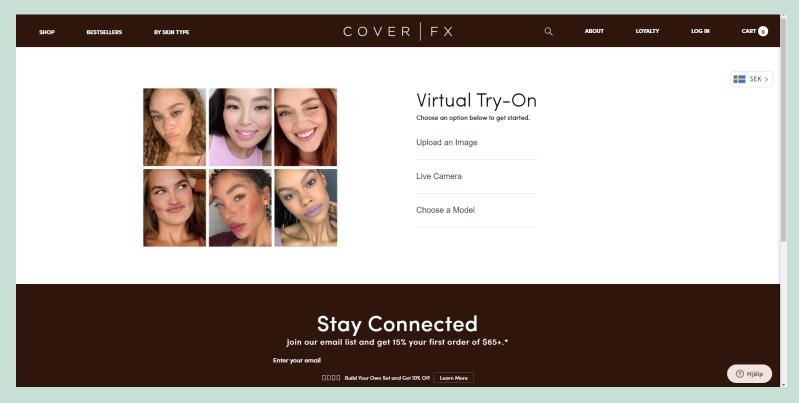


Cover fx was picked as a target brand mainly because it felt inclusive in it's shade range but also because of that the consumer can find out his/hers shade by a virtually try on, a necessary function for a subscription.



Brand Language

Virtual Try-On

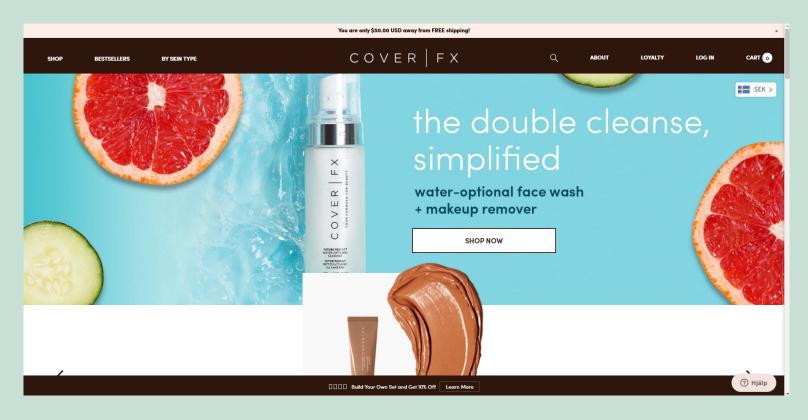


COVER FX offer an online tool so that customers can find the right foundation shade

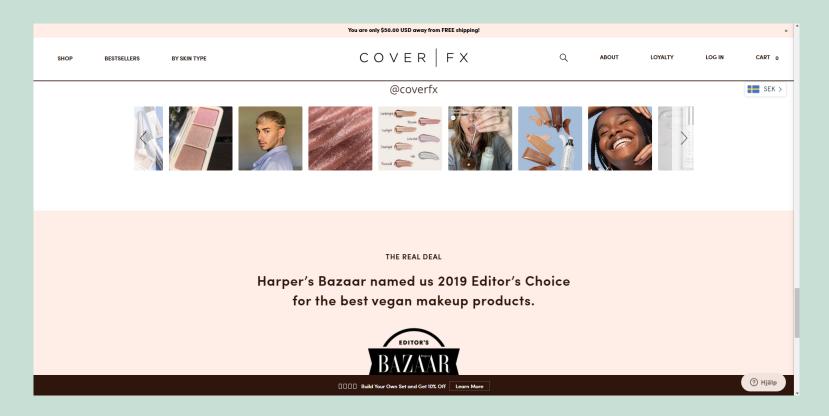
COVER FX LinkedIn Description

"Headquartered in New York City, Cover FX is a global leader in vegan and cruelty-free beauty, widely recognized in the industry as custom complexion experts."

COVER FX HOMEPAGE



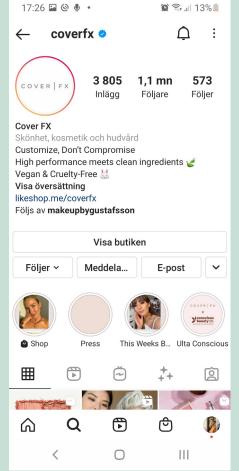
At the top of COVER FX's website



How COVER FX's homepage looks at the bottom. Promoting their Instagram account.

COVER FX Marketing Strategy

Cover fx market themselves mainly on their instagram account where I have collected some inspiration for my final product shots.







17:26 🚨 🕲 🖢 🔹

② ि 13% ■



Target Group

Already loyal customers



Individuals...

...that uses foundation at least 4 times a week

...that like the brand but think the current foundations cost too much

...that want to make more sustainable choices

...not interested in trying new brands

...that want to save time and get their foundation delivered to the door

Analogous Research

Since my chosen concept not only is about the packaging material but also includes a subscription model I decided to look further into two very successful swedish companies where the subscription is the selling factor. Vimla is a mobile operator and Estrid sells razors. The thought behind looking into other companies was to understand my concept better and how I could create value for customers.

Inspirational Companies





What Creates Value for Customers?

Gives you 10 kr off when recruiting a friend

Donates part of the profit to charity

Has great support

Has a couple of competitions each year where

customers can win extra surf for free

Has student and elderly discount

Offers change of subscription at any time

Offers customer to save time

Has free and climate compensated delivery

Provides personalization in color

Don't have to think about buying new blades

Offers change of subscription at any time

Donates money to organizations working for women's rights

(Vimla)

(Estrid. Ett nytt sätt att raka)

Create Value for Customers

What in my concept creates value for customers?

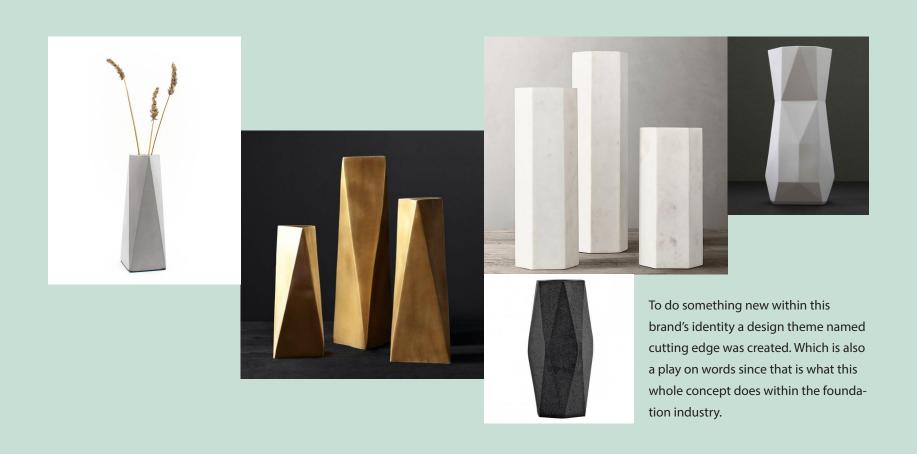
Customers can... Metal pump Carton packaging with save time foundation formula get free and climate compensated delivery change subscription at any time have a very personalized subscription get discount if student or senior Pump is cleaned Subscription provides user and reused with new packaging get great support order from all around the world Carton packaging is recycled

Final Brief

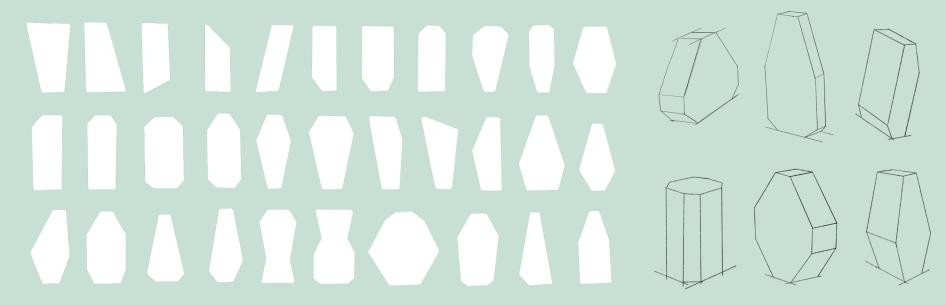
Develop an easy to empty Tetra Pak packaging for a liquid foundation subscription service for the brand COVER FX

SYNTHESIS

Design Theme Cutting Edge



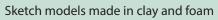
Sketches

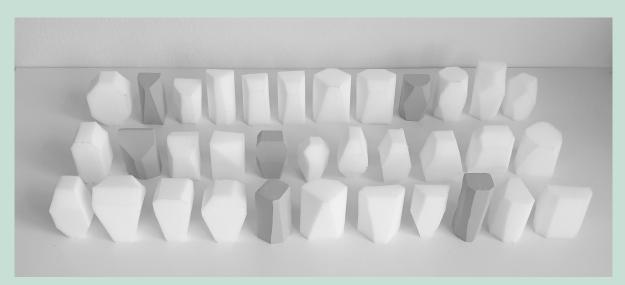


From the design theme profiles in 2d were sketched. It was hard to understand the shape in 3d format so quickly the media changed into foam and clay.

Sketch Models







Paper Models





When switching material to thicker paper as it was the closest thing to the end material it was obvious that it could be hard to get those shapes with the aim of being leakproof. The only way to go from here was backwards, a step that I had completely missed. I had to study leakproof packages and get inspiration from there, to be able to move forward in the process.

Studying Carton Packages







Dairy and juice carton packages were gathered for further investigation. They were unfolded as much as possible to discover different methods that made them leakproof. The conclusions were that it could be achieved by fold and then glue, glue and then fold or use superglue.

Understanding Folding Pattern







The "Planti" packaging (Tetra Pak) was the smartest one so I tried to copy the "folding pattern" to understand it better. The first try didn't go very well since the glued parts at the top and bottom weren't taken into account. The second attempt went better, I had folded a leak proof cuboid. To make sure that this folding pattern was easy to apply to most shapes a "tilted cuboid" was tried out as well and was successful.

Manipulating 90 Degree Edges

The idea to manipulate 90 degree edges was also verified by Therese Eklund: "The idea to manipulate the edges is really nice and when I worked at Tetra Pak we often tried to only manipulate one edge, that can have a great effect on the whole packaging"



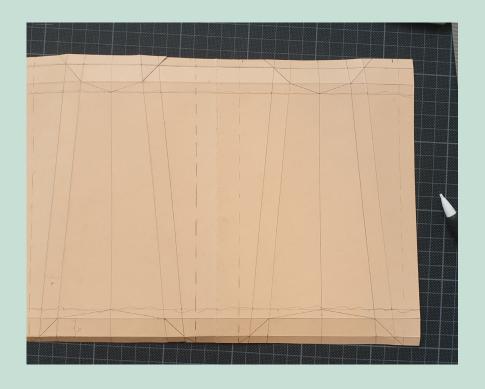






My personal opinion was that the 90 degree edges were ordinary and boring. With inspiration from another packaging called "Årets must" (Tetra Pak) the edges were manipulated in some different ways. The result of this experiment was not as expected unfortunately.

Development of Pattern





Tetra Pak has a catalogue with different types of carton packages. The "Planti" packaging is a version of the "Tetra Birk". With folding functions taken from the Tetra Birk a partly modified pattern took form.

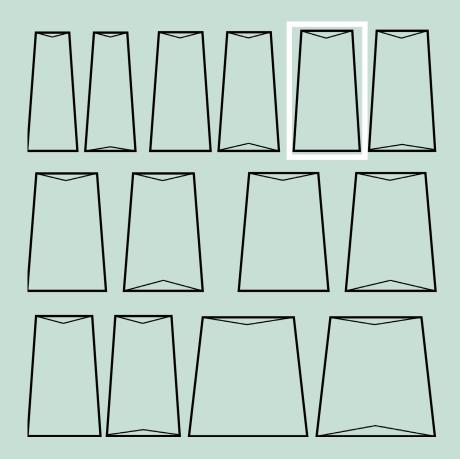
Simplify Emptying

The carton packaging in general is well known for the human being. We have learned how to interact with these types of packages. Many unfolds and flattens a carton packaging when it feels empty to get out what's still left inside. So when the foundation consumer unfolds this carton packaging to get out the last formula, an edge at the bottom can easily be cut away and the formula squeezed out from the bottom. Here demonstrated at the planti packaging.



Exploring Variants

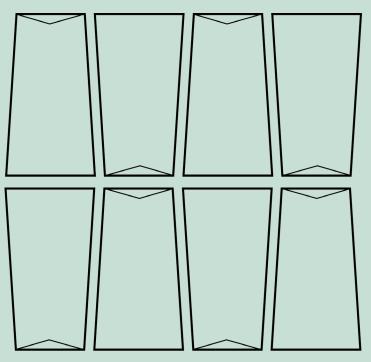




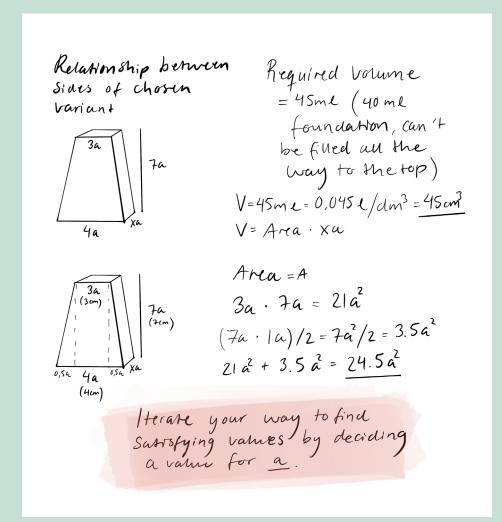
Variants were explored to determine the desired relationship between the sides that formed the slant.

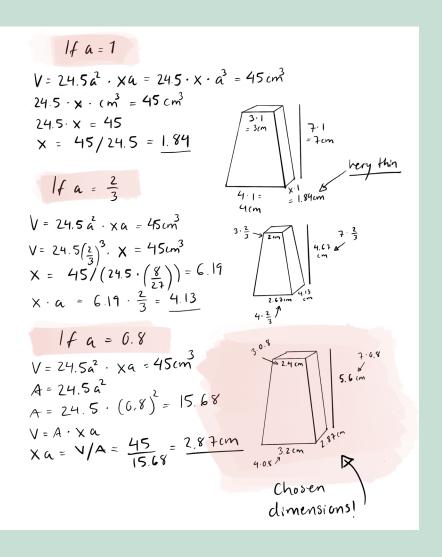
Logistics

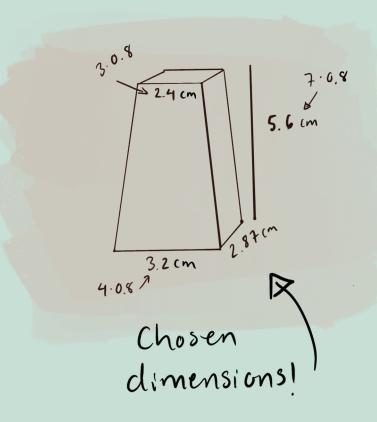
To demonstrate how this overall shape of the packaging can be efficiently stored and transported. An important factor to most companies.

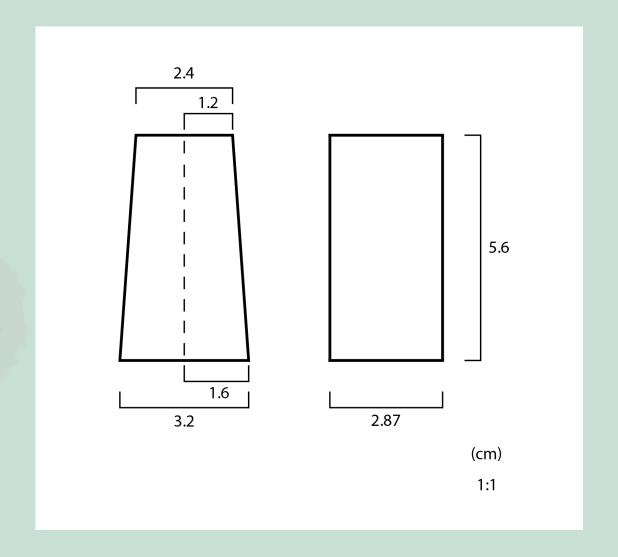


Finding the Right Dimensions





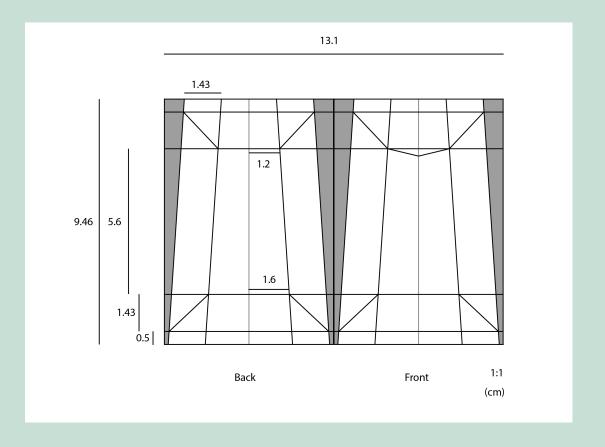




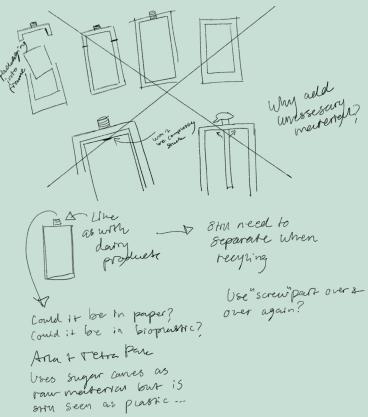
Further Development of Folding Pattern

With the desired dimensions a folding pattern were drawn. From how I have understand it Tetra Pak uses a rectangular sheet and from there folds the desired shape. Excess carton material ends up glued to the inside of the packaging. That means that in this case the sheet would be folded vertically in the middle and the grey areas would end up inside the packaging. Nothing is cut away.

The two thin stripes (0.5 cm) at the top and bottom are the areas where the packaging is supposed to be glued together.



How to Attach the Pump?





The plastic thread is a well proven solution to attach a screw cork and would probably work excellent with this pump as well. Many soap dispensers are constructed that way but the thread is part of the container. For the thread and cork Arla uses a plastic based on sugar cane instead of oil. However the plastic is not bioplastic but the good thing is that the raw material is renewable (Arla. *Vanliga frågor och svar om våra förpackningar*).

Analyzing COVER FX Existing Foundation Containers

The brands existing foundation containers were analyzed in material, graphic elements, layout of graphics, and dose mechanism.



Plastic looking like metal

Vertical logo

Transparent plastic





Information that needs to be included

Logo/Color indicator/ 35 ml/1.18 FL OZ/ Power play/ Foundation/ Pond de tient/ Expiration date symbol (underneath)

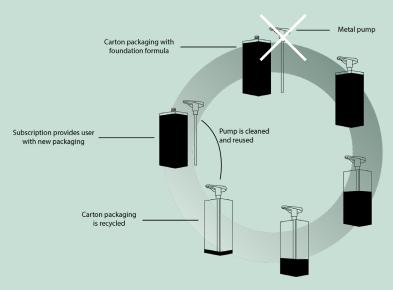
Reconsidering the Pump Mechanism

Does it make sense to argue for a pump mechanism?

Since the brand today has no pump on either of the two foundation alternatives and only a nozzle it doesn't make sense to add that in my design. It would be more of the brand if some features still existed on this new packaging even if it is a more sustainable branch within the company. Even if it's possible to "lock" a pump by twisting it the screwcork is more safe from a leak proof perspective. Therefore the solution COVER FX has today, a nozzle and screw cork, was implemented in my design as well.







Graphic Layout Variants

















Gradient

















Single shade

Chosen Layout of Graphics

After talking to Therese Eklund I quite quickly counted away a small plastic window to indicate nuance because of the economic aspect but also since it can look messy when the level of formula drops when consumed. A gradient would be very inclusive but that would mean another graphic element to indicate where on the scale that particular formula shade was. A single colored stripe would be easier for the consumer and the people packaging orders. On top of this indicator the packaging needs to have some kind of nuance code which the company already has, as a sticker underneath. The placement of the graphics were mainly selected because it felt most like the brand COVER FX itself.



RESULT



Understanding Dimensions



COVER FX Marketing new Product

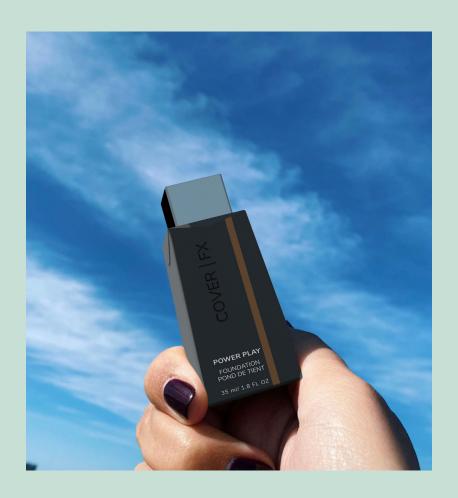




EVALUATION

Was the Cork the Right Choice?

Honestly this part of the packaging doesn't align with the general environmental aspect. I could have argued for another kind of plastic, maybe the same as the nozzle which has sugar canes as raw material. Plastic looking like matl has certainly gone through further treatment than regular plastic and would probably be harder to recycle. I think I was scared that the end result wouldn't feel like the brand if I changed everything, on the other hand the main idea was to do something completely new. Maybe I only accomplished half of what I "promised" in my final brief but to some extent I delivered a much more environmentally friendly foundation packaging than what exists today which in addition also is easy to empty completely since it can be unfolded like any Tetra Pak packaging and a corner can be cut of at the bottom. To sum up the cork could need a second round of refinement to complement the overall packaging better.



Is Overconsumption Connected to Waste?

Earlier in the process it was stated that overconsumption and waste were not necessarily connected to each other. But as a matter of fact those could potentially be linked together in this case. A subscription could decrease overconsumption considering that someone else, other than the user, has control over the situation in some way. Maybe the user would not even bother to look for other foundations due to the convenience and that would be a huge win.

Further Work

A big part of the project was the subscription, something I hadn't time to explore as much as I wanted to. There are still many unanswered questions regarding that, for example how often would the customer get a new foundation, how would the subscription adapt to the seasonal skin tone, how much would it cost?, would the customers have personal accounts on the website to be able to change the subscription at any time? Would Instagram be the only marketing source? As stated, there is much work left to be done.

Another direction to investigate further would be if this type of carton packaging could be implemented in other areas such as shampoo, conditioner, liquid soap etc. I have begun to test this a bit at home by placing an empty juice packaging in my shower (6th of April) and so far it is still intact. We are two individuals living in the household and since then we have taken 33 showers in total. Some inc is gone but that's all. Of course I don't know how this packaging would withstand the chemicals in these products. That would be a question for a chemist to answer. To sum this up, I believe that the carton packaging has much more potential than restricting it to only foundation. We will see what the future holds.





Personal Reflection

To begin with I'm very proud of myself for taking on this project as I'm not a common user of colored cosmetics. I wanted to do better within this industry, which I believe I have, even if it's not the biggest revolution. I think I have really challenged myself and it has been tough. I'm never afraid of challenges since with them experience grows.

As for the end result I think I have captured the essence of the brand in this new packaging and it fits with the rest of their products. I also think that it clearly seems more luxurious compared to ordinary dairy products in carton material. I chose to keep the kind of cork the brand has on one of it's foundations today, a dark metallic plastic. I could have pushed the environmental aspect even further regarding the cork but honestly I hadn't that much time left on the project to be able to think very much about it. Which is my own fault and a learning for the future.

I have learnt very much about skin ideals through time and that skin tone can be as unique as a fingerprint. I gained knowledge within the circular economy and a new 3d modelling program (blender). Blender and I haven't been best friends but we will continue to work on our relationship. I have familiarized myself with Tetra Pak and folding patterns of carton products.

The journey of this project has not been "correct" design methodology, instead some things have been done in a different order, sometimes intentionally sometimes not. For example have I realized that analyzing the brands current foundation packaging should have been done much much earlier in the process. From the mistakes we make we learn, right?

All in all, from a very broad brief in the beginning, unaware where this project would end, can I today say that it turned out pretty well.

References

p. 3

Grand View Research. 2019. Color Cosmetics Market Size, Share & Trends Analysis Report By Product (Lip Products, Facial Products), By Distribution Channel (Offline, Online), By Region, And Segment Forecasts, 2019 - 2025 https://www.grandviewresearch.com/industry-analysis/color-cosmetics-market

p. 4

The Global Goals. 12. Responsible consumption and production. https://www.globalgoals.org/12-responsible-consumption-and-production

p. 17

Läkemedelsverket. Kosmetika. https://www.lakemedelsverket.se/sv/kosmetika

p. 19-20

Cosmetics Info. *A History of Cosmetics from Ancient Times* https://cosmeticsinfo.org/Ancient-history-cosmetics>

Tekniska Museet. 2019. Smink

https://www.tekniskamuseet.se/lar-dig-mer/100-innovationer/smink/>

p. 21

New World Encyclopedia. Cosmetics

https://www.newworldencyclopedia.org/entry/Cosmetics

p. 22

Sara Griberg. Populär Historia. 2018. *Skiftande syn på solandet* https://popularhistoria.se/vardagsliv/skiftande-syn-pa-solandet

p. 23

Strålsäkerhetsmyndigheten. 2017. Sol och D-vitamin https://www.stralsakerhetsmyndigheten.se/omraden/sol-och-solarier/rad-och-rekommendationer/sol-och-d-vitamin/>

Cancerfonden. 2010. Mörk hy kräver och klarar mer sol

https://www.cancerfonden.se/artiklar/mork-hy-kraver-och-klarar-mer-sol

Omer A Musa 1, Jehan E Abdel Rahman, Aamir A Magzoub, Mohamad T Abdel Mageed. 2011. Skin color. Could it be a new fingerprint?

< https://pubmed.ncbi.nlm.nih.gov/21858392/>

p. 24

Lauren Christiansen. Jilt. 2021. How Fenty's brand positioning generated \$100 million in its first 40 days https://jilt.com/blog/fenty-brand-positioning/

p. 25

Britannica. Theatrical Makeup

https://www.britannica.com/art/stagecraft/Theatrical-makeup

p. 31

Ellen MacArthur Foundation. Circular Economy

https://www.ellenmacarthurfoundation.org/explore/circular-design>">

p. 35

Tekniska Museet. 2019. Glas

https://www.tekniskamuseet.se/lar-dig-mer/100-innovationer/glas/

Arun Kumar Varshneya. Britannica. Industrial glass

https://www.britannica.com/topic/glass-properties-composition-and-industrial-production-234890

National Ocean Service. 2021. How does sand form?

< https://oceanservice.noaa.gov/facts/sand.html>

Vince Beiser. BBC. 2019. Why the world is running out of sand

https://www.bbc.com/future/article/20191108-why-the-world-is-running-out-of-sand

p. 44

Tetra Pak. Packaging material for Tetra Pak carton packages

https://www.tetrapak.com/en-gb/solutions/packaging/packaging-material/materials

Tetra Pak. Frågor & Svar

https://www.tetrapak.com/sv-se/sustainability/lokala-sidor/fragor-och-svar

p. 60

Vimla.

<https://vimla.se/>

Estrid. Ett nytt sätt att raka

<https://estrid.com/se/>

p. 78

Arla. Vanliga frågor och svar om våra förpackningar

https://www.arla.se/produkter/forpackningar/fragor-och-svar/#vad-har-plastkorkarna-fr-rvara

Image References

p. 44

https://www.tetrapak.com/en-gb/solutions/packaging/packaging-material/materials

https://www.tetrapak.com/sv-se/about-tetra-pak/the-company/logotypes

p. 2 p. 51 https://www.aliexpress.com/item/4001050178108.html?spm=a2g0o. https://www.makeup.com/product-and-reviews/all-products-and-reviews/ulta-beauty-free-gift-nyx-purchase-february-2019 search0302.0.0.537b32795SkGTm&algo_pvid=631933f1-0971-4b07-8b6f-19542b0eee54&algo expid=631933f1-0971-4b07-8b6f-19542b0eee54-1&btsid=2100bp. 4 de316211711184204710ebc3f&ws_ab_test=searchweb0_0,searchweb201602_,searchhttps://enva.com/universities-blog/what-are-the-sustainable-development-goals-sdg-s web201603 p. 19-20 p. 52 https://www.pinterest.se/pin/51932201938640956/ https://crueltyfree.peta.org/company/cover-fx-skin-care/ https://www.thecut.com/2013/12/most-dangerous-beauty-through-the-ages.html https://www.coverfx.com/products/power-play-foundation https://www.pinterest.se/pin/190769734204211593/ https://www.instagram.com/p/CBwLSe4lGuC/ https://kockens.se/produkter/potatismjol/ https://www.coverfx.com/collections/foundation https://www.pinterest.se/pin/109353097171887402/ p. 21 https://www.coverfx.com/pages/virtual-try-on https://i.pinimg.com/originals/a1/b0/7d/a1b07d1c6f6cb130d69467cb047d0628.jpg p. 55 + 56p. 22 https://www.coverfx.com/ https://daretobeyou.se/brun-utan-sol-med-ida-warg-nytt-pa-marknaden/ p. 24 https://www.instagram.com/coverfx/ https://www.fentybeauty.com/pro-filtr-soft-matte-longwear-foundation/FB30006.html p. 60 https://medium.com/@hmieden98/added-fenty-beauty-foundation-shades-continue-to-kill-the-game-84bd65edff8f https://vimla.se/ https://www.mymelaninskin.com/new-blog/2018/7/5/lushs-solid-foundation https://se.trustpilot.com/review/estrid.com?page=2 https://www.harpersbazaar.com/beauty/makeup/a20952707/dior-backstage-makeup/ https://xn--alltomsknhet-cjb.se/estrid-rakhyvel-starter-kit/ https://www.ulta.com/studio-skin-24-hour-oil-free-hydra-foundation?productId=xlsImpprod3590081 https://www.glamour.com/story/covergirl-trublend-matte-made-foundation-40-shades https://www.thezoereport.com/p/fleshs-new-pure-flesh-liquid-foundation- comes-in-40-shades-actually-hydrates-skin-18546411 https://www.pinterest.se/lovepersson4/cutting-edge/ https://www.pinterest.se/pin/593208582150366220/ https://in.pinterest.com/pin/353321533257014875/ https://www.food-supply.se/article/view/674890/arla_visar_var_mjolken_kommer_ifran p. 25 https://www.cosmeticsandskin.com/bcb/greasepaint.php p. 79 https://www.coverfx.com/products/natural-finish-foundation https://www.coverfx.com/products/power-play-foundation https://e360.yale.edu/features/the-hidden-environmental-toll-of-mining-the-worlds-sand https://www.instagram.com/p/CLPJ0pbDFwl/ p. 43 p. 87 https://www.wikiwand.com/de/Tetra_Pak https://www.instagram.com/coverfx/ https://www.tetrapak.com/sv-se/solutions/packaging https://www.society19.com/tips-and-tricks-on-how-to-apply-flawless-foundation/

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