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A sustainable company in a consumption driven market.

How can the choice process of a conscious customer be simplified.

Bachelor thesis in Design and Product Development at the department of Industrial- and Materials Science.

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Vindpinad: A sustainable company in a consumption driven market.
How can the choice process of a conscious customer be simplified.

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Preface

This report is the result of a bachelor thesis, 15 ECTS, done during the spring semester of 2019 at Chalmers University of Technology under the institute of Industry - and material science. The bachelor thesis was conducted for Vindpinad and consists of a usability study on Vindpinad's webpage and a development of their evaluation model.

First and foremost, we would like to thank our two supervisors Johan Heinerud and Håkan Almius, for their guidance during this project. We would also direct a huge amount of gratitude towards Oskar Knubbe, owner and creator of Vindpinad. Without his participation this would never be possible. Furthermore, we want to thank everyone that participated in interviews, workshops, and usability tests. Finally, we want to thank everyone that encouraged us and helped us during this demanding period. You have all been sources of inspiration and had an influence on the result of our thesis.

Gothenburg, 2019



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Abstract

This bachelor thesis explores the textile industries sustainability efforts, how the leading sustainability brands are working with sustainability and how their work can be evaluated and visualized in an understandable way for the customers. The work was divided into two main research questions; *How does design affect clothes sustainability?* and *how can we simplify the choice-process for the sustainable-conscious customer?*

Currently there is a trend in the fashion industry called Fast Fashion. It uses people's consumption behavior to buy more than they need and has great negative effect on our environment.

There are other methodologies that companies can follow to produce and design clothes, which prioritizes sustainability, but very few actually measure the impacts. Finding web shops, or any retailer, that guides the customer's in a better direction is very rare.

By studying the current research on designing for sustainability, interviewing professionals and a researcher, a foundation was made. It is common that designers, even at the most sustainable companies, does not have a name on how they design for sustainability, even though they do. Furthermore, it was very rare with tools that measured the sustainable impact, and the once that did were critiqued. Based on this groundwork the result of research question one was built.

To find the answers to research question two, benchmarking, workshops and user studies were conducted. The biggest problems were enabling the information for user's with completely different knowledge and interest, making the evaluation model more intuitive and reliable and establishing Vindpinad's identity.

The result of research question one was a way to divide companies in the different categorization unaware, aware and progressive. An inquiry was developed to guidance the categorization. It was based on design thinking and it analyses a company through its purpose and methodology when developing a product.

Research question two resulted in guidance for further development of Vindpinad's website, identity and their evaluation model. It had a playful expression, fluctuated the website to be more informative and it had a strong idiom towards Vindpinad's logo.

The questionnaire, together with the developed web shop, will have a bigger audience, make a bigger impact and nudge the consumer into having a more sustainable consumption behaviour.

Report structure

This thesis concerns two different problems: A usability study and a development of an evaluation model. Since these two problems had very few things in common, and was very uncommon, a very uncommon report structure was needed.

The report is based on the IMRaD - report structure, but has two Method-, Result-, and Discussion-chapters to separate the two problems. This structure was chosen to help the reader more easily follow and understand the project. The remaining chapters is not connected to a specific subject, they follow the normal IMRaD- structure.

Table of content

1. Introduction	9
1.1 Background	9
1.2 Vindpinad	10
1.2.1 Evaluation model	10
1.2.2 Design	11
1.3 Purpose of study	11
1.4 Research questions	12
1.5 Theory	12
1.5.1 Normans Fundamental Principles of Interaction	12
1.5.2 Jordan's 10 Design Principles	12
1.5.3 Jordan's 5 Usability Components	13
1.5.4 Terminology	13
1.6 Delimitations	14
2. Methods	16
2.1 Theoretical study	16
2.1.1 Literature study	16
2.1.2 Interviews with researchers	16
2.2 Practical study - interviews with designers	16
3. Literature on design for sustainability	18
3.1 Possible actions for making a clothing more sustainable?	18
3.2 Methods that prioritize sustainable design	18
3.2.1 Design thinking	18
3.2.2 Cradle to Cradle	19
3.2.3 Re:Textile - Conditional Design	20
3.2.4 The Higg index	20
3.2.5 Sustainable Clothing Action Plan (SCAP)	21
3.2.6 The Ecodesign Strategy Wheel	21
3.2.7 Life Cycle Assessment (LCA)	22
3.3 Which factors of design can do most for sustainable clothing?	22
4. Interviews	24
4.1 What is a designer's possible actions for making a clothing more sustainable?	24
4.2 Is there a working method that prioritizes sustainability?	26
5. Result	28
5.1 Categorization	28
5.2 Inquiry	29
5.3 Point ranking	31
6. Discussion	32
7. Methods	34
7.1 Prestudy	34
7.1.1 Brand workshop	34
7.1.2 Benchmarking	35
7.1.3 Explorative User Study	36
7.1.4 List of demands version one	37
7.2 Concept Generation	37
7.2.1 Brainwriting	37
7.2.2 Ideal final result	37
7.2.3 Escape Thinking	38

7.2.4 Morphological analysis	38
7.3 Concept Development	38
7.3.1 Stakeholder workshop	39
7.3.2 User testing	39
7.4 Concept Selection	40
7.4.1 Usability test	40
7.4.2 List of demands version two	42
8. Result	43
8.1 Prestudy	43
8.1.1 Brand workshop	43
8.1.2 Benchmarking	46
8.1.3 Explorative User Study	47
8.1.4 List of Demands version one	47
8.2 Concept Generation	49
8.2.1 Brainwriting	49
8.2.2 Ideal final result.	52
8.2.3 Escape Thinking	52
8.2.4 Morphological analysis	53
8.3 Concept Development	54
8.3.1 Concept one	55
8.3.2 Concept two	56
8.3.3 Concept three	57
8.3.4 Stakeholder workshop	57
8.3.5 User testing	60
8.3.6 Concept refinement	62
8.4 Concept Selection	63
8.4.1 Usability test	63
8.4.2 List of demands version two	65
8.5 Visualization of final concept	68
9. Discussion	75
10. Conclusion	78
References	79
Reference of figures	82
Annex	83

1. Introduction

The picture painted of consumers consumption life oscillates. In the words of Don Slater, it moves from 'cultural morons' to 'the heroes of modern times'.
(Bauman, 2008)

Today society is governed by a resource demanding consumption. However, there is a strong and growing countermovement, which strives for a more sustainable consumption. But in the jungle of certifications and recommendations it is hard to understand what affect one's purchase has.

The vision for this bachelor thesis is to help the sustainable conscious customer to make better decisions and simplify the choice for more sustainable products.

1.1 Background

There is a strategy in the textile industry called Fast Fashion. This strategy has large, international companies, like Zara and H&M adopted. Fast fashion decreases the time to market for new products. This means shortening the time between finding trends and producing garments. The companies can do this because of their optimized value chains.
(Lashen, 2012)

This implies that trends can be followed closely and changes the classic four clothing season into monthly, even bi-weekly seasons. (Berg, Heyn, Rölkens, Simon, 2018) This means new trends can be adapted and transformed into new products faster than ever before.

If this fast fashion strategy keeps growing the global fiber production will increase rapidly. According to Orbichem's global fiber overview we will reach 130 million metric tons in 2025, see figure 1. This will leave a big footprint on our environment. The fashion industry emitted over one million tons of CO_2 , consumed almost 80 billion m^3 of fresh water and produced waste of 92 million tonnes in 2015, see figure 1. (Campione, 2017)

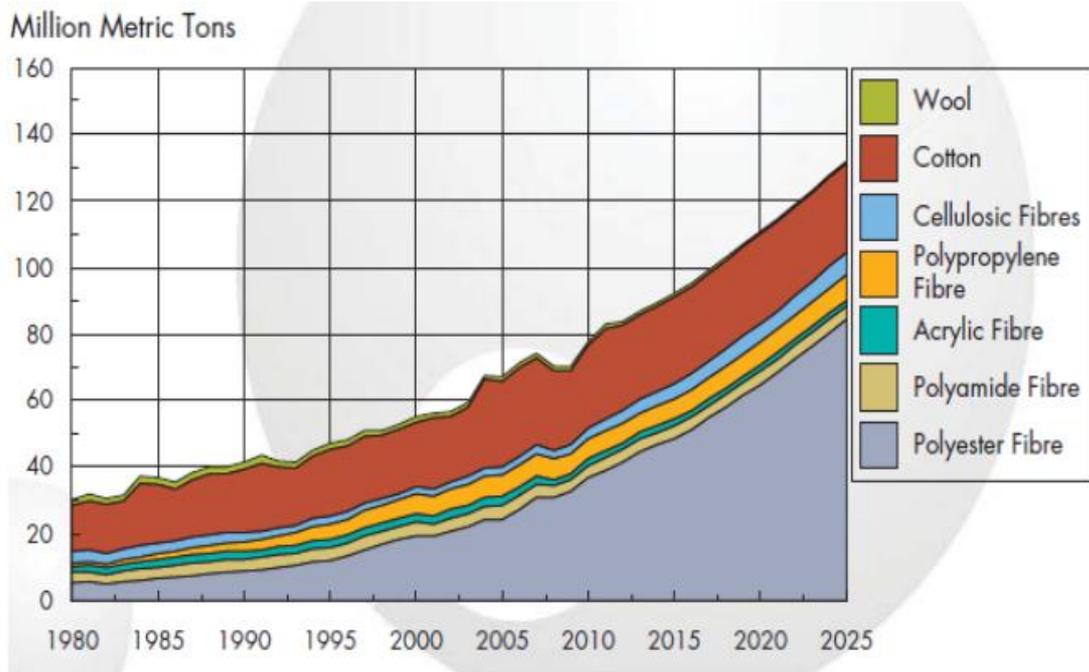


Figure 1. Forecast of global fiber production. (Re:textile, 2017) Reprinted with permission.

As a response to these alarming reports, many companies and stakeholders started to work towards a more sustainable industry. In January 2016 the Sustainable Development Goals came into force, this is an agreement amongst some of the world's countries to strive for an effort to end all forms of poverty, fight inequalities and tackle climate change (United Nations, 2019). This was one big step towards a more sustainable world and has given the sustainability issues a push forward.

1.2 Vindpinad

Vindpinad was founded in 2018 by Oskar Knubbe. Oskar has 15 years of experience from KPMG, an international consulting and audit company, giving financial counselling for startup companies. As an outdoor enthusiast, and a conscious, curious consumer, he was struggling to understand all the different labels and certifications of sustainability. He therefore decided to develop his own way of evaluating clothing and a way of communicating this evaluation in an uncomplicated way to other conscious, curious consumers.

Vindpinad's goal is to create safety for the responsible consumer. The purpose of the company is to make sustainable and conscious choices easier for the consumer.

The company has two different sources of value, the web shop where they are selling clothing and related products, and the evaluation model. (O. Knubbe, personal communication, January 28, 2019)

1.2.1 Evaluation model

The evaluation model screens every product and brand that enters Vindpinad's web shop. The model is divided into five different categories, which either concern company-, or product-related factors. The three categories, *Brand, Design and Other*, look at how the affected company works as a whole. The two other categories, *Manufacturing and Material*, is data collected on every product. The information that the evaluation is based on are both questions answered by the company and information gathered by Vindpinad. The questions are divided

in the different categories mentioned above. Based on the information that is gathered, Vindpinad scores how sustainable the company is. The result is a score, from 0-100, and in order to be accepted to the web shop the product must score over 50.

The visualization of the result of the evaluation enables the user to understand and assimilate the complex underlying data, see figure 2.

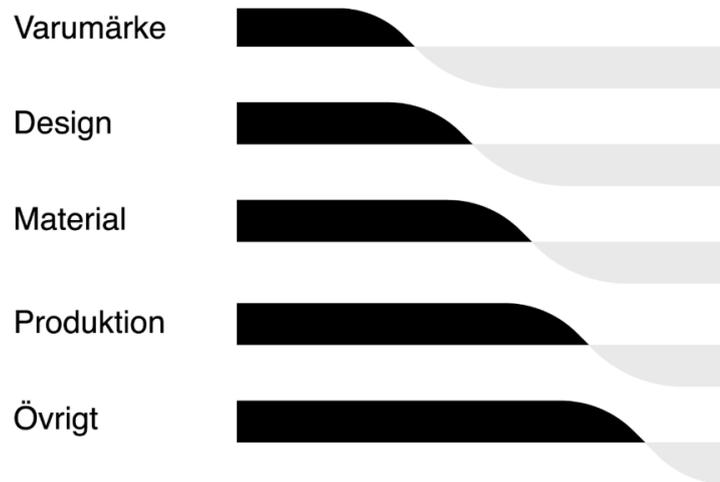


Figure 2. Current visualization of the evaluation model. (Vindpinad.se, 2019) Reprinted with permission.

1.2.2 Design

In this project the category Design, of the evaluation model, will be thoroughly examined. By looking at the studies in the area and interviewing designers, relevant questions for evaluating a company's sustainability work in the design area will be produced. To do this the meaning of design need to be explicit. In this project design will be defined as;

“Design is a process to develop solutions in a conscious and innovative matter. In this process the users-needs are in focus when creating both functional and aesthetic demands. Design are applicable for the development of goods, services, processes, messages and environments.”
(Stiftelsen Svensk Industridesign, N.D)

1.3 Purpose of study

The purpose of this study is to get a deeper understanding of the textile industries sustainability work, how the leading sustainability brands are working with sustainability today and how their work can be evaluated and visualized in an understandable way for the customers.

The aim of the project is to;

1. Evaluate and further develop Vindpinad's evaluation model. Mainly one of the five categories, design.

So how does design affect the different aspects of sustainability in clothing, and how does one evaluate these different aspects.

2. Simplify the choice process for sustainable conscious customers.
By developing an intuitive platform for Vindpinad simplifying the choice process for sustainable conscious customer.

1.4 Research questions

There will be two primary research questions;

1. How does design affect clothes sustainability?
2. How can we simplify the choice-process for the sustainable-conscious customer?

In order to break down each of these major question, sub-questions for each one was established.

For research question one:

- 1.1 What is a designer's possible actions for making garment more sustainable?
- 1.2 Is there an established process that prioritizes sustainability, and how is it used today?
- 1.3 Which factors of design can do most for sustainable clothing?

The sub-question for research question two was as follows:

- 2.1 How can the evaluation model be visualized and how can the customer interact with it, if the goal is to maximize its usability?
- 2.2 How can Vindpinad's entire platform improve its usability?
- 2.3 What information do the customer need from the evaluation model for it to be reliable and easy to understand?

1.5 Theory

Below necessary theoretical references and terminology will be presented.

1.5.1 Normans Fundamental Principles of Interaction

Affordance - The term affordance refers to the connection between an artefact and a person. It is a relationship between the properties of an object and the capabilities of the person that determine how the object could be used in that specific situation.

Signifiers - The term signifier refers to any mark or sound, any perceivable indicator that communicates appropriate behaviour to a person.

Mapping - Mapping is a technical term, borrowed from mathematics, meaning the relationship between the elements of two sets of things.

Feedback - To communicate the results of an action to the user, allowing the user to continue with the activity.

Conceptual models - The term conceptual model is an explanation, usually highly simplified, of how something works.

(D. Norman. 2013)

1.5.2 Jordan's 10 Design Principles

1. *Consistency* - enables users to generalize task requirements across different products or different tasks

2. *Compatibility* - the potential of design to mean user understanding, expectation, and ability.

3. *Consideration of User Resources* - guides design with regards to the bodily-language of hands, eyes, ears, etc. by using sound, visual cues, and tactile functions.
 4. *Feedback* - refers to systems that indicate an action has been made.
 5. *Error Prevention and Recovery* - facilitate the recovery from user errors by walking people through an exit path or by giving users the possibility to go back in time (i.e. 'undo').
 6. *User Control* - is enhanced by providing 'adjustable' or customizable features which in turn emphasize user-centeredness.
 7. *Visual Clarity* - considers scale, location and distance (i.e. buttons are labelled, interfaces as at proximal distances and located in convenient and readily accessible ways).
 8. *Prioritization of Functionality and Information* - focuses on the hierarchy of information of tools (IA): this measure become subject to errors when products contain clustered information or features.
 9. *Appropriate Transfer of Technology* - takes into account the surrounding environment of transferring or crossing different systems to enhance one or the other.
 10. *Explicitness* - product displays provide perceptible clues as to what they are used for and how they operate.
- (Jordan, 1998)

1.5.3 Jordan's 5 Usability Components

Patrick Jordan has supplemented the ISO-definition with five different aspects of usability:

1. *Guessability* - The effectiveness, efficiency and satisfaction with which specified users can complete specified tasks with a particular product for the first time.
2. *Learnability* - The effectiveness, efficiency and satisfaction with which specified users can achieve a competent level of performance on specified tasks with a product, having already completed those tasks once previously.
3. *Experienced user performance (EUP)* - The effectiveness, efficiency and satisfaction with which specified experienced users can achieve specified tasks with a particular product.
4. *System potential* - The optimum level of effectiveness, efficiency and satisfaction with which it would be possible to complete specified tasks with a product.
5. *Re-usability* - The effectiveness, efficiency and satisfaction with which specified users can achieve specified tasks with a particular product after a comparatively long period away from these tasks.

(Jordan, 1998)

1.5.4 Terminology

Some recurring words needed to be defined, because they can mean different things, in different situations.

Circularity - Refers to circular economy, which according to Tobias Jansson, an environmental observer and lecturer on the subject, "is a vision of an economical system that does not deposit waste but reproduce resources over and over again." (Jansson, 2015)

Fast Fashion - This term is used to describe a new fashion business model that evolved in the 1980s. This business model is based on a rapid reaction to offer new products at a low price by increasing the number of fashion collections over a year. (Environmental Audit Committee, 2019)

Greenwash - “to make people believe that your company is doing more to protect the environment than it really is.” (Cambridge Dictionary, n.d.)

Nudging - By using people’s cognitive limitations designers can subtly guide, or *nudge*, the user towards certain choices. (Schneider, Weinmann, & Brocke, 2018).

PMI (Plus-Minus-Interesting) is a strategy that requires to look at three outlooks: the positive or pluses, the negative or minuses, and the neutral or the interesting... So, *Plus* is related to the positive elements of the topic. It can be all the benefits or advantages of a particular thing. *Minus* is related to negative element; it means the bad or disadvantages of one thing. *Interesting* is related to those points that neither good nor bad, but are regarded as neutral observation, comment or points of interest. (Sharma & Saarsar. 2017)

Supply chain - “It comprises of vendors that supply raw material, producers who convert the material into products, warehouses that store, distribution centers that deliver to the retailers, and retailers who bring the product to the ultimate user.” (BusinessDictionary, n.d.)

Sustainability - Is defined by the intersection of the ubiquitous three pillars of sustainability - social, economic and environmental. (Purvis, Mao, Robinson, 2018)

Usability - “...the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.” (ISO, 2018)

UX - “User experience encompasses all aspects of the end-user's interaction with the company, its services, and its products.” (Norman & Nielsen, 2019)

1.6 Delimitations

There will be no programming during this project. The results of the usability study will be a clickable prototype. For example, the prototype may allow you to cross a square, but it will not save that information, and what happens after the click will be predetermined. The purchasing process, selecting payment and proceeding, will also be discluded.

Furthermore, only one of the five categories in the evaluation model, design, will be developed. A proposal for how to point rank sustainability will not be part of the result either, for reasons which will be presented in chapter 5.3.

Research question one

How does design affect clothes
sustainability?

2. Methods

Below the methods that was used to help answer research question one will be explained. When relevant, theoretical background for methods will be presented as well.

Furthermore, the first research question, was approached from three different angles: researchers, textile designers and literature. The purpose was to produce a result that is not only based on the academic world, and theories. The result was intended to be realistic, and applicable today.

2.1 Theoretical study

A deeper insight in the theory of the subject was concluded through a literature study and interviews with researchers in the field, the purpose was to give a sense of what is theoretically possible. The questions that needed answer was - what are scientist working on today and how are they working to implement this in the textile industry today?

2.1.1 Literature study

A literature study was conducted online to find the latest updates in the field of sustainability.

2.1.2 Interviews with researchers

Apart from the literature study, interviews were held with the prime researchers in design for circularity. The purpose was to get a deeper insight in their work and what they think of the industry today, and what it can become in the future. The interviews were semi structured, a mixture of improvised and prepared questions, and focused on answering the question; *How does design affect clothes sustainability?*

2.2 Practical study - interviews with designers

Interviews with designers where held to get a deeper insight in how designers work practically with sustainability today and their thoughts about how to confront this emerging problem. To get a wide view of different way of working with sustainability, designers from different companies that work with sustainability in different ways and on different levels where interviewed. From a small company that just started to think about sustainability to one of the world-leading sustainable company in the jeans-business. The focus question to answer was; *Is there a working method that prioritize sustainability, and how is it used today?*

The interviews were semi structured with some prepared questions but still held as a conversation following up on interesting sidetracks. The interviews can be divided into three different phases.

- Phase one:

In the first stage of the interview a deeper understanding of the interviewees, what their professional background is, was formed.

- Phase two:

The purpose of the second stage was to understand how they implement sustainability in the design process today and if they use any special sustainability tools. Here the industry as a

hole was discussed too, in the strive to find out if there was a special focus coming up in general.

- Phase three:

Finally, a discussion about the different ways of working with design where held. The following terms were discussed;

- Design for Durability
- Design for Attachment
- Design for Repair
- Design for Adaptability and Upgradability
- Design for Remanufacturing
- Design for Reuse
- Design services and Biomimicry

The purpose was to find out what the designers found interesting and what the next step towards a more sustainable design process would be for them.

3. Literature on design for sustainability

In the literature study three questions were answered to help gain an overview of the first research questions; *How does design affect clothes sustainability?* The subheadings are based on the questions, and the questions are further explained in chapter 1.4 research questions.

3.1 Possible actions for making a clothing more sustainable?

“80% of the products total social and environmental impact is determined during the design phase.” (Carlsson et. al, 2017; J. Tuveesson, personal communication, 22 January, 2019; Sustainable Apparel Coalition, 2019)

Re:Textile is a governmentally funded project which is coordinated with several large brands, resellers and other stakeholders. Its purpose is to develop new design principles, business models and production system that enables circular flow in the textile industry. (Re:Textile, 2019)

According to a newly released paper from this project, *Re:Textile – Feasibility of conditional design*, a designer has three options to affect sustainability in the existing market:

1. Source reduction of waste
2. Re-use
3. Recycling and possible composting

(Carlsson et. al, 2017)

Furthermore, the authors mention a fourth option if none of the above are possible, *incineration with energy recovery*. However, to create a sustainable system for textile and clothing flows, the authors explain there is a need to *close the loops*. Close the loops refers to designing products with better quality and products that are serviceable, designing for durability that can be re-designed and re-used, and also products that in the end of their lifecycle can be recycle into new fibers. Other important factors are to slow down the growth of the textile production and the clothing needs to be appreciated by customers so that they choose them before traditional fast fashion clothing (Carlsson et. al, 2017).

3.2 Methods that prioritize sustainable design

Methods for sustainable design work in the clothing industry is under development. During the literature study many different methods for working with sustainability, both in the textile industry and in other industries, were found. The most adequate methods for this project are presented below.

3.2.1 Design thinking

Design thinking is a well-established methodology for designers. Schallmo, Williams, and Lang explains the basic principles of Design thinking in a literature overview from a conference in Stockholm 2018.

Based on existing theories, they present a roadmap that presents approaches to Design Thinking. The roadmap is divided into seven steps which Schallmo, Williams and Lang define as;

1. Defining Design Challenge

In the first step it is necessary to derive the different subject areas and then discuss them to commit to one particular subject area. For that area a Design Challenge, that should be answered, is formulated. Also, typical users are defined along with a project plan that should include deadlines, costs, and result. (Schallmo, Williams, Lang, 2018)

2. Understanding Design Challenge

Here a common understanding of the design challenge is established through analyzing typical users facing the problems in relevant situations. These analyzes are usually done with surveys and observations. Also, existing solutions on the market are tested and experts in the Design Challenge area are interviewed. (Schallmo, Williams, Lang, 2018)

3. Defining Perspectives

When defining the perspective, a summary of all relevant knowledge is made, and a typical user profile is created. This is done through a derivation of needs. The outcome of this step includes user needs, user journey and user empathy map. (Schallmo, Williams, Lang, 2018)

4. Gaining Ideas

Using different creativity techniques these steps generates a large variety of ideas that meets the needs identified in the previous step. These ideas are then arranged and iterated to finally be described and evaluated. (Schallmo, Williams, Lang, 2018)

5. Developing Prototypes

The collected ideas that fulfill the needs are prototyped. A prototype represents a solution for the problem and can be developed in many different forms. These prototypes are then iterated and merged. (Schallmo, Williams, Lang, 2018)

6. Testing Prototypes

In this step the prototypes are tested by users in the aspiration to gain important experience from them. The experience gathered are used to improve and further developed the prototypes. The prototypes are then evaluated, and the most promising prototype are selected. (Schallmo, Williams, Lang, 2018)

7. Integrating Prototypes

In this final step the prototype is integrated in a business model with one of five dimensions: customer-, user-, value-added-, partner- or financial-dimension. (Schallmo, Williams, Lang, 2018)

3.2.2 Cradle to Cradle

One common method for sustainability is *cradle to cradle*. It divides the possible actions in two, the technical sphere and the biological sphere. It is built up by circles, the area of a circle resembles the effect it has on the environment, therefore one should strive for the smallest circle, see figure 3. (McDonough, 2019)

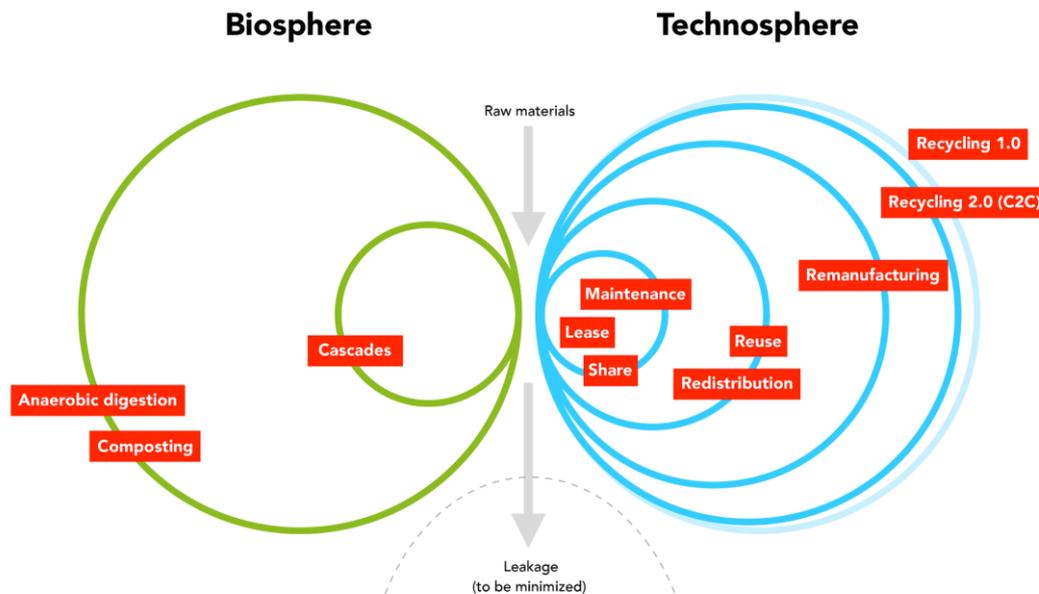


Figure 3. Illustration of the biological and technological sphere of a product's life. (Jansson, 2019). Reprinted with permission.

3.2.3 Re:Textile - Conditional Design

In order to make the design process more sustainable the designer need to take circularity into account. Circularity can be fully included if the two additional aspects of *design for longevity* and *design for recycling* are included when developing products. Conditional design is a concept that identifies which design elements that are relevant, in order to make this change towards sustainability. (Carlsson et. al, 2017)

Design for longevity refers to all aspects of quality. Longevity strives for timelessness, focus on design for re-design and incrementality. Other aspects in the process is prioritizing quality in the selection of material and using intelligent design - strive for a local product chain. Another aspect of the design focus should be modular design, this allow both re-design and a gradual upgrade as well as designing supporting services and systems (Carlsson et. al, 2017)

Design for recycling refers to the developing recycling technology and its opportunities. This development yields the possibility of improving three aspects of recycling.

1. Higher efficiency of extraction waste.
2. Increasing capable volumes.
3. Lowering costs.

(Carlsson et. al, 2017)

3.2.4 The Higg index

The Higg Index evaluates the social and environmental sustainability impact from apparel, textile and footwear value chain. This is a self-assessment tool and through that a notable design tool. The Higg Index are divided in four modules;

1. Brand module
 - a. Social and labor
 - b. Environmental
2. Facilities module

- a. Social and labor
- b. Environmental
3. Product module
4. Material Sustainability Index

The Higg Index gives scores to the company, a full 100 point indicates no unnecessary environmental impact in the company's operation. (Sustainable Apparel Coalition, 2018)

3.2.5 Sustainable Clothing Action Plan (SCAP)

The Waste and Resources Action Program (WRAP) is a company transforming the clothing industry, by using collective actions to minimize the environmental impact of clothes. (WRAP, 2019) This is done with a Sustainable Clothing Action Plan (SCAP) where different parts of the company's work are looked in too, with the ambition to reduce the environmental impact at each step. The steps are:

- Resource efficient
- Business models
- Design for extending clothing life
- Fiber and fabric selection
- Consumer behavior and sustainable clothing
- Re-use and recycling

(WRAP, 2019)

3.2.6 The Ecodesign Strategy Wheel

The design strategy wheel help designers see a wider view and manage a deeper innovation to steer their work towards a more ecological responsible design. (Belletire, St.Pierre, White, 2014).

The wheel is divided in eight different steps, see figure 4. In each step the designer is asked to explore areas of product development from a different approach. This tool can also be used for product improvement, the designer can choose to focus on a few or several different strategies from the Ecodesign Strategy Wheel during the design process. (Belletire, St.Pierre, White, 2014).

For more information about this strategy please visit Okala.net or purchase the book *Okala Practitioner* at Amazon.com. All reproduction and copyrights are reserved by Belletire, St.Pierre and White.



Figure 4. The Design Strategy Wheel. (Belletire, St.Pierre and White, 2012) Reprinted with permission.

3.2.7 Life Cycle Assessment (LCA)

The life cycle assessment is a tool for evaluating the impact a products whole life cycle has on the environment. This can also be used as a discussion when designing new products, this helps the designers to see a bigger picture and make sure they do not forget any important part of the life cycle of the product. (Belletire, St.Pierre, & White, 2013)

3.3 Which factors of design can do most for sustainable clothing?

It is difficult to rank what affects the sustainability the most. It is a very complicated process measure the impact of choosing a more sustainable material. To try to rank or measure what impact design decisions then have is incredibly difficult. As mentioned earlier a designer's decisions affect 80 % of the products total social and environmental impact. (Carlsson et. al, 2017) So, not only is it hard to measure, the possibilities are also great.

An good example are from a project in Australia, key stakeholders from all major sectors of the Australian steel product life cycle is part of a collaboration. It has led to the development of a scheme for responsible steel. It is a case example of how collective action and collaboration along a supply chain has the potential to be a win-win situation for the environment and for the competitiveness in the sector. The Australian steel product life cycle knew that organizations alone cannot achieve sustainability and are dependent upon their relationships with their suppliers to improve their environmental, social and economic performance. This improvement requires implementing sustainable supply chain management (SSCM) practices. (Benn, Giurco, Brown, Agarwal. 2014)

To understand how organizations might shift their supply operations towards SSCM a model was created, see figure 5. This model is based on earlier environmental sustainability phase models and it is meant as a tool. The purpose is to enable comparisons between organizations

to understand the company’s current commitment, and practices of behaviors relevant to sustainability. The phases are described with distinctive actions organizations can take to advance their sustainable work. (Benn, Giurco, Brown, Agarwal, 2014)

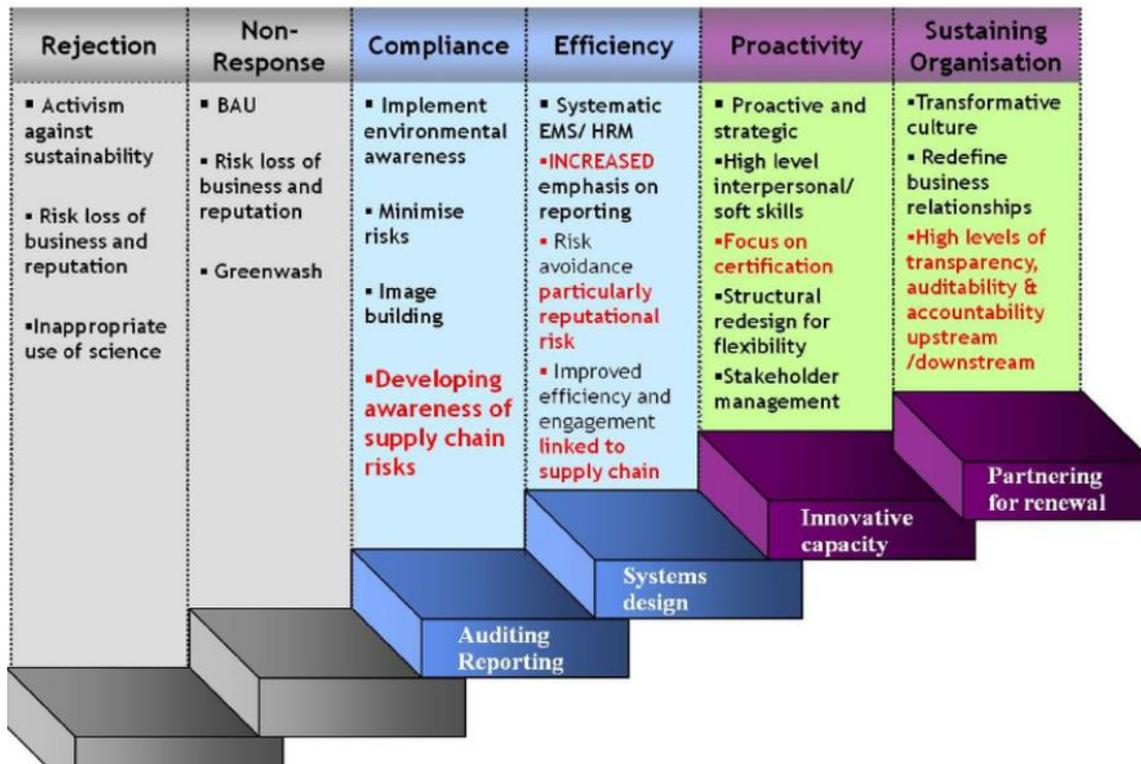


Figure 5. Sustainability phase model. Republished with permission of Benn, Dunphy and Griffiths, from Organizational Change for Corporate Sustainability, Benn, S, 3rd edition 2014; permission conveyed through Copyright Clearance Center, Inc.

Re:source, an institution in research and innovation for sustainable use of materials, has developed a quantitative indicator for circular economy. This indicator, C, focuses on the product level and are used to appraisal the proportion of circulated material in an object. Different parts of the product are weight differently depending on their economic value. The indicator C always values on a range from 0% to 100% and thereby allows a partially comparison between products. This indicator works well for measuring the level of circularity in simple products, but it has a restrained use since it does not include product life nor emission from the user phase (Linder, 2018).

4. Interviews

As chapter three, this chapter is divided into the three sub-questions. The data from the interviews with researchers and professionals will be divided into the appropriate chapter. However, the third research question; *Which factors of design can do most for sustainable clothing?*, is discluded. The question is too comprehensive for someone who does not have a deeper knowledge about measuring sustainable efforts. The interviewees are experts in design and implementing sustainability into their processes, measuring sustainable efforts are another story.

4.1 What is a designer's possible actions for making a clothing more sustainable?

Whilst the theory talks about large systematic changes, such as how to consider a different usage pattern for the apparel, the interviews with the designers shows a different focus. They start with a great product, and then try to make it as sustainable as possible. The designers still create in the same systems, while materials might change.

The project manager for Re:Textile, Adrian Zethraeus, is currently working on implementing research and innovation for a circular textile industry. He raised the question about a split focus from the fashion corporations.

Today the design industry focus most of the sustainability work on using better material and designing for less environmental impact in already existing processes. On the other hand, we design clothes that have value in the use-phase and in the end-of-use-phase, designing for circularity. These different ways of working in the design process need to be connected and worked with simultaneously, then we can reach the global sustainability goals for real.
(A. Zethraeus, personal communication, February 11, 2019)

Furthermore, a designer from Nudie Jeans was interviewed. Nudie are one of the world's most sustainable conscious fashion companies. They have received numerous awards for their work (Jack&Jill, 2019; Fisher, 2015) and their entire company is immersed in all the different perspectives of sustainability; social, economic and ecological (Nudie, 2019)

Nudie work continuously with observing the trends and practices in the industry, but they do not develop anything by themselves. Nudie might not produce new methods and materials that is more sustainable, they adapt to existing solutions. However, when this news comes, they can react fast. As an example, the designer at Nudie talks about how they, as a company, can *nominate*, propose what materials the factories can use in the production. By following the latest updates in the industry, Nudie can quickly change whatever material they are nominating.

"Since we are still a small company it is not like we have to redirect an entire bunker, while we have our little skiff. We can be quicker with our decisions and reach our goals faster."
(J. Lindstedt, personal communication, March 20, 2019)

According to the designer at Nudie, sustainability cannot be the focal point of product development. You must start with a great product and then work towards making it better. He

then explains how he currently practices his ideology, he starts with a great product, leather, and then experiments with the manufacturing process to make it as sustainable as possible.

“You can’t make an ugly product just because it is sustainable, you have to make a product that you believe in and then make it as good as possible. Like I do right now, I’m currently working on a project on how to make leather products by just using one patch, and using as little adhesive additives as possible.”

(J. Lindstedt, personal communication, March 20, 2019)

Filippa K, a Swedish brand working internationally, has the aim of giving a global perspective on conscious consumption by creating garments that are timeless in both quality and style, and luxurious in all their simplicity (Filippa K, 2019). A fabric and trim manager and sustainability coordinator at Filippa K share her view on their design work, emphasizing that sustainability is part of The Filippa K brand DNA.

“Filippa K has stood for style, simplicity, and quality since our founding in 1993.”

(J. Everding, personal communication, April 25, 2019)

This DNA goes all the way through the brand and effects the designers in their way of working.

“Our designers do not design based on the fickle trends of the fashion industry, but more for timelessness and classic styling. [...] But still, the aesthetics and the quality are their focus above all.”

(J. Everding, personal communication, April 25, 2019)

Another company that works deeply with sustainability is Icebug, they make shoes with the world's best grip and work to raise the bar for sustainability in the industry (Icebug, 2019). According to Icebug's sustainability manager, when it comes to design for sustainability, they foremost prioritize simplicity, less material and the choice of materials.

“This is the most importantly, if we have good materials, then the product is easier to produce. So, we have good design, not only to make more shoes. We need to be smart so that we do not obstruct the factories from being productive. This is our values simple design and good choice of fabrics”

(H. Tuomas, personal communication, April 30, 2019)

Furthermore, Houdini, one of the leading sustainable outdoor companies, work with a different design philosophy. Here is what they ask themselves before a product enters production.

When it comes to functional clothing, we identified a number of questions that we ask ourselves before anything is produced.

- Does the product deserve to exist?
- Will it last long enough?
- Will it be sufficiently versatile?
- Will it age with beauty?
- Anything unnecessary?
- Will it be easy to repair?
- Will it be durable enough for our rental program?
- Can we take care of the worn-out materials?

(Houdini, 2019)

A self-employed designer, and part-time tailor, talks about the sustainability effect that she can make as a designer in her small atelier in counter to a bigger business. Here she reflects about the fact that as a part of a company it may be hard for a designer to feel that there is a possibility to influence the company in any way, but with a smaller company that possibility grows.

“It is important that the garment is created here. When you are creating in your local environment and produce less products, like in a small atelier, it is easier to influence.”

(J. Nilsson, personal communication, February 27, 2019)

Furthermore, she talks about how the designer can make a clothing more sustainable through making them last longer, and thereby the need to produce so much garment will also be reduced which will affect the environment positively. Other possible action may be to think differently in the design process:

“What can you do with a blazer at end of use, or can you experiment with other materials and still keep the luxurious feeling.”

(J. Nilsson, personal communication, February 27, 2019)

A challenge for the designer is to get the time to acquainted with what you can do for sustainability. The tailor education that the self-employed designer got, did not encompass these questions of how a garment can affect our environment and what she as a designer can do to counteract its impact. This means she needs to take time from her work today to be able to understand the industry and how to react to it, time that is not always available.

“To find out information about the material is hard, I have no idea what I sew in. I know it is 100% cotton, but it's not like I bought it from a farm around here. It becomes clear how very small we are in the production chain.”

(J. Nilsson, personal communication, February 27, 2019)

4.2 Is there a working method that prioritizes sustainability?

According to the project manager at Science Park Borås, The Higg Index is one of the most comprehensive and advanced tool for evaluation of sustainability aspects in the textile industry, furthermore, he says that 50% of the world's entire textile production are made by companies that evaluate their work with the Higgs index. On the other hand, Adrian mentions The Higg Index lack of focus on circularity, this may be due to a conflict of interest for the industry.

“...that the most radical impact on durability is to extend the life of all garments. But it's counterintuitive for the industry.”

(A. Zethraeus, personal communication, February 11, 2019).

Adrian continues with explaining how the Higgs index focus on how to minimize the damage that already been done and not to reduce the waste on beforehand (A. Zethraeus, personal communication, February 11, 2019).

There are a lot of different tools that can be used in the textile industry, and they all focus on different parts of sustainability. The most comprehensive tools, according to the project manager at Science Park Borås, is Higgs and Cradle to Cradle. However, there are deficiencies in them too. According to Adrian they both left out design for longevity and design for circularity (A. Zethraeus, personal communication, February 11, 2019).

Nudie and the self-employed designer stated that nor they, or the company they are employed at, are working with any methods to facilitate a focus on sustainability in the design process. Nevertheless, as the conversations continued it became clear that some of the previously mentioned methods are part of their process subconsciously. It might not be for the sake of sustainability but for the elegance of the product, or to make the design economically sustainable for the company.

“I am thinking about Graceful Aging, how the garment becomes more beautiful with time, then it lives on. If something wears out and breaks, it is over, expended. Therefore we work with good materials and the craft must be well done.”

(J. Nilsson, personal communication, February 27, 2019)

Filippa K work continuously with many different tools for sustainability, They have developed an internal fiber tool to help make sustainable choice when selecting and developing fabrics. Further they have had a circular fashion model in place for some years and now they are focusing on the following: Reduce, Repair, Reuse and Recycle. Here the Reduce part are most used in the design state, but the designers keep all the above in mind when developing new collections. (J. Everding, personal communication, April 25, 2019)

Filippa K also has a circular fashion commitment target set to 2020 where all their designers will have gone through training on circular design principles. In 2017, 50% of the employed designers have had this training. Another goal for 2020 is that every design brief at Filippa K will include the circular design principles based on the industry guidance. Today this is done in the front Runner products (Filippa K, 2017).

At Icebug they work with the Higgs Index, mainly to evaluate their work but also in their development process to see that the product lives up to their sustainability standards. Icebug as well as Filippa K is part of developing TrusTrace, a blockchain powered collaboration platform that helps establish transparency and product traceability between various stakeholders in the Fashion Industry. Further the sustainability manager at Icebug talks about their future in sustainability, today they have caught up with the researchers and their work therefor continually focus on measurement with LCA.

“We know very well what opportunities we have today. We need different partners to develop different parts of the value chain. The journey from point zero till this day, it has been pretty quick, and fun. But also, quite surprising, there is not much more information we can get. I can call the leading researchers, and they are almost in the same situation. We have to create information because it is not there.”

(H. Tuomas, personal communication, April 30, 2019)

5. Result

With regards to the collected data the remaining goal was to use the information to measure how a company works with design.

The result, and implementation, of the data collection is presented in this chapter. It is divided into three sub-chapters: 5.1 Categorization, 5.2 Inquiry and 5.3 Point ranking. The first sub-chapter will explain how companies can be divided in different categories. This will be followed with a chapter on the methodology on how to get the information, which questions that needs to be answered, to get a picture on how the company in question works with sustainability in their design department. Finally, there will be a sub-chapter concerning on how to measure a company’s sustainability work.

5.1 Categorization

A company can be divided into one of the following three categories; unaware, aware and progressive. These categories refer to how companies work with sustainability issues in their design department. Each of these three categories are divided in two sub-categories, Proactive, Transparency, Efficient, Inquisitive, Passive and Resistance see figure 6. The two lowest levels Resistance and Passive, subheadings to unaware, concerns companies that do not actively work with sustainability.

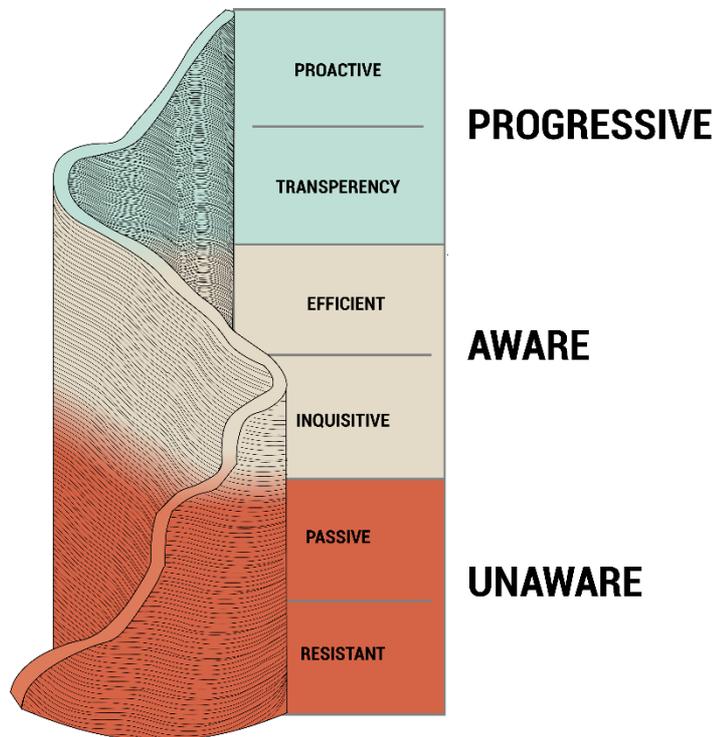


Figure 6. Sustainability scale. Authors own copyright.

The Unaware stage that concern companies not actively working with sustainability will be directly be excluded from Vindpinad’s web shop. Therefore, the focus of this scale will be on the two higher levels Aware and Progressive.

However, a company that is allocated in the first category, Unaware, and the first sub-category Resistance does not even have a sustainability agenda and may even work against sustainability. At the Passive level companies do not work actively with sustainability but may try to appear sustainable, so-called greenwashing, they may also be indifferent of their effect on the environment.

Moving on to the second category, *Aware*, the first sub-category is Inquisitive. If a company is allocated here, they have just started their work towards being a more sustainable company. They are curious on how they can redirect towards a more tenable company. In this step the designers may start to look for a more sustainable material to work with or how the product

can be recycled after use. In the next sub-category, Efficient, the work for sustainability are developed further. During the product development process any of the methods mentioned above in chapter 3.2.1 may be used. The focus is mostly on resource efficient and reduction of waste. Sustainability does not have to be as an important factor in the rest of the company as in the design department.

The last, and best, category is Progressive. it starts with the first sub-category Transparency. Companies that reach this level has a high focus on certifications. The companies take strategic decisions to be more sustainable. The entire company is saturated with a sustainable mindset, and it affects almost every decision in the company. In the design area there is a high focus on circularity and being as sustainably as possible with the resources available today.

The last sub-category, Proactive, composes of companies that are completely circular and strive towards being more sustainable in every aspect of the company. In the design department the work towards circularity may expand to re-design, design for longevity and designing services as renting out clothes. The company should also be a part of the forefront of the solution, researching for new ideas and possible solution to sustainable issues.

5.2 Inquiry

In order to be able to rank the companies, information has to be collected on how they work. How this information is collected, by simply asking the company in question or getting the information from a third non affected party, is based on the situation. The latter option is of course to be preferred in order to guarantee a reliable answer, and later, ranking. However, as stated earlier, Vindpinad does not aim to be a new certification. The focus is to make the information accessible, and useful.

However, there are several questions that needs to be answered to rank a company. These questions have been divided into different parts of a fork-path, see figure 7. The path is based on Design thinking, a well-known and established methodology to approach a problem. (Schallmo, Daniel & Williams, Christopher & Lang, Klaus. 2018)

Just like Houdini, this path starts with the purpose of the product. The company's fundamental purpose is shown in their way of thinking about their product and the reason for their existence. The next step is to find out if the company are working with an established method or not.

If they do work with an established methodology, the method should permeate the company's design methodology. In that case, the questions evolve to ask how they implement that methodology.

In the case that the company does not work with an established method, or that the methodology is not correctly followed and is not permeating the company the questions are different.

The first question asks how the company approaches the problem. What type of methodology are they following and what are they main focus in the process? As illustrated in the Eco Design Wheel there are several ways to produce products, and as Cradle to Cradle shows different purposes can have completely different impacts.

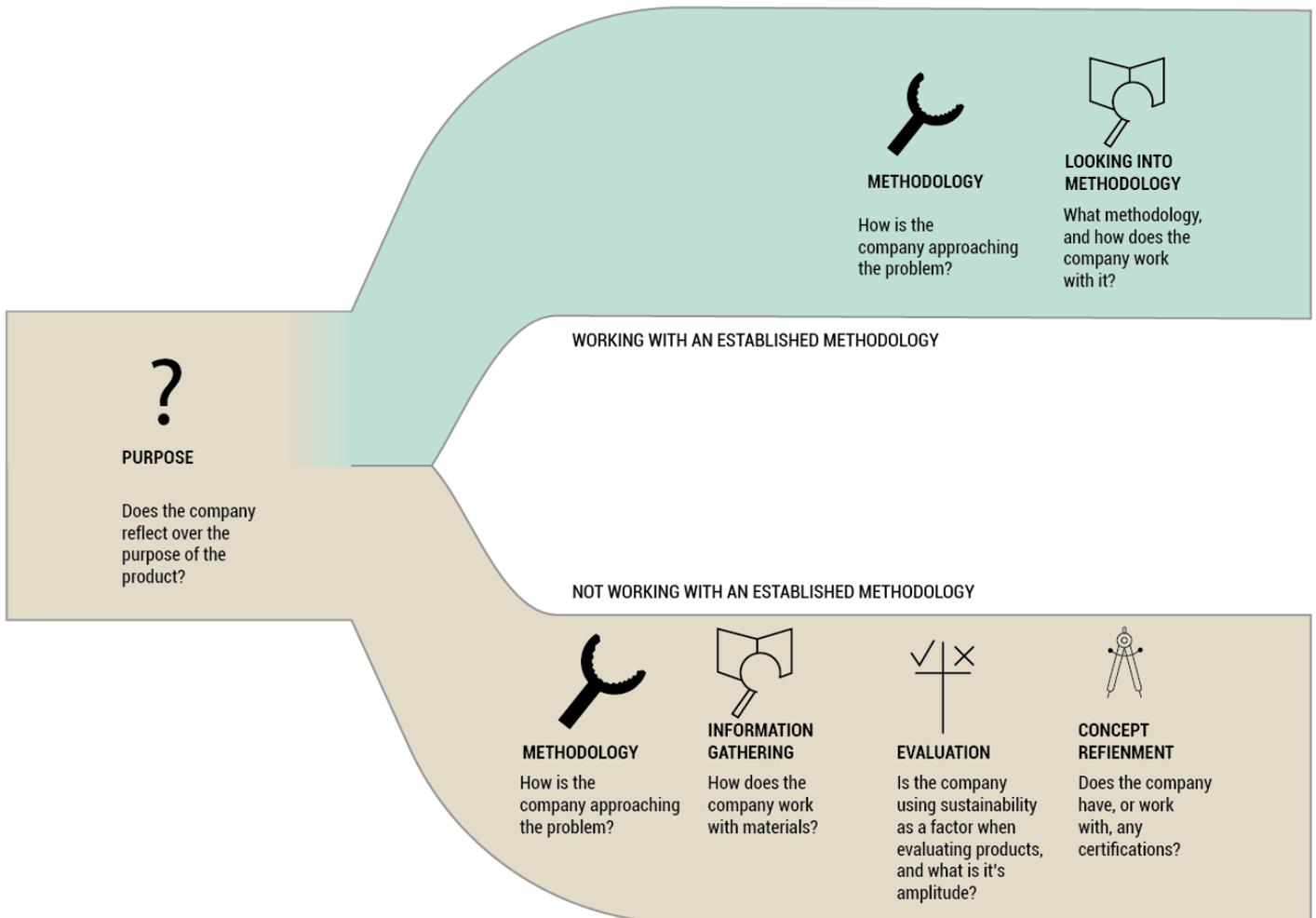


Figure 7. Path on how to rank sustainability work. Authors own copyright.

The next step is information gathering, the focus revolves how the company chooses materials. Are the company working with inventing new materials? What kind of demands do they put on their producers; what kinds of materials are they nominating? It can be difficult for a small company to state demands on their producers, however, it is not impossible. IceBug, a fairly small company, even creates their own materials, in collaboration with their producers.

In the evaluation step the questions focus on finding out if the company are using sustainability as a factor when evaluating a product, and if so to what extent. It is one thing to consider just one aspect, and flaunt with a certification, but sustainability encompasses three different aspects, *social, economic and environmental*. Have the company actually looked at their supply chain? Have they considered the entirety of their products impact?

In the last step, concept refinement, the focus is on certifications. Does the company have, or work with, any certification? What standards have these certifications, what part of sustainability do the certification cover and what part does it not cover? Certifications are liable source and should not be overlooked. Looking into what certification a company has, can be a sort cute to the company's strength and weaknesses.

Just as the design methodology this process is iterative, finding certain answers at one phase could mean that you must iterate.

5.3 Point ranking

As mentioned earlier, proposing an exact sustainability ranking was delimited. However, a recommendation will be presented.

During the theoretical overview a few ranking systems were observed, *Higgs Index* and *Indicator C*. It is important to observe the difference in these two systems. *Higgs Index* concerns a product effect on sustainability, and *Indicator C* only measures to what extent a product is circular. There is a vast distinction between the two. While measuring the economic value of the number of circular components in a product is reasonably simple, it does not consider the social aspect, and it's questionable if it covers the environmental aspect fully. Furthermore, the *Higgs index* 0-100 ranking was also criticized by the interviewed researcher. Since it leaves out *design for longevity* and *design for circularity*.

It is also important to take into account the continual development of technology, for example Moore's Law. It states that "...processor speeds, or overall processing power for computer will double every two years." (Moore's law, n.d.) It is not directly applicable to the textile industry but illustrates the capability of technological development. Just as technology change, and the improving realization of all the components impact, a scale that measures this cannot be static. The influence of technology affects the results in two ways, the potential of the best products is increased, and the understanding of how chemicals, production methods and design choices affect the sustainability will be improved.

The recommendation is a comparative scale. In the interviews with the project manager at Re:textile and IceBug's sustainability manager it is mentioned how a new version of the Higgs Index uses this method. As more and more results of products affect are added, the scale changes.

In Vindpinad's scale the best product and worst product should, in that case, be at each end of the scale.

6. Discussion

The prestudies has declared that there are a lot of different methods for working more sustainable in the design process. According to the active designers participating in this study, these methods are not implemented in designers everyday work. However, the designers do think about these issues unconsciously during the creative process. Therefore, the question, *do they work with a special sustainability method*, may not give a clear answer. The company that work with a sustainability method are distinctly more thoughtful in their work and in doing so, talk about the issue more, however another company may produce the same level of sustainability in their clothing.

To properly categorize companies, we have to find out how the designers actually think and implement sustainability in their work. Therefore, we choose to start with the question about the purpose of the product. A company's grade of sustainability should be graded by their commitment in the issue, not solely on the end result.

Furthermore, ranking is quite difficult, and we are dissatisfied that we cannot present a finished tool. In our studies we have only found a few methods that measure sustainability. These methods have been developed for years, by professionals with experience we simply cannot match. Our result is thereby only a proposal that needs to be further investigated.

Research question two

How can we simplify the choice-process for the sustainable-conscious customer?

7. Methods

In this chapter the methods used for answering the second research question, *How can we simplify the choice-process for the sustainable-conscious customer?* will be presented. When relevant, theoretical background for methods will be presented as well.

The chapter is divided into five different parts. These represents the different stages in the design thinking process, see figure 8. The first three steps in design thinking are covered in the Prestudy part. (Schallmo, Williams, Lang, 2018)

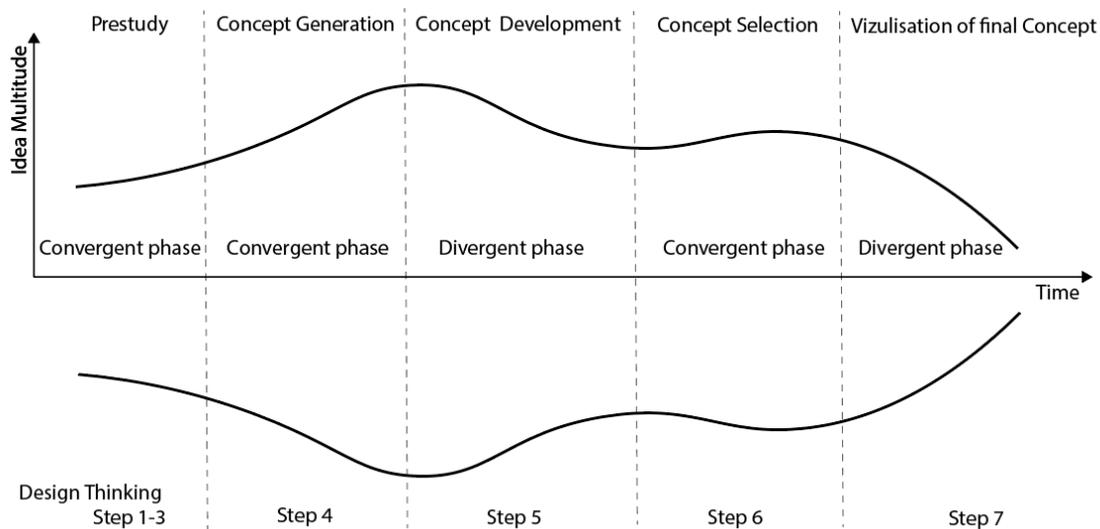


Figure 8. Overview of the methods used for the second research question, and their type of phase. Authors own copyright.

7.1 Prestudy

The prestudy concluded a deeper comprehension of the brand, Vindpinad, and comparing their visions and goals with other brands in the business.

7.1.1 Brand workshop

In order to know what Vindpinad is, and what their goals are a brand workshop was conducted. It was based on a workshop created by InVision. InVision are an information platform for UX-designers and their likes. InVision publishes articles daily, have courses in UX and publishes various workshop's that UX-designers can use in their work.

The workshop was divided in six phases, and three focus areas.

Focus area: Company's motivation

- 10-year road map

This exercise purpose is to think about a long-foreseen future of the company. By thinking this way, it is more probable to make decisions that will create a long-lasting company.

- What, How, Why

This phase is inspired by Simon Sinek's "Golden Circle" (TED, 2019). Every co-worker in the company need to know why the company are in the business since a strong motivation for the company shines through and will make customers buy the product.

Focus area: Details

- Top 3 values

Next phase deepens the *why* of the company by listing and ranking the values of the company. The purpose is that all the employees has the same picture of the company and works towards the same goal.

- Top 3 Audiences

The company needs to know whose opinion they should prioritize when developing products and communications.

Focus area: Position brand relative to others

- Personality sliders

This phase helps the company to get a clear positioning comparing to other companies in the business.

- Competitive landscape

By using competitive landscape, the company can define what their competitors do, and then it is possible for the company to differentiate themselves from their competition.

7.1.2 Benchmarking

In order to compare Vindpinad's website to other similar websites a benchmark was conducted. In the benchmark six competing companies, with similar customers and product range, was evaluated against Jordan's 10 design principles.

However, two factors were delimited since they were not relevant in this comparison. The factors disclosed were: (5) Error Prevention and Recovery and (9) Appropriate transfer of technology.

Error prevention and recovery (5) is great when comparing different versions of the same website, but not relevant when comparing different websites. Appropriate transfer of technology (9) is not relevant because all the websites use the same technology. If more advanced technology was used, as AI or machine learning, to improve the usability of the website it could be relevant. However, that is not within the boundaries of this study.

Furthermore, each website was benchmarked against the eight chosen design principles. Through testing the two objectives, on each website, a fair comparison was able. The objectives were;

- Ordering a red, female jacket and look for what material was used in it.
- Ordering a pair of boots, which was made in the Gore-Tex material.

In addition, some general browsing was made on each website.

During the workshop three different, main customers was formulated. In order to make the benchmarking even more relevant to Vindpinad, each website was going to be observed through these main customers eyes. To simplify this process three personas was created, which are presented in chapter 8.1.1.

7.1.3 Explorative User Study

When the first test was held the webpage was not fully launched, therefore the first test was an explorative study. Four users participated, which represented the three different personas. The smaller number of users can be motivated by the limited amount of resources, in this case time. The same reasoning for fewer users during usability tests are addressed in an article by Jakob Nielsen on Nielsen Norman Groups website.

“The main argument for small tests is simply return on investment: testing costs increase with each additional study participant, yet the number of findings quickly reaches the point of diminishing returns.” (Nielsen, 2012)

During the test Jordan’s 10 Design Principles and Normans Fundamental Principles of Interaction will not be meticulous studied. These principles were only used as descriptive words for different aspects of websites. It was not prioritized to go into depth on the usability factors, since it was an explorative study. Therefore, the principles were not considered further.

The test was constructed in 3 steps, starting with basic question, then testing the site and lastly an interview about key values of Vindpinad.

- Step 1 - Basic information and shopping habits.

The purpose was to identify and verify which of the three personas the user was and analyze their basic information to see if they are statistically representative of Vindpinad’s target audience.

- Step 2 - Analyze website.

This step was divided in three tasks.

Task one's purpose was to find out what values the landing page represented and if it is in line with Vindpinad’s vision.

Task two let the user buy a jacket from the shop. The goal was to find trigger points for the customer journey map and the most prominent usability issues with the task.

The third task focused on the evaluation model and how it was communicated. The purpose was to find how it can be simplified and improved.

- Step 3 - Key values

The purpose of this step was to get some inspiration on how to communicate the key values and what the user thought of them.

The collected information was organized in an affinity diagram, also referred to as the KJ-method. This method is used to organize a large quantity of data by their natural relationships, it identifies what factors to focus on to develop the best design possible from a user

perspective. First the data need to be collected, usually from transcribing interviews, and then the interesting points are identified and written down on post-it notes. These are then clustered into groups by what they have in common. These groups then get headers and sub headers to categories their content. The most important information of each headers in relation to the design goals are then chosen for further development (Weprin, 2016).

After the KJ-method the result will be visualized in a list of demands. Eventual conceptual ideas will be carried over to the concept generation step and will not be introduced until then.

7.1.4 List of demands version one

In order to focus the generated information from the earlier steps, a list of demands was established.

It is divided into six sections:

1. *General demands*; what is applicable for the entire website.
2. *Landing page*; What does the first page that the users see have to have?
3. *Product page*; What kind of information needs to exist when the user is looking at a specific garment?
4. *Evaluation model page*; What needs to be on the page where Vindpinad's work is explained?
5. *Scroll page*; What does the user need when they are scrolling through garments?

Based on the information gathered from the prestudy phase, demands will be formulated and assigned to the proper section. If needed, a comment will be added to clarify the demand, and lastly the demand will be categorized. Categorizing the demands means that it will be specified how important this demand is, it can either be necessary, or, desirable. Necessary means that the demand must be addressed, it is vital for the functionality of the website. Desirable means that addressing, and solving, the demand is not vital, but will have a significant effect.

7.2 Concept Generation

During the concept generation phase a lot of different methods were used, therefore only the methods that generated vital results will be presented.

7.2.1 Brainwriting

This method is very similar to brainstorming but is different in the sense that the exercise is closed. The participants cannot influence each other during the exercise. As a result, the generated ideas can be more versatile, since the participants does not affect each other, and everyone can let their mind wander on its own track. (Mindtool, n.d)

The method is available in a step by step guide in annex 1.

7.2.2 Ideal final result

This method is described in a product that helps creativity, created by Industrial Design Center in Kortrijk, Belgium. This method is divided into four steps;

- Step 1

Describe the most ideal situation for your challenge as if there were no constraints.

- Step 2

Get back to reality and try to find the next best challenge that is a little more feasible.

- Step 3

Continue until you have found the biggest challenge that remains feasible.

- Step 4

Write down the new challenge.

(Laperre, Vanneste, Doornaert, n.d.)

7.2.3 Escape Thinking

This method is described in a card deck developed by Industrial Design Center in Kortrijk, Belgium. This method is divided into four steps.

- Write down the topic
- Look for all stereotypes and highlight them
- Replace stereotypes by their opposites and create new challenges
- Think of solutions for these new (opposite) challenges.

(Laperre, Vanneste, Doornaert, n.d.)

7.2.4 Morphological analysis

This method is described in a card deck developed by Industrial Design Center in Kortrijk, Belgium. This method is divided into three steps, with their own sub-steps.

Step 1.

- Split your challenge into sub-challenges
- Describe every sub challenge in an appealing way: "How can we..."
- Now consider each sub-challenge as an individual design challenge.

Step 2

- Take a sub-challenge
- Think of as many possible solutions for this sub-challenge
- Do the same for all the sub-challenges
- Write every solution for every focus area in a matrix

Step 3

- Make combinations of solutions in the matrix.
- Design a concept in which all of these solutions are applied.

(Laperre, Vanneste, Doornaert, n.d.)

7.3 Concept Development

Plenty of hand drawn sketches was generated during the concept generation phase. These were developed and refined during the concept development phase and then digitized through the software Adobe XD. This resulted in three concepts with several sub-concepts.

In order to have equivalent concepts and a reliable concept selection step, the concept had to be developed and refined. Two methods were used, the stakeholder workshop to get an expert opinion, and a user test to understand the user perspective.

7.3.1 Stakeholder workshop

The workshop was constructed to simulate a life-like stakeholder presentation. The goal was to assemble a group of people that could represent the stakeholders that could be present in a work-setting. The purpose was to see if the project were going in the right direction, if there were some aspects that was needed to explore and what ideas to develop.

The workshop was going to start with an introduction to the problem, continue into the delimitations and objectives of the project. The objectives would be followed with an overview on what have been done so far that is relevant to the development of the website; personas, the explorative user study and benchmarking. Then the focus of the workshop would start, the presentation of the three concepts, see annex 2, the moodboards that was the inspiration for the concepts and finally it was going to end with some specific questions we had to the participants.

The people who were to be represented at the meeting were;

- The product owner, in this case the founder and CEO of Vindpinad.
- A graphic and design expert, someone that could give feedback on those aspects of the prototypes.
- A human-centered-design expert, someone that could give feedback on how users might react, and how to work with that aspect.
- A programming, or technical, expert, someone that could reflect on how realistic and implementable the prototype was from a technical point of view.

These specific experts were chosen because it was presumed that they would have a bigger picture of the specific field they are experts in. They can therefore speak from experiences from similar projects, what traps there might be and how to avoid them. Furthermore, the concepts were on a very conceptual level, they were not refined and in detail. Which was another reason why these experts were chosen, they are used to conceptual ideas and designs. Therefore, the experts are able to see past the rough edges and give vital insights.

7.3.2 User testing

As an effect off the experimental concepts a *user test* was conducted, and not a *usability test*. The focus was to get some qualitative data on how the experimental concepts was perceived.

During this step the concept was not developed into working prototypes, the concept would for that reason not be comparable to the working websites. Therefore, to improve the reliability of the test, all pages that was going to be included in the test was printed. Furthermore, the websites that was used as a comparison also went through some retouching, they were stripped from some of the graphical elements and functions that could give the hint that the websites were further developed. The elements that was stripped away was not a part of the main functionality of the website. These printed versions are available in annex 3.

Most of Normans Principle of Interaction and Jordan's 10 Design Principles was not included in this test. As stated earlier all the pages was printed, and it was therefore impossible to measure most of the principles. However, Mapping, Conceptual models, Consistency (1), Compatibility (2), User control (6), and Prioritization of functionality and information (8) was considered.

The test was divided into three tasks;

1. Comparing the prototypes with Vindpinad's existing website and with Naturkompaniet's website.

The goal of this task was to get honest, intuitive reactions. How are the differences going to affect the user's approach? Can a different focus be observed, are the user's more focused on sustainable-consumption, or is it the focus still on simple consumption?

2. Compare Vindpinad's evaluation model with the new concept of the model.

The purpose of this task was to see what the new model can improve, can it be improved to be more intuitive, trustworthy, reliable? Does the new model still carry the graphic elements of Vindpinad's logo?

3. Comparing the different prototypes with each other.

The last task was used to understand the concepts inherent differences, what are their strengths, weaknesses?

A group of design students were chosen as the test-participants, for several reasons;

- They were easy to access, and available. Just as in the first user test, time was an important and deficient resource. Therefore, Jakob Nielsen's advice on a smaller number of users was adopted. (Nielsen, 2012)
- The concepts were still rather conceptual, and these design students are used to work with conceptual ideas.
- Feedback on color and shapes was necessary in this test, which these design students are good at.
- The students could also represent our personas, as two of them reflected the unaware customer and two reflects the influencer.

7.4 Concept Selection

The selection step was based on a usability study, to evaluate the concepts. The result was used to make the final solution.

7.4.1 Usability test

To test the two final concepts a usability test was constructed. The purpose was to measure the concepts against each other based on Jordan's 10 Design Principles and on Normans Fundamental Principles of Interaction. Furthermore, some specific features and different versions of functions was tested.

For this purpose, an A/B test was constructed. This methodology is common when testing two different prototypes but is usually based on quantitative results. (Mightycall, 2016) However this test was qualitative, since the concept was not that well developed that they could be

tested online. In order to collect quantitative data a larger amount of users, at least 20 (Nielsen, 2012), has to participate, which at this point was very difficult to achieve.

A total amount of eight users participated in this test. In this test the focus was to gather as much information as possible, and time was not of paramount importance. In an earlier research by Jakob Nielsen (1993) he shows that a majority of the problems can be discovered by five users, but almost all problems can be found with eight users. The eight users will also represent the three different personas, which mean that the test virtually will be with the prospective users.

The following principles of Jordan's 10 Design Principles and Normans Fundamental Principles of Interaction was delimited;

9. Appropriate Transfer of Technology - As previously mentioned, is not relevant because all the websites use the same technology. If more advanced technology was used, as AI or machine learning, to improve the usability of the website it could be relevant. However, that is not within the boundaries of this study.

3. Experienced user performance (EUP) - In 2018 there were 1.8 billion people worldwide are expected to buy goods and services online. (eMarketer, n.d.) For that reason, it can be assumed that there is no such thing as a EUP for shopping online.

5. Re-usability - It is not within this projects limits to explore how well the product can achieve a long-lasting hiatus from online shopping.

It is possible to measure all of these by observing the number of clicks and the time it takes to complete a task. If the user requires more time or clicks for a task, first then it is important to consider which one of these factors that has to be reconsidered. However, the *Guessability* and *Learnability* of the prototypes has to be tested differently. The *Guessability* of the prototypes can only be measured with how well the user performs at the first task, and the *Learnability* can only be measured when the user is performing the third task.

Furthermore, the test was divided into three tasks, the tasks were performed at one prototype, and then repeated on the next. The order of the prototypes was alternated after each test.

Task one

The user will get a task to purchase a new windbreaker. The task was phrased in a matter that pushed the user to behave in a natural way. The purpose of this task was to test the following:

- How much does a user categorize while purchasing on a web shop?
- Will the user recognize if there are not any products on the first page, and what will the affect be?
- Where should the functionality filter appear?
- How the sustainability-bar will affect the user.
- What is the preferred way of displaying the information about the product?
- How well is the *Guessability* of the prototype?

Task two

A scenario described how the user was more curious about Vindpinad. The user was then asked to look into how Vindpinad implement their evaluation model and how the process

works. It was emphasized that the user was meant to spend as much time as the user would spend having done this at home.

The purpose of this task was to test the following:

- Is the model intuitive or hard to understand?
- Is the evaluation model reliable, would they use it being comfortable that the information presented is trustworthy?

Task three

A scenario described how the user had to buy a new backpack for a skitrip. The backpack had to be wind-, and waterproof. The purpose of this task was to test the same as mentioned in task one, but also the *Learnability* of the website.

Finally, the test will be analyzed and summarized with a KJ-analysis, as described in chapter 7.1.3.

7.4.2 List of demands version two

The list of demands will then be amended with the new information in mind. The purpose of this revised list of demand is to use it as support when developing the final concept.

8. Result

In this chapter the results of the second part of this thesis will be presented. The chapter is divided in five different sub-chapters representing the different stage of the design process; Prestudy, Concept Generation, Concept Development, Concept Selection and Visualization of final concept.

8.1 Prestudy

The focus of this prestudy was to find the core of Vindpinad so that the end result can be implementable in Vindpinad's further work.

8.1.1 Brand workshop

The brand workshop with the owner of Vindpinad resulted in a deeper understanding of the company's aim and vision. The continued work, with developing the visualization of the evaluation model and the website, will be concluded with this information as foundation. The main result of the workshop will be presented below.

- 10 years road map

Ten years ahead is a long way for a new launched company, but the goal of the company is to be able to further develop the evaluation model for new markets and segment. Also, it is of most importance for Vindpinad not to increase the total consumption but rather to reduce it by offering products that last over time, can be repaired, maintained and used for as many different activities as possible.

- What, how, why

The main purpose of Vindpinad is to make sustainable and conscious consumption choices easy to make, this is made through the evaluation model that ensures that the "right" products are sold in the store. The visualization of the evaluation result then allows the customer to understand and grasp the complex underlying data. This is done to create security for those who want to take responsibility in their consumption.

- Top three values

The top three values of Vindpinad are; sustainable, transparent and abiding.

- Top three audience - Persona

From the description of the three main customers three personas was created. The personas were used in the benchmarking and will be used throughout the project to widen the perspective.

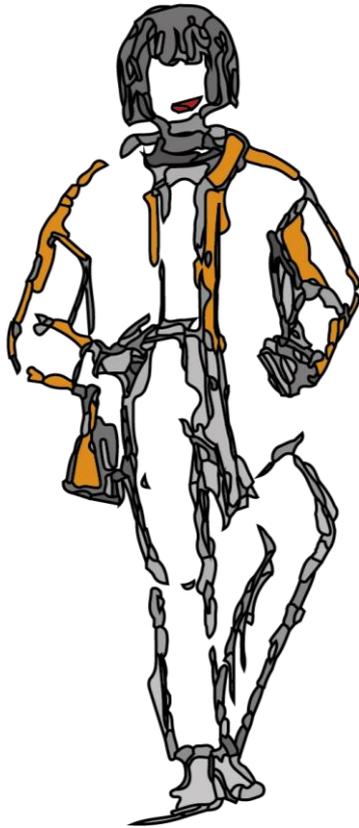


Figure 9. A visualization of the sustainable influencer persona. Authors own copyright.

The influencer

This is Jenna, she's a sustainable influencer, educated within sustainability. As a professional Jenna is dedicated to her career and love to educate others.

When Jenna was eight her beloved dog died in a poisoned lake and since then her goal has always been to help people understand the close connection between humans and the environment.

Jenna has never been keen on fashion but enjoys the statement and expression made with her second-hand clothes. She loves her oversized orange jacket and her comfortable self-cut jeans. Clothes and looks are meant to reflect your personality; therefore Jenna has an easy-maintained shorter haircut with bangs. Her red lipstick is vegan and fair trade and gives her that special feeling of confidence and style, see figure 9.

The knowledgeable

This is John, he is well educated and a sustainable conscious man. John works with communication for the municipality and is 31 years old. In every conversation John somehow manages to sneak

in some tips on how to be sustainable, for example that the local supermarket just released a new vegan-pesto. When he starts talking about sustainability he really gets going. He cannot really determine whether it is his feelings of responsibility against informing his peers about sustainability, or if it is simply the attention that makes him so excited. It doesn't really matter; he just keeps on talking.

John feels that it is important that the clothes he wears reflect his commitment to the sustainable lifestyle. Function and quality always beat fashion and his favorite pants are multifunctional with loads of pockets. These are usually accompanied with an anorak, a pair of Birkenstocks and his backpack which is packed with his reusable coffee cup and homemade lunch. John's long hair and beard was inspired by Leonardo DiCaprio's character Hugh Glass in the movie *The Revenant*, see figure 10.

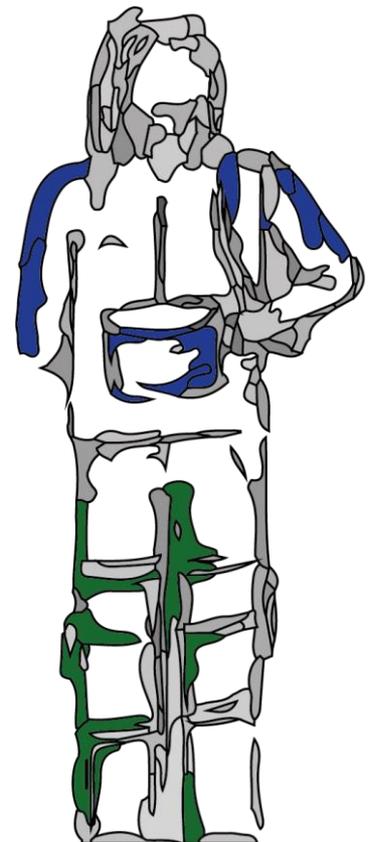


Figure 10. A visualization of the informal sustainable influencer persona. Authors own copyright.

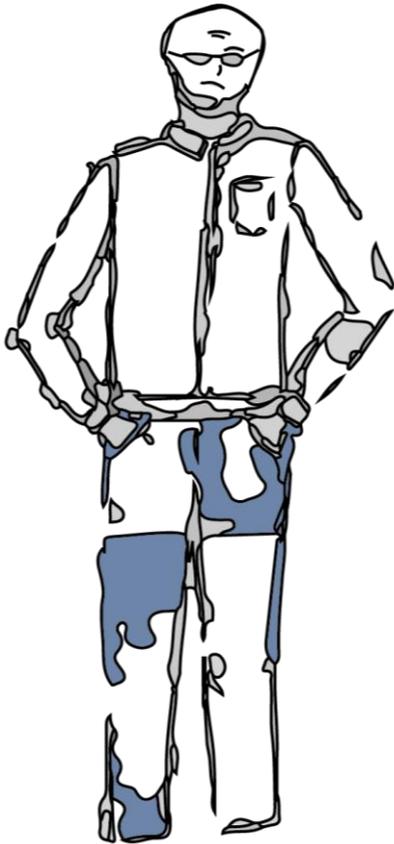


Figure 11. A visualization of the unaware consumer persona. Authors own copyright.

The unaware consumer that strives to do better

This is your everyday Joe; he considers himself to be a totally normal person. Joe does not want his consumption to affect the environment more than necessary, so he buys organic tomatoes even if they are twice as expensive, inside he doubts about the effects. Joe recycles, mostly to get money from his pet-bottles and to avoid walking all the way to the garbage bin outdoors too often.

When it comes to products Joe buys the more expensive ones that he thinks will last longer and thereby he saves money. Joe likes to look good, but functionality comes first. Even though the more expensive shirts look better, he prefers a cheaper one because they last just as long, therefore he usually wears a shirt from Dressman, with a bad fitting and a pair of jeans. Joe is bald headed but compensates with a stubble mostly because its time consuming to shave every day, he also wears glasses but only when he must, see figure 11.

- Personality sliders

Here Vindpinad describes how they want to position themselves in comparison to other companies in the business. The positioning will be between the following opposites; *Elit* versus *Mass appeal*, *Serious* versus *Playful*, *Conventional* versus *Rebel*, *Friend* versus *Authority* and *Mature & classic* versus *Young & innovative*.

Vindpinad will be more *Elitist* in the sense that the company are focusing on people that are interested in sustainability. The information on the page will be considered *Serious* but delivered in a more *Playful* and understandable matter. They want to be *Rebellious* in the outdoor business since outdoor brands rarely evaluate their work from a sustainable point of view. Compared to other companies in the sustainable textile business Vindpinad are more of a *Conventional* company hence it is a enthusiast driven company, for the same reason Vindpinad is a *Young and innovative* company and more of a *Friend* then *Authority*.

- Competitive landscape

Two different competitive landscape where made. The first with the axis *Innovative* versus *Conservative* and *Informative* versus *Easy to use*. Vindpinad will divided into two parts, their website and their evaluation model, and they will be compared to other comparison-sites. The website will be *Innovative* and *Informative* where the evaluation model is more *Conservative* and *Easy to use*.

The second competitive landscape are comparing Vindpinad's evaluation model with other outdoor websites, here the axis is *Passive* versus *Attention seeker* and *Informative* versus *Easy to use*. Vindpinad will be *Passive* leaning towards *Informative* more than *Easy to use*. The result can be seen in figure 12.

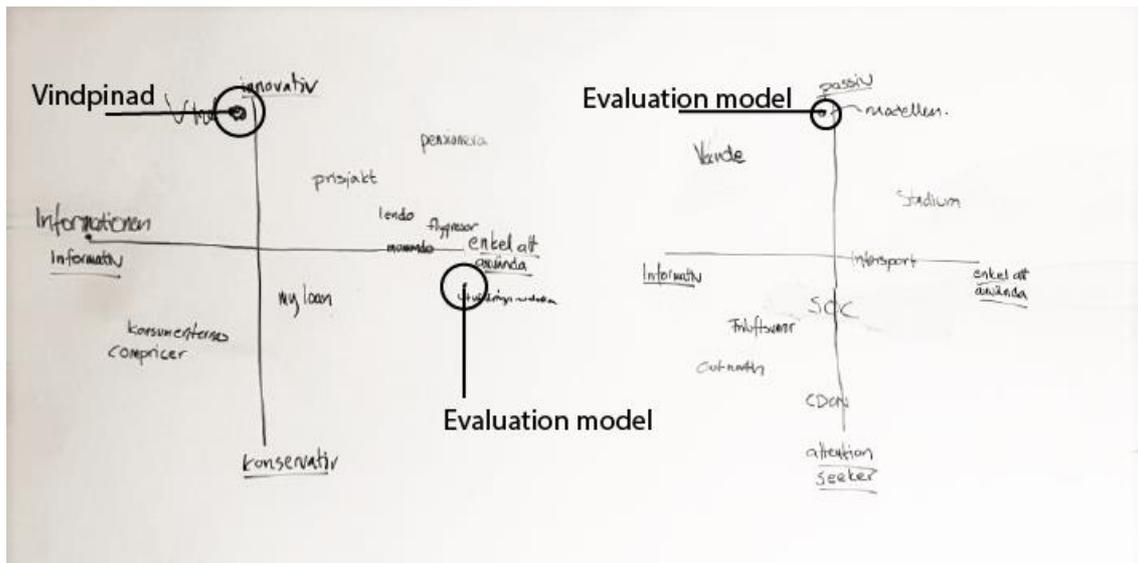


Figure 12. The two competitive landscapes made in the brand workshop. Authors own copyright.

8.1.2 Benchmarking

In the benchmarking the companies Outnorth, Naturkompaniet, AddNature, Outdoor experten, Fjällsport and REI were evaluated since these companies has similar customers and product range as Vindpinad. The benchmarking resulted in a PMI, here the plus, minus and interesting findings in each of the eight chosen design strategies were listed. The entire benchmarking can be found in annex 4.

- PMI

The result of the PMI is presented and described by the Jordan's 10 Design Principles. These results should be considered when designing Vindpinad's webpage.

- Consistency - Without doubt, the website has to be consistent.
- Compatibility - There is a set way to do things. So, if Vindpinad have something different, how will it affect the user, what will the difference look like?
- Consideration of user resources - Vindpinad want a smooth impression, they do not want to force sales on the users. The text has to be "legible" since there will be a lot of information and a lot of different users. There is a way to categorize information, but is that the way Vindpinad will do it, is it really relevant for them?
- Feedback - Hovering, it must be used well and consistent.
- User Control - Other website only concerns themselves with categories such as price and color of products. While Vindpinad must customize its entire sustainability model.
- Visual Clarity - The RIE landing page was interesting, the website had a theme and it was followed throughout the landing page. It was common to be inconsistent, which will mean that Vindpinad has an opportunity here.
- Prioritization of information and functionality - How can Vindpinad prioritize sustainability, it must be top of mind all the time.

- Explicitness - How can Vindpinad be adapted well to its varying customers? The main concern is the amount of information.

8.1.3 Explorative User Study

The result of the user study will be listed as demands in the list of demands version one.

8.1.4 List of Demands version one

The list of demands concretizes what was needed on each page. The entire list is available in table 1.

Table 1. List of demands, version 1. Created by Author.

Demands	Further Explanation	Necessary/Desirable
General demands		
Enable clothing purchase	It should be easy to buy apparel from Vindpinad	N
Show the products sustainability impact.	It should be easy to find information on the impact,	N
Easily understood	The information that is presented should be easily understood, simple to assimilate, for both experts and novices.	N
Clear message	Everybody that enters the website should understand what Vindpinad is; a tool to make sustainable consumption choices.:	D
Product information	Information about the specific garments should be easy accessible and easy to understand.	N
Be visionary	The website should be Vindpinad 2.0, it should reflect a vision of Vindpinad in two to four years.	D
Landing page		
Lower the threshold towards the general mental model.	The webpage should be visionary, but it should not differ so much from the current stereotypical webshop that it becomes unintelligible	N

"Call to action" - show the users how to buy the jacket	It should be clear what the next step for the user is	N
A short explanation of what Vindpinad is	It should take 10 seconds too understand what Vindpinad is.	D
Capture attention	It should be "eye-catching"	D
Communicate vision	"if you read the vision it feels like you can support it"	D
Product page		
A simple explanation of the evaluation model	At first sight it should be easy to understand what it is	N
Show a preview of the garment		N
Be able to change size		N
Be able to change color		N
Give information about the product	Specific information about the product in question	N
Quick explanation of the evaluation model	The text should be concise and easy to read	N
"call to action" - show the users how to buy the jacket	How can it be done, without giving in to consumption too much?	N
Evaluation model		
Give a thorough explanation of the model	The information should be targeted to both experts and novices.	N
Explain how Vindpinad works	How does Vindpinad collect the information, and how does Vindpinad collaborate with the producers?	N
Mediate reference garment		D
Mediate what max point implies		D
Show admission cap	Be clear with the admission cap. (50/100 points is needed to get in	N
Be concise	Communicate was is needed as concise as possible	D
Scroll page		
Show products	The products should be able to be previewed.	N
Show product information	Price and colors should be showed.	N

Show affect on sustainability	It should be easy to preview how sustainable a product is	N
Categorization	Keep Vindpinad's categorization headings on products.	N

8.2 Concept Generation

During this phase the focus was to develop a vision for the entire website. With the result from the prestudy, it was clearer what Vindpinad was and what they wanted to be.

The next sub chapters are arranged in a chronological order. Furthermore, several other methods of idea generation were used during this phase, these are not mentioned because they did not generate anything new.

8.2.1 Brainwriting

The main takeaways from this exercise were different ways to visualizing the information on the website, how the information can be distributed and how the combination can generate visual clarification.

Only the landing page and the product page was addressed in this exercise because the other pages is built on the concept of the landing page. To address the small issues and concerns on every page would be disruptive and be very time consuming. This exercise was meant to generate concepts, to get a great breadth of ideas and feelings.

- General ideas

There was a difficult balance to sort out between focusing on Vindpinad's revenue or their vision, or in other words, the balance between consumption and sustainability. What should be in focus when the customer enters the website? One idea was to show the evaluation model in every step the customer makes, so that it's clear that it is not just another web shop.

- Landing Page

One issue with the landing page was to display a professional and serious impression, without delivering too much information. The main visual finding from the brainwriting session was a 2D-art inspired website. It would combine the playful 2D-art with a combination of text and pictures similar to the existing websites but with a clear idiom connected to the feeling of Vindpinad, see figure 13.



Figure 13. Ideas from brainwriting session on the landing page. Authors own copyright.

- Scroll page

The focus for the scroll page was to find a way of communicating the score a product gets in an understandable and visually clean way. A discussion about the categorization of the page was held and an idea of categorizing from a sustainable point of view arose. The customers should be able to choose how sustainable the products showing on the scroll page are based on the points of the garment or depending on the category of the evaluation model that the customer finds most essential.

- Product page

In the product page the biggest issue was to show the evaluation model in a comprehensible way for the customer but include all the critical information from the evaluation of the garment. Another important concern was to find the balance between the information that the customer finds necessary and what is important from Vindpinad's point of view, since

Vindpinad do not want to encourage consumption more than necessary. The sketches made in this process can be seen in figure 14 and 15.

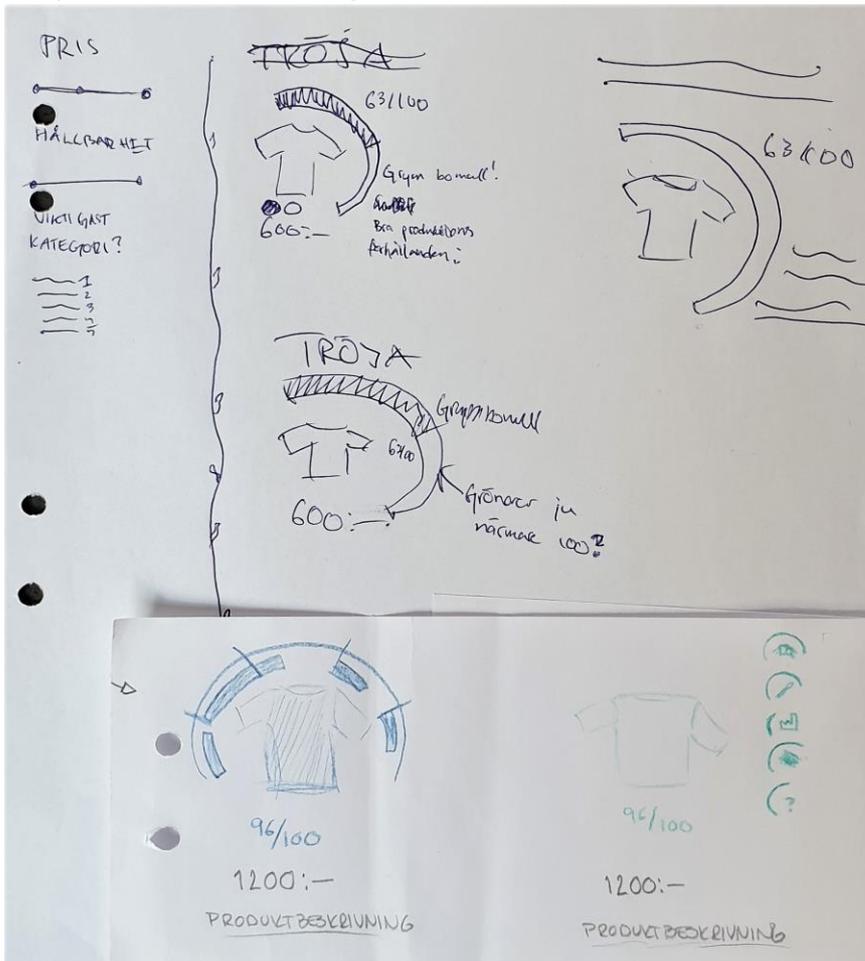


Figure 14. Sketches from brainwriting session concerning the product page on the website. Authors own copyright.

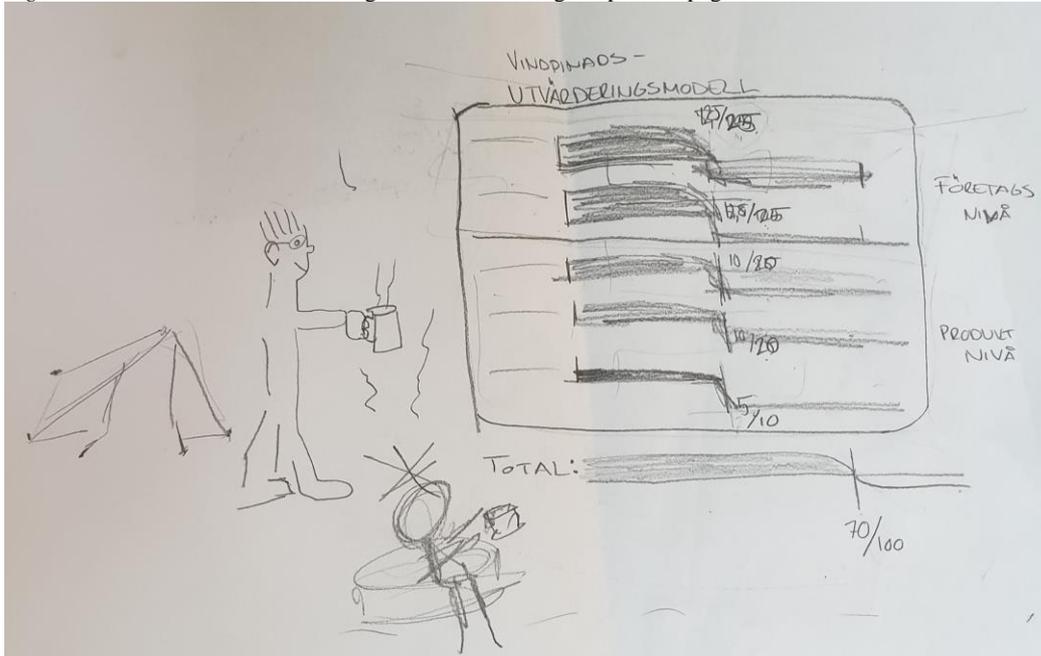


Figure 15. Sketches from brainwriting session concerning the product page on the website. Authors own copyright.

8.2.2 Ideal final result.

Here an ideal final result to the question *How can we simplify the choice process for sustainable conscious customers?* was developed. The ideal solution was divided in two parts, *everyone knows how to make a sustainable choice and the industry do not produce bad products*. The final step was to find a realistic solution and that resulted in, you happen upon Vindpinad and realize what a difference you can make. All step are listed in annex 5.

This idea generation resulted in two new challenges:

1. How can we communicate that the individual consumers consumption can make a difference?
2. What advantages can every customer earn from a different consumption behavior?
 - a. save money
 - b. better garment
 - c. ethically welfare in a social, economic and ecological perspective
 - d. affinity

These questions were used as a foundation in the coming idea generations.

8.2.3 Escape Thinking

The result of this method was abstract ideas, it illustrated how Vindpinad differs itself from other web shops, and what issues that needs to be addressed.

The topic of this method was; *Simplify a sustainable choice process*. It was chosen as it focused on the action on buying, and the process to get there.

Furthermore, six stereotypes were observed, and a few ideas on how to manage these were described, see table 2.

Table 2. Result of Escape thinking. Created by author.

The topic of this method:	Simplify a sustainable choice process	
Stereotypes	Ideas on how to manage the issue	
The general “Joe” does not understand his impact	<ul style="list-style-type: none"> - Provide information about factors that his choices can impact, such as; money, functionality of a product. 	
Climate-crisis-deniers	<ul style="list-style-type: none"> - Show the connection between humans and nature - Show inspiration to be a environmental hero. 	
It is too expensive to buy sustainable products.	<ul style="list-style-type: none"> - Show the technical durability of the product. Better quality equals longer product life. - Show how bad other products are, cost per usage. 	

Laziness, the average “Joe” does not have the time to gather the information.	<ul style="list-style-type: none"> - Show information that is easily understood and accessible. - Show different layers of information, so that the user can dive into different things he feels are important.
It is cool not to care.	<ul style="list-style-type: none"> - Show the social community and connection a sustainable thinking can give.
The average “Joe” thinks he is not a part of nature.	<ul style="list-style-type: none"> - Show inspirational articles.

8.2.4 Morphological analysis

The initial challenge that this exercise was based on was; Simplify a sustainable choice process. This was split up in three sub-challenges, which each had their own comments and solutions, see table 3.

Table 3. Result of Morphological Analysis. Created by Author.

General Challenge:	Simplify a sustainable choice process	
Sub challenges	Comments	Solutions
Communicate the individual consumer’s difference	<ul style="list-style-type: none"> - Can an individual actually make a difference? - It is very abstract. 	<ul style="list-style-type: none"> - What a big difference there is between choosing a sustainable and non-sustainable product. - Show examples of good behavioral change, for example PET recycling. - Get statistic from the users of the webpage, show what a big difference “they” are making. - Show how large our textile waste is. - What it would mean if everybody made the change that is necessary.
The benefits of improved habits.	How can this be visualized?	<ul style="list-style-type: none"> - Address the challenges Vindpinad has to improve reliability and transparency - Work with the key values of Vindpinad; Transparency, Sustainability, Reliability, Comprehensible - Use the group feeling, the community of sustainability

		<ul style="list-style-type: none"> - Show that with better consumption comes better ethical well-being. - Show that with better quality comes a longer product life and product functionality.
How can we be a reliable source of information without being too complicated?	<ul style="list-style-type: none"> - It is hard to combine a simple and communicative with reliable. - How much data can we actually show? 	<ul style="list-style-type: none"> - An intuitive evaluation model. - Different “levels” of information so both experts and novices understand it. - Be transparent - Use citations

8.3 Concept Development

From the idea generation the wide range of ideas was compiled into three concepts with several sub-concepts.

In table 4 there is an overview on what ideas, that was generated in the ideation phase, that was implemented in which concept. These concepts were then used in the stakeholder workshop.

Table 4. A visualization of what early ideas that was implemented in which concept. Created by Author.

Concepts:	Early ideas:
Concept One	2D-art, circular visualization of sustainability, playful yet serious.
Concept Two	Inspirational pictures, a strong idiom referencing to Vindpinad’s logo, creative page transitions, sustainable categorization.
Concept Three	Innovative website, new thinking, playfulness.

8.3.1 Concept one

Concept one is a 2D-art landing page with yet a natural and soft expression. The pastel colors contribute to a calm feeling and align with the pictures of nature exposed further down on the site. This concept is a mixture of playfulness and keeping to the traditional expression of a website, see figure 16.



Figure 16. Visualization of Concept one. Authors own copyright.

8.3.2 Concept two

The second concept focus on different transitions and to give a serious impression, see figure 17 and 18. This concept also deals with the conception model general public has towards web shops. If the mental model differs too much, people will not know how to act. If the mental model is close to what is generally known, the website will be very intuitive.



Figure 17. Visualization of Concept one. Authors own copyright.



Figure 18. Visualization of Concept one. Authors own copyright.

The orange wave line is a reference to the lines in Vindpinad's logo and gives an interesting touch to the otherwise traditional website. The line of figure 18, the turquoise, is even more simple yet the tilt gives an interesting feeling to the site.

A sustainability-bar was added in the scroll page, it gives a new focus to the page and could nudge the user into making a more sustainable choice, see figure 19.



Figure 19. Sustainability-bar. Authors own copyright.

8.3.3 Concept three

This concept is a playful and innovative website with a new way of locating. The menu follows as you scroll down and show the heading of where you are in bold.

The colors of this concept are bold and there is a mixture of flowing round and sharp shapes. 2D-art and pictures are mixed together in an expressive way, see figure 20. The balance between playfulness and serious is complex. In order to balance out the bright colors and innovative scrolling the information that is displayed needs to be clear and uncomplicated.

8.3.4 Stakeholder workshop

The workshop resulted in many valuable comments, ideas and suggestion. The prominent result of the workshop will be presented with related pictures. A full display of the concepts are available in annex 3.

One of the stakeholders, the technical expert, was not able to attend. Since one of the delimitations are not to code the website this was not a great loss.

The other experts were represented as follows;

Owner of product - Founder and CEO of Vindpinad.

Graphic and Design expert - An experienced product designer and fine art lecturer at Teknisk Design Chalmers.

Human-centered-design expert - A lecturer at Teknisk Design, the division of Design & Human Factors, Chalmers.

The importance of showing the evaluation model from the start and all through the website was something that all stakeholder thought would give credibility to the website and show the focus of the company in a simple yet effective way. The experts also expressed a desire to see the entire process of how Vindpinad work.

“Showing the evaluation model from the start makes the website much more reliable”
- Design expert

The product owner of the company pointed out the importance of connecting the logo of Vindpinad with the evaluation model since the model is the heart of the company. He continued to talk about the competition in the web shop industry, and how important it is to stick out.

“It is very important to enhance Vindpinad as a brand.” - Product owner



Figure 20. Visualization of Concept three. Authors own copyright.

To be able to find information in different steps depending on level of interest was something the human-centered-design expert found important. This gives the customer the opportunity to get a deeper knowledge of the model without throwing too much information at them and scare away the less interested customer. He also mentioned that being able to select how many points your clothes should have has benefits in showing the focus of the website. It includes the consumer in an action towards sustainability, which was a very good idea according to the expert, see figure 21. This way of categorizing the expert in design and graphic found intriguing. She liked how it focused the website, and thereby the customer, towards sustainability.

“I like it a lot when you can see the result right away.” - Human-centered-design expert.



Figure 21. Scale to select sustainability level. Authors own copyright.



Figure 22. 2D-art background and illustrated hiker in concept one. Authors own copyright.

According to the design and graphic expert the first concepts landing page did not express sustainability. The 2D-art background was to be playful and the illustrated hiker did not amplify the credibility but rather the opposite, see figure 22.



Figure 23. Nature expressive and Vindpinad’s logo idiom background from concept two. Authors own copyright.

The second concept with its close to nature expression through the nature pictures gives a well-known expression, and it is close to the customers conception model for a website. The idea to bring in the surge shape from Vindpinad’s logo in the idiom of the website was something the expert in design and graphic point out to be a major benefit in the communication of the brand, since this give the customer something visual to relate the brand to, see figure 23.

The third concept was expressed by the stakeholders to be to far away from the conception model of a website, but the importance of experiment in the design process was appreciated by the human-centered-design expert and by the expert in design and graphic. By finding something interesting in these debaucheries, then translate them into a simpler expression that can be used in a more comprehensible way this concept can be partly kept in the ongoing process, see figure 24.



Figure 24. Concept three, with its debaucheries. Authors own copyright.

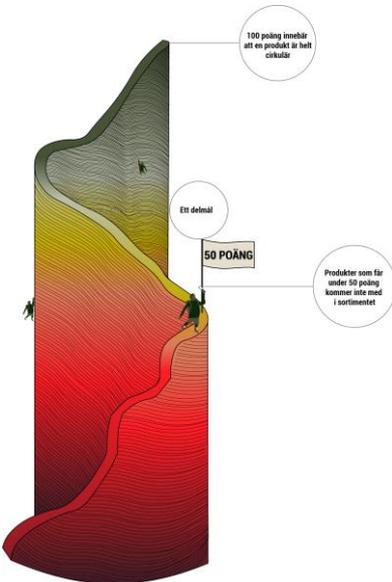


Figure 25. The work with the evaluation model expressed as a mountain climb. Authors own copyright.

One way of working with the evaluation model was to picture it like a mountain where the companies strive to reach the top for a solid 100 point, see figure 25. This idea was appreciated by the product owner since the pursuit upwards is essential for the company.

8.3.5 User testing

As the purpose of these test was to see how these experimental concepts was perceived the gathered information was used to further develop the concept. Below the prime findings are explained. They are divided into three categories to connect resembling ideas. The user's, as earlier mentioned, are divided into two of the personas, *the unaware consumer* and *the influencer*.

- Categorize and search

The unaware user expressed that she would like to be able to search by categories like size, brand or color. As described earlier this distribution of categories was selected not to be shown, instead the selection was made by sustainability lever. So that the customers would be nudged in making a more sustainable choice. This however was appreciated by the other unaware user, although she would like to have a multichoice where all types of selection can be done. One of the expert users talked about how this way of selection pointed out the core of the company in the buying process and that if a garment was not available in her size, she would be keen to wait for it to arrive rather than buy something less sustainable.

“I really like this sustainability-bar, I think I would buy this jacket even though I have to wait for my size to come back in stock.” - Expert user

Both an expert user and an unaware user wanted symbols for the different parts in the main text about the garment to easily get a view of the content of the text, these symbols could for instance be of the garments water resistance or other things that the customer may want to know. An expert user experienced a problem with the evaluation model which was not shown in every step on the website. She wanted to be able to see the sustainability of the garment all the time, here she also expressed a wish to be able to compare garment next to each other.

“I like when you can understand the purpose of a garment quickly. Like figures that shows it.” - Unaware consumer

- Evaluation model

The second part of the test depend the understanding of the evaluation model for the user. An unaware user assess that the information was divided into different levels, she proclaims that she would not read all the text if it was presented all at once as on Vindpinad's existing website, see annex 6 Furthermore, she expands on the fact that she does not understand the meaning of the model, what the number stands for are unclear and so also the meaning of the headings, see figure 26. This was also declared by another unaware user, that pointed out that the word *points* should stand next to the number. An expert user expressed a desideratum to understand what the point meant and what reference point the points has.

“I want to know more about the points, what they mean and what reference point it has” - Expert user

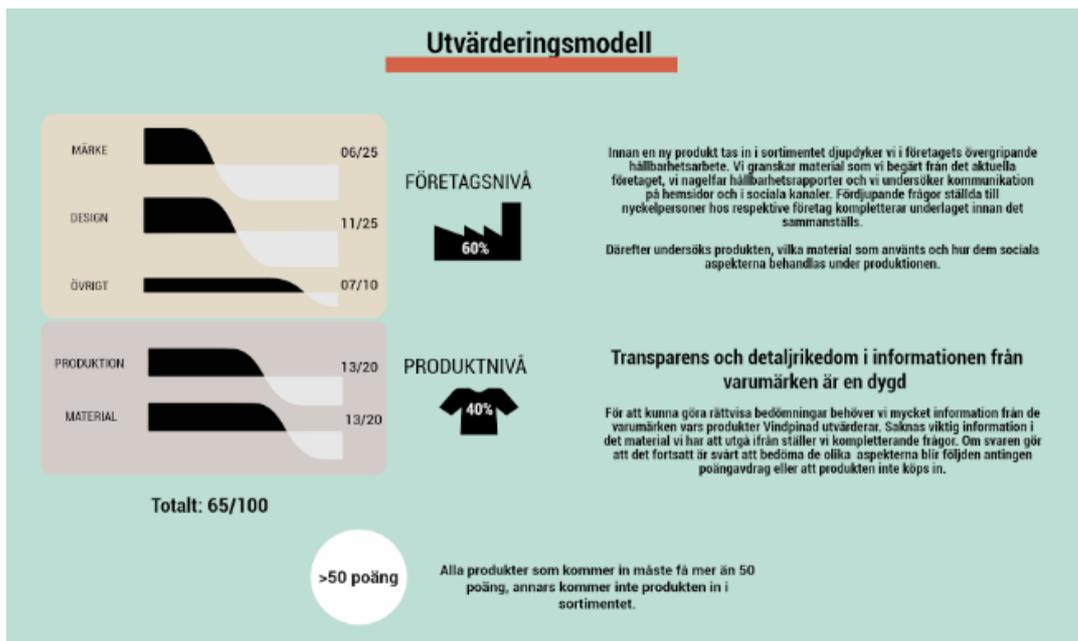


Figure 26. The evaluation model explained. Authors own copyright.

- Landing page

In the third part of the test the landing pages of the different websites are discussed here an expert user expressed that the shapes of the 2D-art give a deeper understanding of the website. In the pictures with headings and a short explanation text, see figure 27, The expert user declare that the short explanation of the text is appreciated and gives her an idea of what she may find if she clicks on the heading.

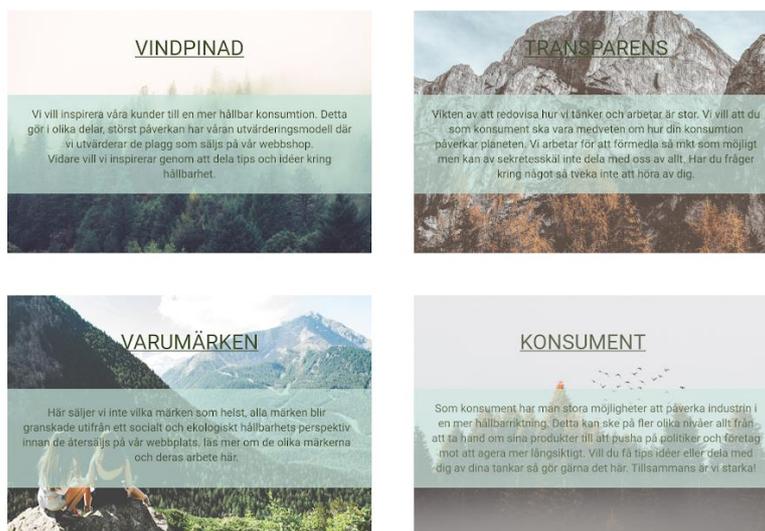


Figure 27. Inspiring pictures with headings and a short explanation text. Authors own copyright.

Furthermore, the expert user expressed a forced feeling with the river expression of the working process, see figure 28. This feeling was not shared with the other expert user, she on the other hand liked this way of showing the process and felt that the symbols encourage her to read more. All test persons expressed the urge to see the evaluation model on the landing page together with the description of how Vindpinad works.

“When I haven't seen the model before and then I see it next to the product, I don't know what it is about. I want to see it before, on the first page when entering the site.” - Expert user

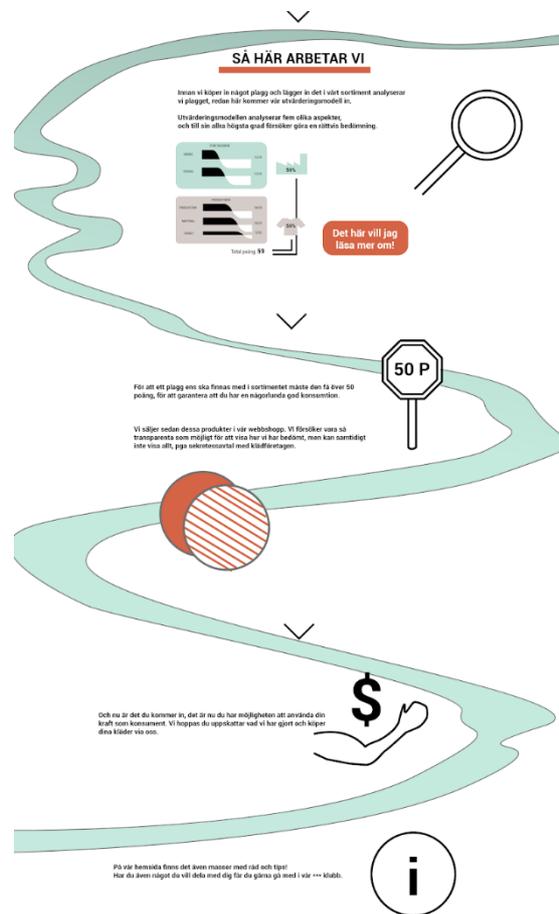


Figure 28. The working process explained as the journey down a river. Authors own picture.

8.3.6 Concept refinement

From the input of the test above the concepts was developed further before the choice of the final concept was made. This was an iterative process partly made simultaneously with the tests.

From the stakeholder workshop to the user testing there was some significant changes made in the concepts. A guide in Vindpinad's working process was visualized on the landing page of concept two in two different ways. The first one was as a river, see figure 28 above, and the second one with boxes containing a symbol and a short text, see figure 29.

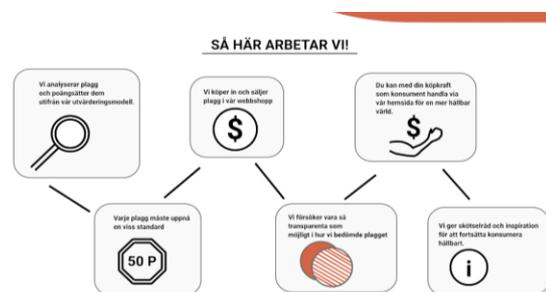


Figure 29. Vindpinad's working method described on the landing page. Authors own copyright.

Since concept three was considered too far from the customers conception model this concept was deselected but the billowy feeling from the shape in the concept was kept and further developed in a merge with concept two. This wave shape is a connection between the website, the evaluation model and Vindpinad's

logo, it ties together the expression of the website and give a clear idiom for the brand. This idiom is shown in the lines between the pictures on the page, the top and at the end of each page on the website, see figure 30.



Figure 30. Ways the Idiom of the brand are shown on the website. Authors own copyright.



Figure 31. Major changes made in concept one between stakeholder workshop and user testing. Authors own copyright.

Concept one was stripped away of its playful 2D-art people but kept the stricter 2D-art that had a more serious feeling to it. The model was placed on the landing page to give the customer a first observation and a short presentation of information along with the choices of reading more by pressing the “read more”-button, see figure 31.

8.4 Concept Selection

In the process of choose a concept, a deeper analyzing of the concepts was necessary, this was made from a user perspective through a usability test. The result of these test where then transformed into an updated version of the list of demand.

8.4.1 Usability test

As mentioned in the methodology chapter, the user was meant to represent the three personas. However, because of the lack of well-educated clothing consumers in the vicinity,

there was a slight misrepresentation. A total number of five *Unaware consumers*, one *Knowledgeable*, and two *Influencers* participated in the test.

The result of the usability study, as earlier mentioned, was scrutinized with a KJ-analysis. The result will be divided into the rubrics that was created during the KJ analysis.

- Why are they buying a jacket?

It is not possible to change the matter people consume; however, it is possible to educate the users to make better decisions.

“This color looks cool, I want this jacket” - Influencer user.

- Scroll page

Using filters are extremely common, but it is very individual how it is used. The sustainability bar was popular, it added a feeling of playfulness and added another dimension of control and responsibility to the user’s consumption. However, it is not apparent for all how it is used nor what the sustainability points represent.

“Damn this is exciting - that is supercool. Check that out!” - Knowledgeable

It is very important that the users have an idea of what the model is before entering the scroll page, or present that information on the scroll page.

“It is a pity that I can't find any information on what the points mean. This is just some general text that just says stuff that I don't really care about. I just want to know what the points mean.” - Influencer.

- How does this site compare to other web shops, does your approach change?

Adding the sustainability perspective on a web shop was not something the users was used with. But still, the conceptual model matched, it was very intuitive how to use the prototypes.

“This sustainability part you basically never see.” - Unaware user

It is evident that the prototypes help the users add another perspective to their consumption, however the information has to be simplified even more for the *Unaware consumers*.

“I check the information. I check which one is the best, compare the price and how sustainable it is” - Unaware user

“It feels good with the points. It feels like I can do a more conscious choice then.” - Unaware consumer

“You should make it easy to use for people who aren't that engaged too. Like you should be able to use it then too. Like it should be easy to see what's good and bad, and it should be easy how to use the sustainability-bar.” Unaware user.

- General improvements

As there was almost no difference in the conceptual model, the learnability of the prototypes was high as well. Once again it becomes evident that the information has to be simplified for the unaware users.

“After using the site before it just goes piff-paff-done. I have a lot of confidence in the evaluation model.” - Unaware user

- The difference between the two prototypes

Prototype one had a lot of benefits with its illustrations. The user used their own imagination to interpret it, it became less attached to the idea of a web shop, and more associated with an informative purpose. Having the possibility to filter a lot more was very appreciated as well, by every user. Furthermore, it was appreciated to have a simpler landing page. One user pointed out the importance of what the graphic could be affiliated with.

“Here I can play with the thought of where I'm going to use my products.” - Unaware user.

“The impression is weekend-warrior, a thermos in the mountains. Not so much an mountaineer. More Kånken than Northface.” - Knowledgeable user

Prototype two was much better at presenting the information. The user perceived a staked-out path they could follow and was therefore more intuitive. The accented colors were appreciated, also adding to the intuitiveness of the site, but the graphic was perceived as gray and boring when they were looking at the products on the scroll page.

“Like the accented color on concept two rather than concept one. Likes how you always has to click to get further and get more information. -

- Product page

The information that is provided is greatly appreciated, but more information is asked for. Especially concerning the sustainability, the users are curious to why a product gets a certain score. The evaluation model is very appreciated, but the user wants more interactivity with it.

“This information is awesome to have. As a sustainability geek I think it's terrific, and it makes me really trust the store. “- Aware user

- Landing page

The solution on screen changed the composition, and therefore it was not intuitive for the users that they could scroll down. Furthermore, the information that was presented was appreciated but it was important to be short, and to the point, with a positive tone.

“This thing with scrolling page's I'm the wrong generation for... I just now saw it.” - Unaware user

- Evaluation model page

Every user felt very confident in the model, but the experts and curious asked for even a deeper explanation in specifically where they get the information and how the evaluation is made. However, some user could not understand why it was made, and who benefitted of it. Furthermore, every user asked for a reference point, or an explanation of what a specific score entailed. And it became clear that there has to be even simpler to get the information, so that the unaware users are not lost.

“I might not be involved enough. It might be a way to present the information simpler? It just evokes a lot of questions for me. All these questions make me not want to engage.” - Unaware consumer

8.4.2 List of demands version two

The new information gathered were used to compile an updated version of the list of demand. The new demands are marked with green background, see table 5.

Tabell 5. List of demands, version two. Created by Author.

Demands	Further Explanation	Necessary/ Desirable
General demands		
Enable clothing purchase	It should be easy to buy apparel from Vindpinad	N
Show the products sustainability impact.	It should be easy to find information on the impact,	N
Easily understood	The information that is presented should be easily understood, simple to assimilate, for both experts and novices.	N
Clear message	Everybody that enters the website should understand what Vindpinad is; a tool to make sustainable consumption choices.:	D
Product information	Information about the specific garments should be easily accessible and easy to understand.	N
Be visionary	The website should be Vindpinad 2.0, it should reflect a vision of Vindpinad in two to four years.	D
Keep playfulness	Use graphic expression that lets the user interprets where to use the product. Let it be more than a web shop. And keep the sustainability-bar.	D
Enable levels-of-information	On relevant pages different levels of knowledge has to be accounted for. Therefor a simplification is needed, but deeper information should be available	N
Landing page		
Lower the threshold towards the general conceptual model.	The webpage should be visionary, but it should not differ so much from the current stereotypical web shop that it becomes unintelligible	N
"Call to action" - show the users how to buy the jacket	It should be clear what the next step for the user is	

A short explanation of what Vindpinad is	It should take 10 seconds to understand what Vindpinad is	D
Capture attention		D
Communicate vision		D
Communicate scroll	Show the user's that is possible to scroll down.	N
Simple, positive communication		D
Explain evaluation model	Clearly and concisely a brief introduction to the evaluation model.	D
Product Information page		
A simple explanation of the evaluation model	At first sight it should be easy to understand what it is	N
Show a preview of the garment		N
Be able to change size		N
Be able to change color		N
Give information about the product	Specific information about the product in question	N
Quick explanation of the evaluation model	The text should be concise and easy to read	N
"call to action" - show the users how to buy the jacket	How can it be done, without giving in to consumption too much?	N
Evaluation model		
Give a thorough explanation of the model	The information should be targeted to both experts and novices.	N
Explain how Vindpinad works	How does Vindpinad collect the information, and how does Vindpinad collaborate with the producers?	N
Mediate reference garment		D
Mediate what max point implies		D
Show admission cap	Be clear with the admission cap. (50/100 points are needed to get in)	N

Increase interactivity	By increasing interactivity, it is possible to enable different levels of knowledge. People who wants to know more can simply click and find out, while unaware users are not scared away.	D
Explain scoring	Explain how the information was gathered, and what the process looks like.	D
Motivate score	Motivate why products get specific score on each category in the evaluation model	D
Be concise	Communicate was is needed as concise as possible	D
Scroll page		
Show products	The products should be able to be previewed.	N
Show product information	Price and colors should be showed.	N
Show effect on sustainability	It should be easy to preview how sustainable a product is	N
Categorization	Keep Vindpinad's categorization headings on products.	N
Enable filtering	Allow the user to filter on brand, size, color, male/female.	N
Enable sustainability-bar	Allow the user to filter products based on their score on the evaluation model.	D

8.5 Visualization of final concept

The final optimization of the final concept was made with all the collected information from workshops and usability test in mind. With the list of command as a guideline, the concepts were merged into one final combination, with the best part of the previous two concepts.

During the project it has become clear that a few factors were more essential than other. The result is a suggestion on how it could look, but the paramount is what issues are addressed.

- General improvements

A general playful look was implemented in the final concept. It reflects what a innovative future Vindpinad could be. The self-created 2D art would enable a great freedom of finding a specific brand identity, which is very important for Vindpinad. Furthermore, it gave impression of being something more than a web shop, a place of inspiration, and information. Throughout the web shop the different levels of communication were improved. The more accessible information was given more space, while the complex was evolved.

- Landing page

An arrow, as well as a menu on the right side, was added to communicate to the users that it was possible to scroll on the first page. Furthermore, a positive tone was kept throughout the page, and just a brief explanation of the evaluation model was presented, see figure 32.

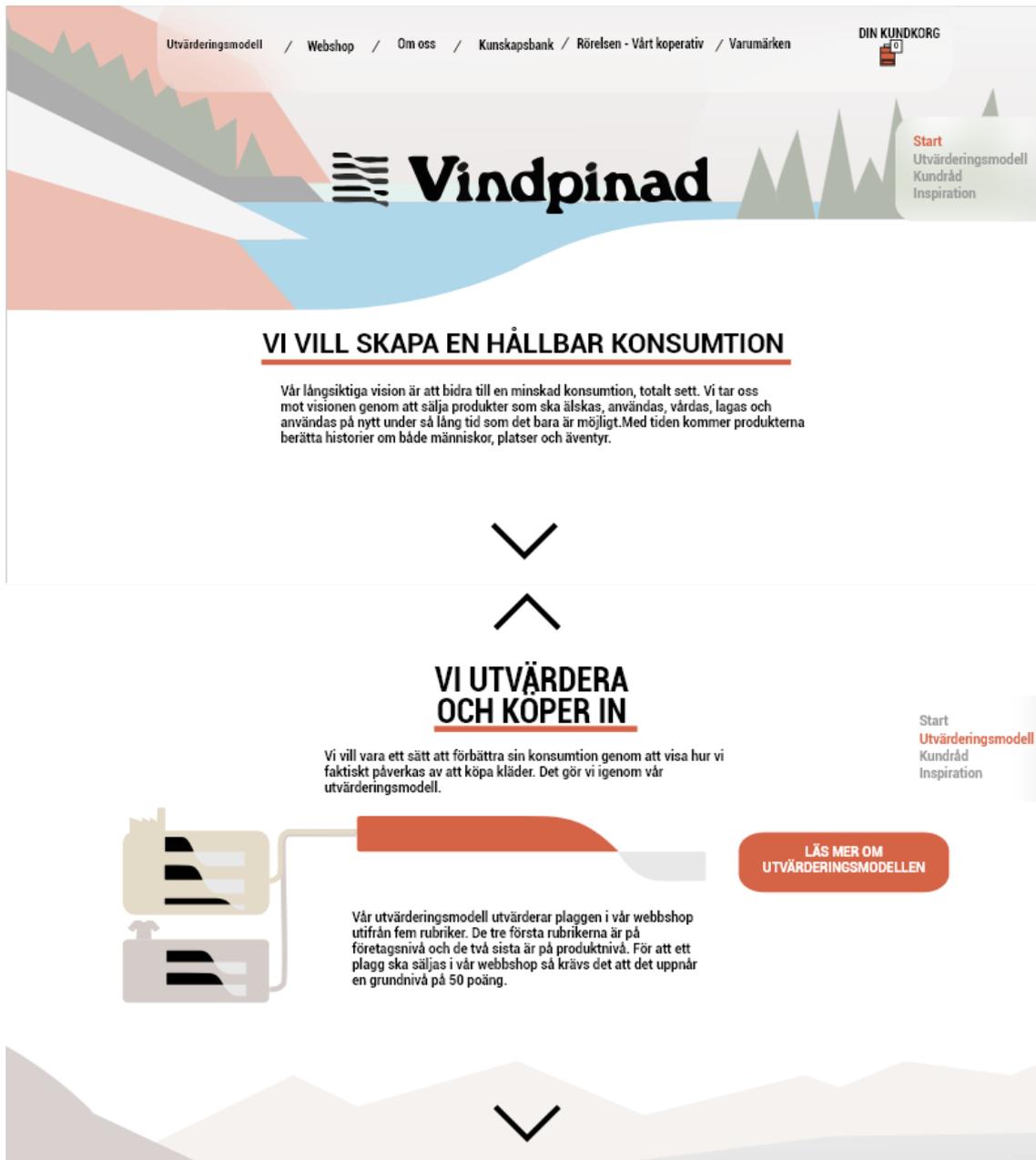


Figure 32 Finished landing page. Authors own copyright.

- Scroll page

On the top of the scroll page, a short text explains how Vindpinad works with evaluate the products of the page and an action button leading to more information about the evaluation is

available, see figure 33. This was done after seen in the usability test that the users wanted to know more about how Vindpinad select what garments end up in the web shop.



Figure 33. Finished sustainability-bar. Authors own copyright.

Since Vindpinad do not want to encourage consumption the normal focus on categorizing from color, size and price changed to a sustainable point of view where the customer can choose the point-level of the product showing with a slider. This is the main focus of categorization positioned above the garment at the scroll page see figure 33.

On the left side of the garments there are some additional categorizations this was a find from the usability test, the most users wanted to be able to categorize based on other than sustainability. The categorizations are divided in function, size and fitting, see figure 34. The subcategorization can be different depending on the garment of that particular page, the subcategorize also have a symbol next to the text to clarify their meaning.

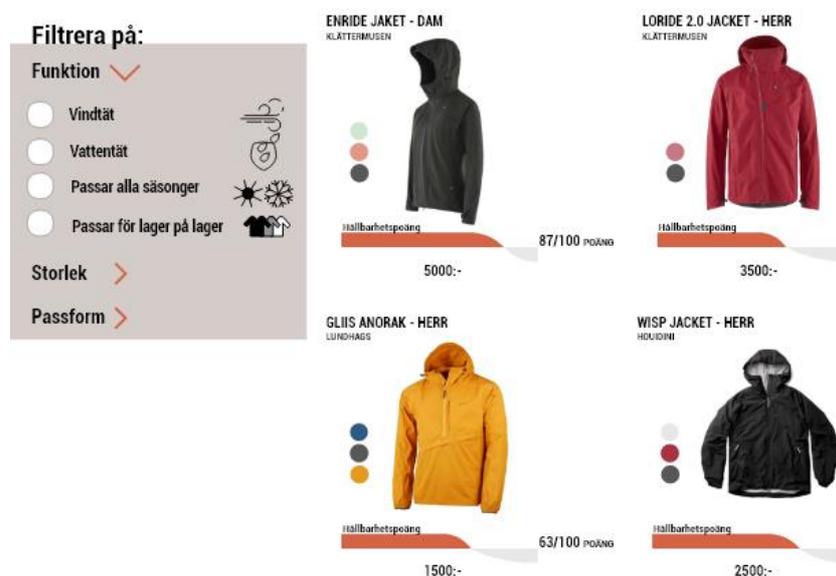


Figure 34. Categorization on scroll page. Authors own copyright.

- Product page

The symbol of categorization that where shown on the scroll page are shown again on the product page next to the product to give the user a clear overview of the garment's functions, see figure 35. The non-existing functions of this garment are faded out, to clarify further what function that garment do and do not have. On the product page the evaluation model is shown next to the product, see figure 36.



Figure 35. Showing functionality of garment. Authors own copyright.



Figure 35. Finished product page with evaluation model. Authors own copyright.

The evaluation model is Vindpinad's way of showing how they differ from other companies in the business and show the customer the sustainability points of the garment, divided in different categories. The categories in the model are clickable and hyperlinked to more

information about the particular garments ranking further down on the page. This was developed from the usability studies where it was seen that many users tried to click the model and ended up on the evaluation model page but expressed a wish to read more about the garments specific ranking.

Directly under the garment, a result bar is showing the total point of the garment. Many users expressed that they did not understand the bars and the ranking of the first prototype therefore, next to the result bar the points are written out with numbers followed by the word *point* to clarify the exact points.

To enable levels-of-information an action-button linked to the evaluation model are placed under the evaluation model for those customers that want to read more.

- Evaluation model page
The only evident issue with the tested evaluation page was to implement a higher confidence in it. There was not a problem with the amount of information, but rather an issue of who did these evaluations and how. Who did all this, and how was all the expertise implemented? A simple, but ideal, solution was to add a video, covering these questions. Showing Oscar Knubbe as he gives an example of how he investigated a product, see figure 37.

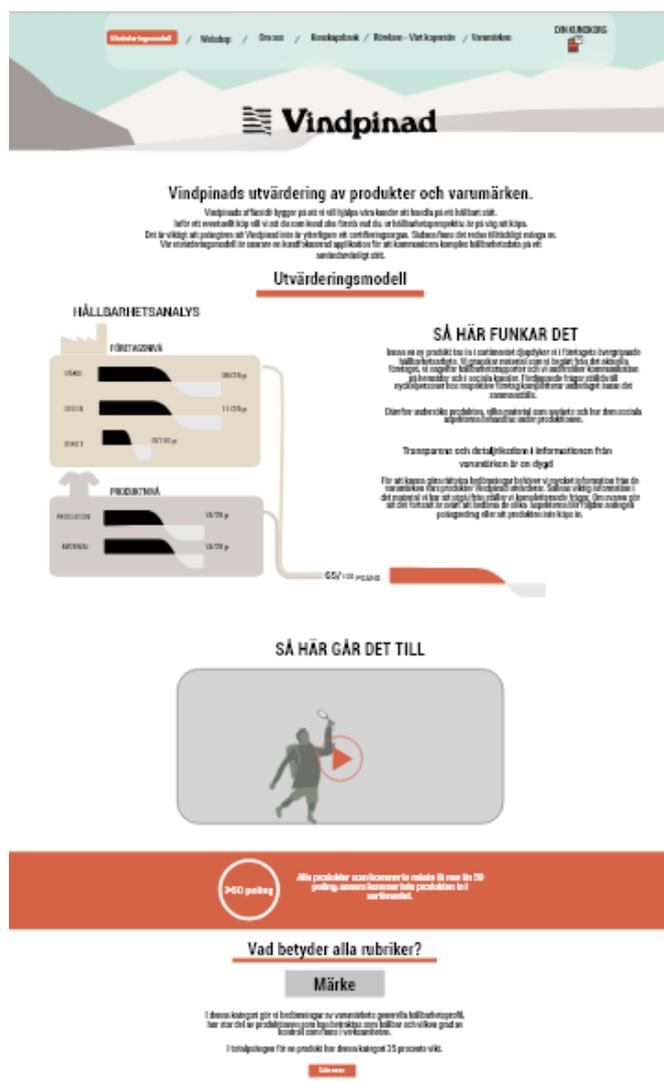


Figure 36. The evaluation model page with a video under the model explaining how the evaluation is done. Authors own copyright.

- Added pages

In the usability study it became clear that some more pages were very relevant to the users when visiting the website. The site that five out of eight people wanted to visit when trying to find more information about Vindpinad's work was the *about us* page. In combination with the findings about the landing page being to informational, some information from the landing page was moved to the about us page. On the about us page information about Vindpinad's business idea, the name Vindpinad, how Vindpinad work and contact information can be found, see figure 38.

Here, as well as on the *landing page*, arrows show the user their way on the site. On the right side there is a menu following the user, giving a quick overview of the orientation of the about us site.

Under the subheading *This is how we work*, Vindpinad's working progress is shown in six clear steps with a short text explaining every step completed with an illustration to keep the clear message and easily understanding of the site, see figure 39-41

The first and second step talks about the evaluation model and have action-buttons linked to the evaluation model site, again to enable the level-of-information for the user. In step five and six the user get information about Vindpinad will to help the customer in their buying process even after the purchase. These steps are linked to the customer advice and inspiration headings on the landing page.



Figure 37. About us page, 1. Authors own copyright.



Figure 38. About us page, 2. Authors own copyright.



Figure 39. About us page, 3. Authors own copyright.



Figure 40. About us page, 4. Authors own copyright.

Furthermore, a page between the landing page and the jackets were added. During the usability test, after the scenario was stated and the user started on the webpage, essentially all users were confused what kind of jacket they actually wanted. Early in the project a “guide” was discussed, something that could guide the user in to buying what they actually need. However, it was delimited because all the solution was to complex. What was not discussed was simply differentiate the different categorize and let the user’s deduction logic steer them into the correct decision. Which lead to a new page, the “jacket page”, it simply has all the different jacket categorize, with a short text about it and an accompanied picture, see figure 42.



Figure 41. Product guide page. Authors own copyright.

9. Discussion

As all product development project, it is very difficult to have a clear and distinct path, to quote Dwight Eisenhower, "Planning is everything, plans are nothing."

At the beginning the goal was to finish a new website, a 2.0 version of Vindpinad's web shop. But the result was two things, a proposal for a future website, and a few very important factors to consider right away.

- Important factors

Throughout the project a few factors surfaced again and again during the user tests. These factors were as follow;

- The simplest information must be more accessible for less-informed users.
- The most complicated and in-depth information must be supplemented and reconsidered.
- Different *levels of information* need to be considered and implemented.
- The evaluation models scoring needs to be reconsidered or explained further with a reference point of some sort.
- Vindpinad's identity needs to be strengthened and defined.
- The evaluation model must be present throughout the customers journey in the web shop.

During the project we have been working on different solutions, or examples, of how to address these areas, but it must be interpreted for what it is, an example. The paramount is to understand that these areas not only has a large impact, but they are critical, and solutions can be implemented immediately.

- Proposal for a future website

During the project Vindpinad's brand identity was found to be an important factor to take in consideration when developing the web shop. One way of finding their own expression can be through 2D-art, which was found to be appreciated by the user's in the user tests. To have a clear idiom for the website also gives the user a clearer picture of the brand and strengthens the visual connection for the user.

The balance between being a web shop and an informative website is another factor to consider in the future. As the founder mentioned in the Brand workshop the initial revenue will come from selling clothes, however in the future the value of the intangible resources can be even greater than selling products. Our result reflects a web shop that tries to enhance the informative side more than the existing website, but it can be interesting to see how a web shop that highlights the information even more would look like.

Furthermore, it is paramount to focus on teaching and discipline the customers into making better decisions. At the start of the project the ambition was that by simply seeing what affect a product has, the consumers will change their minds. But it became more and more obvious that we must take another step, they need to be educated, *nudged*, into making better decisions.

The results reflect a website that tries to *nudge* the users into a more sustainable choice through the sustainability-bar, the sustainability highlights, and showing the score more often. However, in order to change the behavior more radically the effect of a product must be explicit, which means that the model needs to be clarified. A reference point needs to be

added, or a definition of what 100 or 0 points mean, alternatively completely change the scale as we have proposed in research question one.

Another important factor to develop further, that this project has not considered, are the social aspect of connecting the brand with its customer and give the customers a common social platform.

In the strive to be radical in the outdoor business it might be important for the customers to feel a connection with each other. While this might be relevant, it is about the social relationships and how they will be formed. It is hard to see how it connects or relates to a technical solution and was therefore not considered throughout the project. Furthermore, Vindpinad has a solution to this already with their customer club called *Rörelsen*. But there is currently very little information about it. It can be interesting to see how this will be developed.

Lastly, our result was affected by our vicinity. It was very difficult to find people that could participate in the user test and represent the most informed persona, *the influencer*. Therefore a question is raised, are these the appropriate target group for Vindpinad?

The choice has several severe implications but there is a silver lining.

- The customer base is very limited

Even though we surround ourselves with very sustainable aware consumers, and even product creators, we could barely find any that represented *the influencer*. Furthermore, it was even hard to find people for the *unaware* persona. Our vicinity is far beyond average in their sustainability knowledge. Which means very few will fit the description of any persona described by Vindpinad.

- A growing urge to be more sustainable

It is becoming more and more popular to be sustainable, and fashion companies are working on being more transparent. But Vindpinad takes the next step and actually show what is good and what is bad. If the information is even more simplified more can consume in a sustainable way.

- Great possibilities ahead

By simplifying the information and open up for more users it will be possible for Vindpinad to attain a great number of consumers. This improvement can lead to an increased number of people that understands their consumption pattern and its effect. And maybe it can even lead to them questioning other consumption behaviors.

Back to IMRaD

10. Conclusion

The first purpose of the study was to understand the textile industry, how they work with sustainability, and finally rank what effect it has. These were some great initial ambitions, but the field is still immature and unexplored. There is a great number of tools and ways to be more sustainable, but so far nothing that really indicates what effect it has. This field is getting more and more attention, but it seems to go in the direction of transparency, not ranking.

The study resulted in a methodology to categorize companies. It consists of five steps, with several questions that needs to be answered on each step. It follows the same steps as Design thinking, an acknowledge methodology for designers, and with it the work of the company is evaluated through a sustainable point of view.

The result shows that it is hard to differentiate what the entire company does and what the design apartment does. It is intertwined and even merged. Even the best, most elaborate, methodologies cannot fully evaluate a company. The area is simply too complex. Therefore, our results only reflect a suggestion how to categorize companies. To go more into depth further studies must be done, but it is strongly recommended to investigate reliable scales.

The second purpose was to simplify the choice process, to give the customer a way to consume in a sustainable manner without having all the knowledge. There is currently a great demand from the consumers to understand their environmental impact, however, their knowledge is still very modest. To enable the customer and simplify the choice process is a very honorable pursuit but also certainly difficult to achieve.

The result deals with graphic expression of the website, not the structure. It deals foremost with:

- *Different levels of information* - how more consumers can use the website
- *Vindpinad's identity* - how they can differentiate themselves and grow as a community
- *The evaluation model* - how it can be more intuitive, reliable and have a greater effect on the users

By using a playful expression, building a strong idiom towards Vindpinad's logo and shifting the focus a little more towards an informative website, the customers are able to make better choices.

It is important to consider the result for what it is, a suggestion. What we want to point out is the faults, or deficiency, that Vindpinad's web shop currently has, and present an example of how to solve the problem. The initial mindset of the project was to achieve a better consumption, which is hard to achieve and rare to see. While it ended in looking into how to teach the consumers, a much more common perspective. The next step should be, except for working out the deficiency, looking further into how to advice the consumer, and *nudge* them in a better, more sustainable direction.

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22

Figure 5. Sustainability phase model. Republished with permission of Benn, Dunphy and Griffiths, from *Organizational Change for Corporate Sustainability*, Benn, S, 3rd edition 2014; permission conveyed through Copyright Clearance Center, Inc.

23

Figure 6 – 42 authors own copyright.

Annex

Annex 1. Brainwriting

What Is Brainwriting?

Brainwriting was first developed by Bernd Rohrbach, who published the idea in a German magazine in 1969. The technique is similar to brainstorming – they're both methods for generating ideas and solutions to a problem.

Brainwriting, however, gives everyone equal opportunity to participate, and it enables all group members to think without any "blocking."

Here are the steps that you can follow to run a brainwriting session:

Seat group members at a table, with a sheet of paper in front of each person. At the top of the page, ask them to write down the problem that everyone is trying to solve. (Note: they should not write their names.) Appoint someone to be moderator, and time each round.

Give the group three minutes to write down three ideas for how to solve the problem. They should not edit the ideas, or try to perfect them. Allow them to write in "free form." Do not permit any discussion.

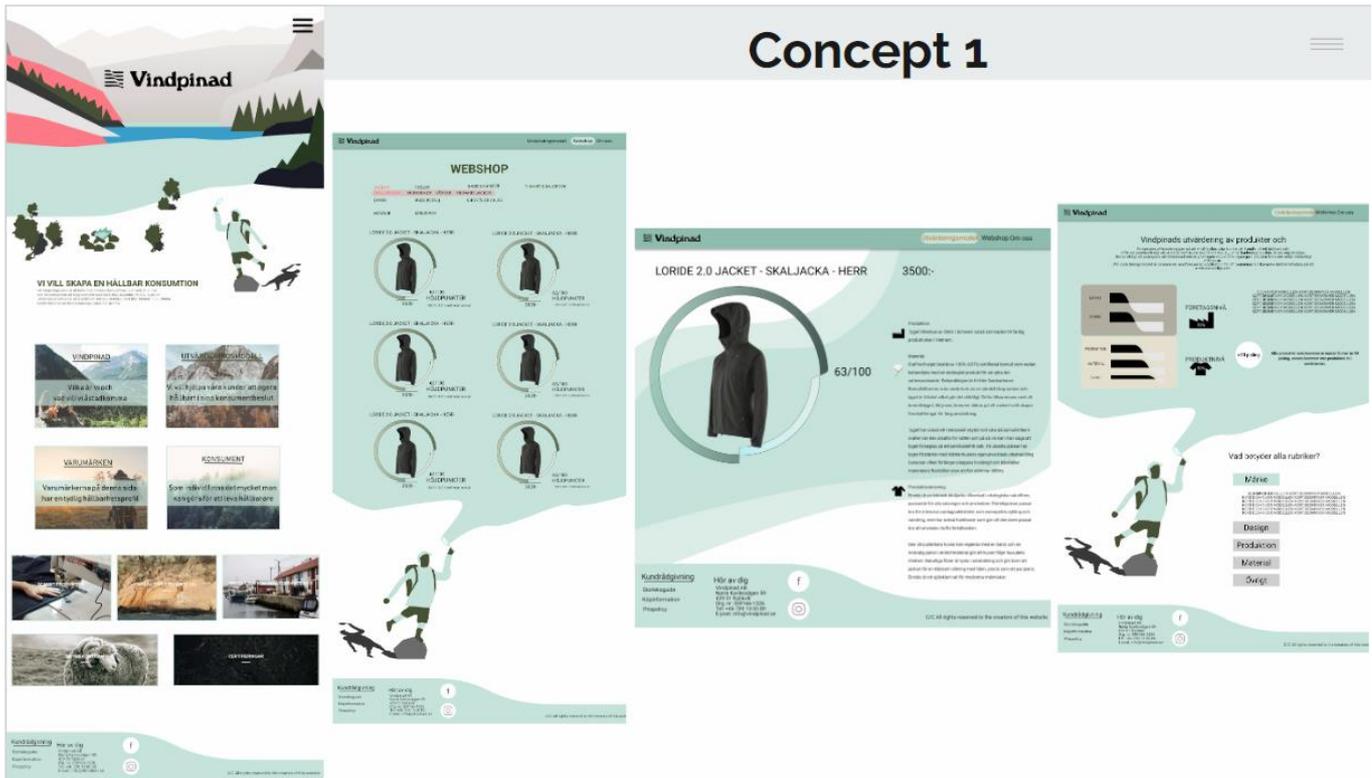
After three minutes, move on to round two. Gather in the papers, shuffle them, and then pass them out. You may need to sort out cases where someone gets back a paper they have already written on. Ask everyone to generate three more ideas on the new paper they have just received. They can build on the first three ideas that are already written, or think of three new solutions.

The moderator decides how many rounds there are.

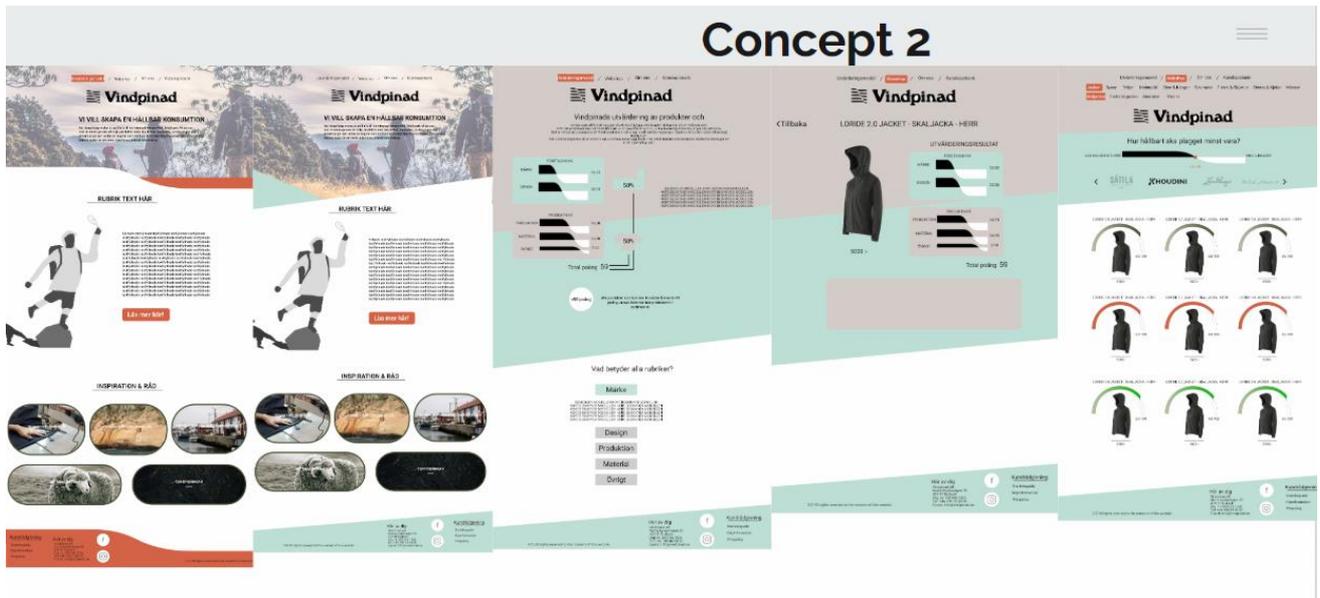
When all rounds are finished, collect the papers, and write all of the ideas on a whiteboard for everyone to see. Then begin discussing which ideas would work best for solving the current problem.

Annex 2. Workshop sketches.

The printed version of our early concepts. Concept 1.



1 The printed version of our early concepts. Concept 2.

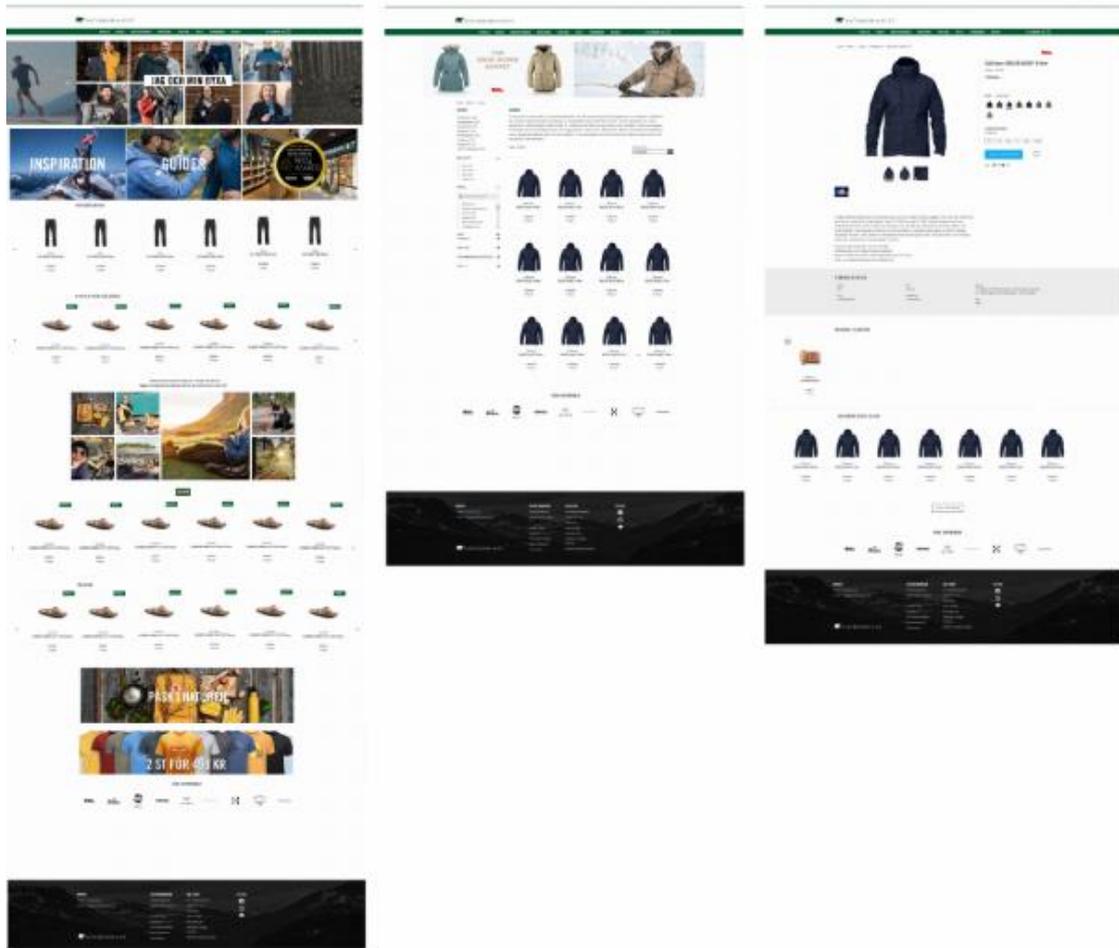


2 The printed version of our early concepts. Concept 3.

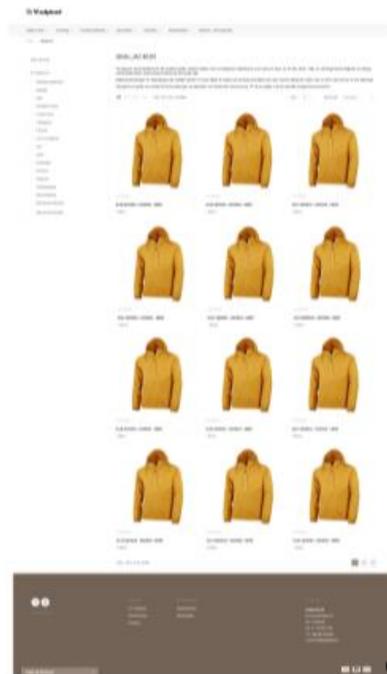
Annex 3. User test

The webpage used at the first user test was printed on paper. Here the printed versions of the web pages and the early concepts are shown.

- 1 The web page of Naturkompaniet striped to fit the first user test.



2 The webpage of Vindpinad striped for the first user test.



Annex 4. Benchmarking and its result

1. Benchmarking.

	Consistency	Compatibility	Consideration of user resources	Feedback	Visual Clarity	Prioritisation of information and functionality	Explicitness
Outnorth	very consistent.	Yes, definitely. A simple scroll function to find more information. Good categorization options. Especially since there are so many products.	Initially, when you first enter ladies jacket there a ton of information. There's a ridiculously long list of different jackets.	Bra för att det går snabbt. (Vitt okej tecken över röd färg) Men inget speciellt.	Allt är lika samma. rean är bara stor. ME det är okej för att vi är vana vid den här storleken.	Bam rea. Varför lyfts sedan fjällräven fram? Dem verkar fokusera sedan kring årstider. Rubrikerna, eller kategorierna är tydliga.	Asusuell noting unexpected. Bra återkommande gröna färger.
Naturkompaniet	very consistent.	Same as Outnorth	Same as outnorth	Something happens before you press. So more feedback. Should show which page you are on.	Mer explicit information ju längre ner man kommer på hemsidan.	Unclear categorization on landing page. Jacket first, then something weird, then shoes...	Good! Something happens when you hover over an object.
AddNature	Very consistent.	Same as outnorth	Same as outnorth	A pop-up thing when you first open the website.	Same as outnorth	They categorize with the top brands on the landing page. (different)	Same as Naturkompaniet.

OutdoorExpert n	Very consistent.	Same as outnorth	Same as outnorth. TMI - on the functionality.	Same as outnorth. None consistent hovering function. When there's a colour "missing" the mouse shows a crossed over circle.	A bit worse than the others. A bit unstructured.	Counting the steps toward purchases, 1. size 2. colour 3. shop.	Sometimes hovering helps.
Fjällsport	Very consistent.	Same as Outnorth	Same as the above.	Pretty good, have a hovering function.	Pretty bad. Inconsistent with font sizes.	Instead of scrolling the information is divided in rubrics. Lots of different rubrics containing the same information. (Running shoes can be accessed through 4 different, high level rubrics. And is inconsistent.)	Same as everything else.

2. Result of benchmarking concluded in a PMI.

	Consistency	Compatibility	Consideration of user resources	Feedback	Visual Clarity	Prioritisation of information and functionality	Explicitness
Plus	Obviously the website has to be consistent.	There is obviously a clear way to do things.	There is a set way to show categories and to categorize articles.	Hovering feedback is well, however, it is nice to have to click to show more categories	Everything looks the same. It was common to show more explicit information further down on the page. REI landing page	OutdoorExpert en showed, with numbers, the process of buying an article. REI well designed but	Hovering is used well sometimes. REI nothing about sale on landing page, instead they

					was particularly nice, the rubric follow each other in a good way. It does not follow the stereotype of sell-sell-sell.	has not followed through, does it halfway.	prioritize an activity and accompanying products.
Minus		If we try to do something different, we might confuse our users. Nobody really has the same type of website as we do.	The categorization might not be as relevant to Vindpinads website?	The hovering function is often inconsistent, and it feels messy sometimes.	It is common to be inconsistent.	It is reoccurring to lift sales and selling stuff. Some websites are bad at landing page. Weird categorization and the following information.	
Interesting		How will we tackle the negatives?	Is this the way our users will shop in our shop? If we want to lead our consumers towards sustainability, maybe that has to be prioritized above colours? How will it look if you have fewer products?	How can the positives and negatives be balanced for Vinpinad?	How can it not be "selling" but still sell. Another balance to take in account.	Fjällräven has rubrics instead of scrolling regarding more information about products. How can we prioritize sustainability during all the information?	If Vindpinad's landing page does not show SALE everywhere, it will give an hint of what it is.

Annex 5. Ideal Final Result

Ideal Solution:

Everyone knows how to make a sustainable choice.
The industry do not produce bad products.

More realistic + Ideal solution:

It is part of general education how to make these choices.
There are more laws that prevent the industry from producing shit.

Ideal & Realistic solution:

Vindpinad educates the general public

- through lectures on outdoor-clothing events.
- through their website.

More realistic than Ideal solution:

Interested people searches on Vindpinads website for information

Realistic solution:

You happen upon Vindpinads Website and realize what a different you can make.