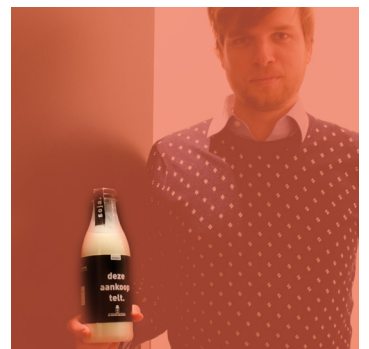
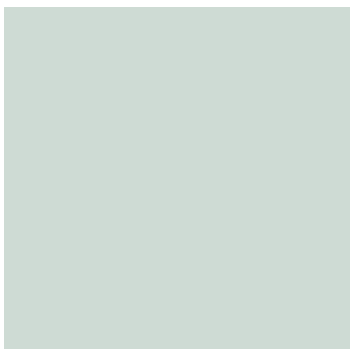
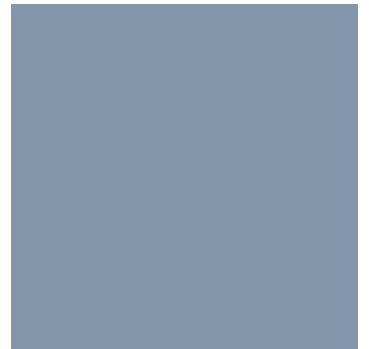
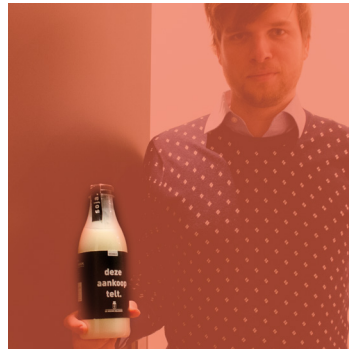


every purchase counts.



Master thesis report
By Silke de Jong

Every purchase counts.

Creating awareness by
involving consumers in the
impact of their food choices.

Master thesis

Silke de Jong

December 2020

Strategic Product Design
Industrial Design Engineering
Delft University of Technology

In collaboration with
De Nieuwe Melkboer

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Preface

As a strategic designer you have got to love complex challenges. For me, once I realized the high environmental impact of our food system, one of the main necessities of life, I could not let go of this highly complex and thus very interesting challenge. After an amazing first journey at the La Junquera farm a second journey was waiting for me here in the Netherlands. Tom and Bart were immediately enthusiastic to go on this next journey with me and introduced me to the world of short food supply systems.

For one design student, in the course of one thesis project, there is just too much to be done. During the course of this project my supervisors often told me that I may have a little too much personal involvement and passion on the topic. Which I think reflects the big challenge I took on at first, to facilitate SFSC entrepreneurs in overcoming one -but preferable as many as possible- barriers in creating their SFSC initiative. It has been a pleasure to dive into the challenges of setting up a SFSC. After defining the part in which I could make the most impact within the limits of this one project, the time had come to create a tangible result. De Nieuwe Melkboer was a very inspiring initiative to do so. Thank you Tom for all your enthusiasm and guidance, Tessa for answering all of my questions and Bart for your trust (and tasty Okara spread).

The biggest challenge for me, was to keep both legs on the ground and end up with a tangible solution. I am happy that I reached this goal and ended up with personally designed bottle of soy milk in the fridge. Thank you to all the participants for providing feedback to my solution and all participants of the creative sessions that helped me in coming to this solution.

Special thanks to entrepreneurs that provided me with my first insights in the how bouts of short food supply chains: Marja, Erik, Joost and Daan. Thanks to Mark and Anita for letting me be part of their initiative and household for a full two weeks.

And last but not least, thank you Jotte and Jo for keeping up with me for almost a year. I have enjoyed our journey together which was full of critical notes, supportive words and countless stories.

Enjoy reading!

Silke de Jong

Abstract

The Dutch food system nowadays is more efficient than ever and is able to feed many. However, this globalized and industrialized food system cannot be sustained in the next eras, because of its high contribution to biodiversity loss, the emission of greenhouse gasses and the fast decrease of soil health. System change is needed to move our food system to one that can feed the world population without compromising our future generations. Short food supply chains (SFSCs) could contribute to this system change as they increase consumer awareness, promise a better price for the farmer and as such create room for more sustainable farming approaches.

To increase the amount of short food chains in the Netherlands, this thesis project focuses on equipping SFSC entrepreneurs to overcome one or more of the main barriers they face when creating such a chain. A literature study, interviews and observations uncover that the most important challenges are faced in the phase of scaling-up. The one-on-one contact between food producer and consumer is no longer viable in this phase due to the rising amount of customers. Meanwhile, consumer research shows that this direct contact with the producer is crucial in meeting the specific consumer needs that are fulfilled when buying in a SFSC. In conclusion, the challenge of **creating a customer experience in which the consumer feels close to its food- and producer, whilst having indirect consumer-producer contact**, is defined as this projects' design focus.

To find a tangible solution to this challenge a case study with De Nieuwe Melkboer is set up. This Dutch soy milk initiative has just launched its first product and is facing the abovementioned challenge. A creative and collaborative approach has led to a design solution for De Nieuwe Melkboer: **every purchase counts - a customer experience to create awareness by involving consumers in the impact of their food choices**. Instead of selling a bottle of milk, a bottle of positive impact is sold as the front of the label only states 'deze aankoop telt' – this purchase matters; it counts. An online service is created in which the consumer can decide to what positive impact project their purchase should contribute. Offering this choice will create a feeling of inclusion and build understanding the impact that growing and processing soy has on our planet and society. The consumer will be notified once the positive impact is realized and thus stays included and gets a tangible image of the impact that his food choices have.

To share the insights of this research with SFSC entrepreneurs a handout has been created. It provides an overview of consumer wishes when buying in a short food chain and includes three questions that SFSC entrepreneurs should ask themselves to better respond to consumer needs. All in all, it is one step forward in better equipping short food chain entrepreneurs to take on the challenge of scaling up their initiative.

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A glass bottle of pea milk with a tag and a glass of pea milk in a field of pea plants. The tag on the bottle features a logo of a pea pod and the text 'DE NIEUWE MELKBOER'. The background is a field of pea plants with green leaves and yellow pea pods, slightly out of focus.

Introduction

The first section explains the relevance of this thesis project and defines the project scope by introducing the project goal. The different steps of the design process are described and a reading guide is presented.

A response to...

Bottlenecks in the Dutch food system

In the last decades some major steps in the agricultural sector were taken: farming problems were solved by introducing technological instruments like fertilizers, pesticides, heavy machinery and the scaling up of farms [1]. This modern industrialized and globalized [2] food system has been extremely successful in achieving a doubling of the world food production and is able to supply 'cheap' food to most of world population [3]. The Netherlands plays a substantial role in this system, as it is the second largest exporter of food in the world [4].

However, this food system has some very costly consequences for society, the environment and our health [3]. As farmers are now competing on world markets, they have to sacrifice long-term sustainability for productivity in order to manage financially [3]. As mechanization increased, farms have become larger and the

amount of farms has shrunk [23]. Many small players in the food system have disappeared and a few wholesalers control the food market and strictly determine what farmers grow, as is illustrated in the figure below [3] [5] [6].

Besides, the consumer has become estranged from its food; a study in the UK shows that half of the consumers of the age of 18-23 does not know that an egg comes from a chicken and milk from a cow [1]. This estrangement entails an unawareness of the production processes of food and their effect on the planet and society.

Currently 54% of the surface of the Netherlands is used for agriculture [25] and the agricultural sector is responsible for about 25% of all greenhouse gasses [26]. A more sustainable food system is desired and there are many perspectives on what such a system entails [16]. This research takes on the perspective that a sustainable food system is able to deliver food security and nutrition in a social and financial just way without degrading the environment, so future generations won't be compromised.

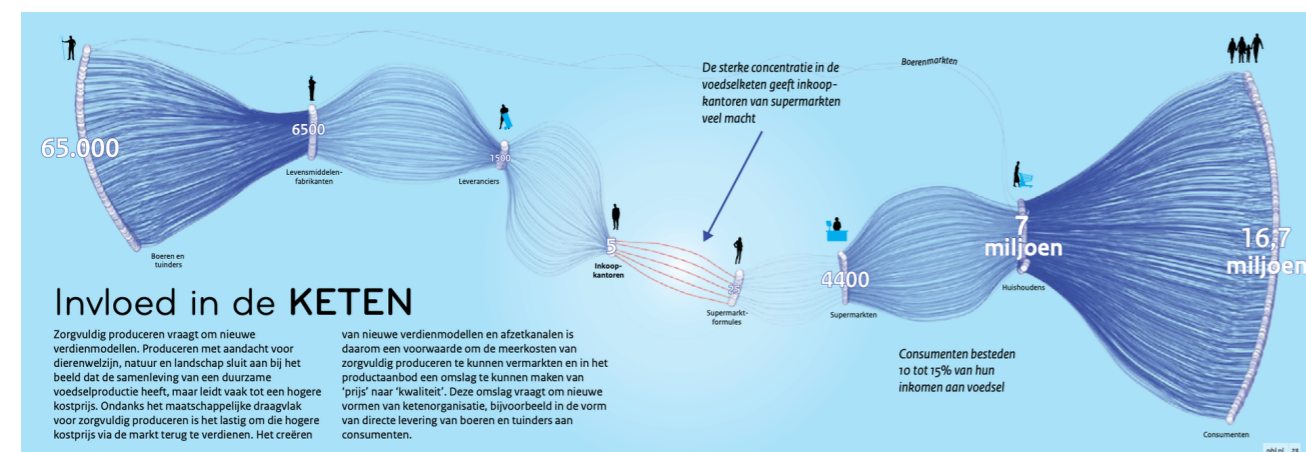


Figure 1. The amount of stakeholders throughout the food chain

A role for short food supply chains

Increasing the amount of short food supply chains (SFSC) in the Netherlands has potential for supporting the transition towards a more sustainable food system. The increase of SFSC can strengthen the resilience of the food system as small initiatives counteract the big players in the market. The ecological footprint of our food will be easier to trace in SFSCs. Furthermore, it has the potential to reconnect consumers to their food and make the impact of their behavior on the food system more directly visible. Awareness amongst consumers on the impact of their choices is crucial in installing a different, more sustainable, buying behavior.

Last year 1 in 10 Dutch farmers was supplying directly, or with one intermediate, to consumers [17]. On a larger scale there is little research

done and data on the amount of our food being locally sourced is lacking [18] [19]. The current Corona crisis seems to have created awareness amongst Dutch consumer on the importance of their food supply chain. Local initiatives, such as Rechtstreeks and Support your locals, are getting up to five times more orders than before the crisis [8]. On a national level the potential benefits are also recognized; in 2019 the Dutch Minister of Agriculture, Nature and Food Quality announced that she wants to stimulate short chain initiatives and appointed Taskforce Korte Ketens to do so [9].

Responding to these social and political developments and building upon the potential benefits of SFSCs, this project will tackle one piece of the puzzle in the transition towards a more sustainable food system and aim to increase the number of SFSCs in the Netherlands.

Societal goal

Contribute to the transition towards a more sustainable food system by increasing the number of short food supply chains in the Netherlands

Want to know more on agriculture and SFSC in the Netherlands, the stakeholders of this system and the potential for a more sustainable food system? Have a look at chapter 1!

Short food supply chain: a definition

The 'short', in short food chain, will refer to both the physical and social distance, based on the definition of Galli et al [7]. Social distance refers to the opportunity for the producer and the consumer to interact, share information and create mutual understanding. There are no or very few intermediaries. The physical distance refers to the actual distance, which is as limited as possible.

Project scope

Food consumers express the desire for more short chain-food, but their buying behavior does not match this desire yet [10]. On the other side, food producers also show their interest in SFSCs [5], but the short chain initiatives often have a hard time competing with the larger and

established chains [9]. It is a daunting task to initiate a successful short food chain. Research for Rotterdam uncovers that short food chain initiatives remain small-scaled, are missing a clear and distinctive position for consumers and run into the major barrier of complex food

logistics [5]. There is a lack of collaboration between SFSC entrepreneurs so initiatives are scattered and initiators all go through the same phases, making the same mistakes [24]. A visual overview of the problem as described is created and can be found below, in figure 2.

Many of the outlined barriers to increase the amount of SFSCs in the Netherlands come down to -and are in the hands of- the SFSC

entrepreneur. Therefore, this project will focus on better equipping the short food chain-entrepreneurs in creating a successful chain. A successful food chain is seen as one that generates enough turnover to sustain its existence.

The following project goal is pursued;

Project goal

Design a product, service or tool to equip short food chain-entrepreneurs in overcoming one, or more, of the barriers they face when setting up their initiative.

To answer the question above, a cooperation with De Nieuwe Melkboer is put in place. This start-up is founded in 2019 by the two brothers Tom and Bart Grobber after deciding to take over their parents' dairy farm. De Nieuwe Melkboer means 'the new milkman' and that is their proposition: producing a Dutch plant-based milk and getting it out there as a new sustainable alternative for milk. They recently initiated a short soymilk chain and are about to further develop and establish this. De Nieuwe Melkboer will pose as a case study for this project to test and develop ideas and concepts.

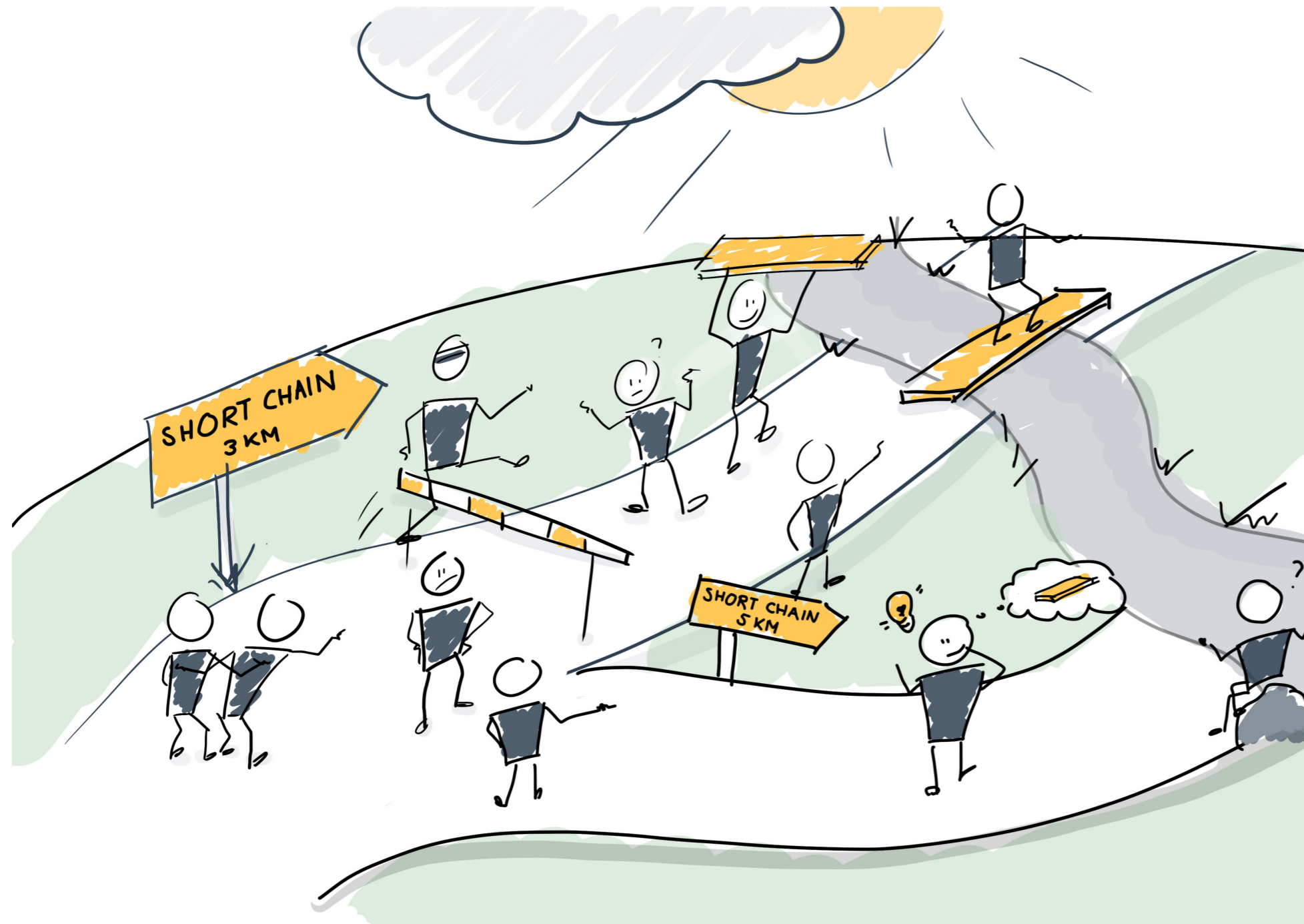


Figure 2. Problem definition. Stakeholders that want to towards short food chains experience many obstacles and unclarities in their journey ahead. There are people pointing the way and trying to help, but there is much confusion. Found solutions on the left track are reinvented again on the right track.

Design approach

Discover

The project goal provides guidance and gives direction to this design project. It captures the desired societal implications and leaves room for strategically approaching the problem by critically examining the problem as-seems. The widely focused problem statement will early on be delineated, by repeatedly defining areas of focus after each research step.

A quality as an industrial designer is the user-centered research approach. The research phase approaches the problem from the two main stakeholders' perspective: the SFSC-entrepreneurs and the consumers. Qualitative methods like interviews are used to capture the richness of the problem and are combined with more quantitative findings from literature studies to define rich relevant problem areas.

Design

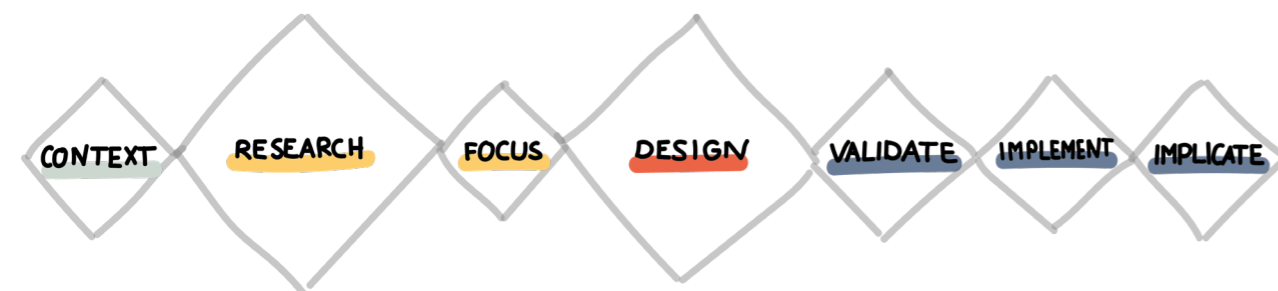
De Nieuwe Melkboer poses as a case study for this project, thus the ideation phase will focus on creating concrete solutions for their Dutch soymilk initiative. This helps in getting to a tangible solution, that later will be evaluated on its broader implications within the bigger research problem.

Creative thinking methods are used to approach the design problem from many perspectives. In the early ideation phase, the focus lays on generating a big quantity of ideas to come up with out-of-the-box solutions.

An iterative way of working is used to combine these out-of-the-box ideas into possible solutions, formulate areas of improvement and re-design the posed solutions. By co-creating with consumers and food producers, the different point-of-views will be taken into account in generating solutions. Quick prototyping offers a way to quickly embody ideas and evaluate them with consumers. A final concept is created and a prototype is made to demonstrate the design and validate it with the target customer.

Develop

User simulations are used to validate the designed concept and formulate recommendations. In collaboration with De Nieuwe Melkboer a plan of implementation of the concept is created. To communicate the main research insights and broader implications of the case study to all SFSC-entrepreneurs in the Netherlands, a handout providing a concise overview is created.



Report structure

Colors represent the design phase

The report is divided in four design phases, each of them to be recognized by their color;

Background

Discover

Design

Develop

Colored blocks contain main insights

Main insights

This literature research gave a broad perspective of the challenges that can occur when building a SFSC. The following categories are determined and used as a ground layer for further qualitative, user-centered research. The overview can be found in figure xx in which underlying relations are displayed with arrows. An extensive list of all challenges and further notes on each challenge can be found in appendix M.

Grey areas contain background information

Short food supply chain: a definition

The 'short', in short food chain, will refer to both the physical and social distance, based on the definition of Galli et al [7]. Social distance refers to the opportunity for the producer and the consumer to interact, share information and create mutual understanding. There are no or very few intermediaries. The physical distance refers to the actual distance, which is as limited as possible.

1. Context

This chapter paints a picture of the context in which SFSCs in the Netherlands are operating. First, a short summary of agricultural developments is given to explain the need for a more sustainable food system and the potential of SFSC initiatives to play a part in that. After, an overview of the ecosystem of short food supply chains in the Netherlands is given. It includes visuals that portrait the width of different types of SFSCs and an overview of stakeholders involved in short food chains. To wrap up the initiative of De Nieuwe Melkboer, that operates as case study for this project, is elaborated upon.

1.1 Agriculture: a short history

For most of history, our human species lived as hunters-gatherers. But then, around 10.000 years ago we began to domesticate plants and animals to make our food supply more predictable [27]. This completely changed the way we live. The first shelters were created that we called 'home' and the human species became more in control of how the landscape around us is shaped. Nowadays, we have several metropolises that house up to 24 million people [28] and half of the habitable land of the earth is used for agricultural purposes [29].

Ever since these first farmers, the nature of farming hardly changed for 8500 years. The type of equipment used remained more or less the same and farming was a time- and labor intensive task that occupied around 80% of the population [27]. Only in the 18th and 19th century the agricultural revolution kicked in and started eras of major change: the industrialization and globalization of agriculture.

Gasoline-powered machines replaced horse-drawn equipment and just after World War II, pesticides and fertilizer were developed [27]. This industrialization in farming meant major decrease in time, labor and surface needed to

grow the same amount of crops which enabled us to feed the fast rising population [30]. The increase in yield also meant a decrease in food prices and the percentage of disposable income that an average Dutch citizen spends on food is still decreasing to only 8% at the moment [32].

The second development is the worldwide trade of food, a result of globalization driven by improvements in transportation, communication, freedom of trade and the availability of cheap labor [2]. Of the 3 million hectare of land we need to feed the Dutch population about 74% is situated abroad [26]. At the same time the Netherlands is the second biggest exporter of food [4].

The globalized market inflicts high price pressure on farmers and the industrialized farming requires major investments. Therefore large-scaled farming is an appealing, and often necessary, option [31]. The amount of farms decreased quickly: in the Netherlands it dropped from 410.000 in 1950 to 53.000 in 2019 [23].

1.2 The need for system change

The agricultural trends have led to a very big success in increasing the yield per hectare [PB26] and enable us to feed a doubled world population [3]. However, the downsides of these developments are also coming to the surface: our food is currently responsible for 60% of the losses in biodiversity and about a quarter of the world greenhouse gasses [26]. More than half of the Dutch land is used for agriculture [25] and a quarter of all road transport in and around the city is used for our food [17]. Agriculture has a major influence on our living environment.

The power in the food market lays with several big players and farmers are 'price takers' [33] having no influence on the selling price of their own product. The narrow margins have played a big part in the scaling up and intensification of farms [33]. The large scaled monocultural farms result in a decrease in biodiversity in those areas. The intensification and increase of use of pesticides and fertilizers results in soil degradation, which again leads to a bigger need to use pesticides and fertilizers to maintain the same level of yield [34].

The big losses of biodiversity, high outputs of greenhouse gasses and degradation of the soils all-together led to the realization that this agricultural system will not be able to keep feeding our world population forever. There is need for a switch to a sustainable food system that is able to deliver food security and nutrition in a social and financial just way without degrading the environment, so future generations won't be compromised.

1.3 The potential of short food

To create a clear picture on how SFSCs could, and could not, benefit the sustainability of our food system this paragraph will shine a light on both sides.

How short food supply systems could contribute to a more sustainable food system in the Netherlands

Short food supply chains are not a goal in itself, and will not solve all aforementioned problems, but do pose as a way to reach the following benefits for the sustainability of our food system;

- A few big players in the food system have nearly all the purchasing power in our food supply system [5]. The concentration of this power allows them to have major influence on what farmers grow and what prices farmers get for their products. The expansion of SFSCs could increase the amount of parties in the food market and bring back a more healthy balance between big and small market players.

- The potential of a more transparent food system; it is easier to track down and thus communicate the steps of the production process. It is possible to have direct contact between consumer and producer which will allow for easier exchange of information. This can have two benefits on the sustainability of our system;

- o Consumer trust and -food literacy will increase. In a more transparent system the consumer can make well informed decisions on what to eat. They have a clearer image on how their choices will influence their health, the earth and animal- and human rights. Furthermore, if the food would grow in the direct

surroundings of the consumer, the food choices can actually be visually feedbacked.

- o The farmer can more easily get feedback on its products and therefore reply more promptly to consumer demand. This can lower the amount of food surplus.

- Instead of unifying produced products and selling them using the same premise, the farmer can now more easily differentiate his product. This brings opportunity for better communicating and financially valuing the additional value of the product, such as a biodiversity-friendly way of production or better animal care.

- Short food supply chains result in higher margins for the farmer, as steps in the chain are being skipped [35] [37]. The farmer has a say in the price he asks for its produce. Therefore, he can choose a way of production he personally supports and determine a price based on that, instead of adjusting the production process to the price he gets for his produce. Because of that intensification and scaling up are no longer the only option.

- There are some consumers standing up that are open to a big engagement with the producer. They want to establish a long term relationship and sometimes even want to invest their time or

share the risks by investing together or paying up front. The farmer does not have to carry all risk alone and feels appreciated in his work, giving the farmer some wiggle room to innovate.

- Material flows are closer to one another and are more easy to pinpoint. This makes it easier to close cycles and get to a more circular model.

Why short food supply systems would not contribute to a more sustainable food system in the Netherlands

- The reduction in CO2 because of the shorter food transport distances often does not compete with the increase in CO2 caused by inefficiencies in the small-scaled production process or supply chain [36].

- What you eat is far more important than whether your food is produced locally or not: land use and on-farm emissions represent more than 80% and transport only 10% of the greenhouse gas footprint for most foods [36]. Changing the way people eat could thus have much more effect on the greenhouse gas emissions than increasing the amount of SFSCs.

- Many SFSC products are more expensive than a comparable option in the supermarket, so not everyone will be able to afford products from a SFSC.

- Intensification in the agricultural sector did contribute to a much higher yield. Some studies believe that without innovations like pesticides and fertilizers the yield can decrease up to 10 times [38]. A high yield is necessary for feeding the world, but can also result in a decrease in the amount of hectares that is used for agricultural purposes. These hectares could be given back to nature. If SFSCs would result in a change in agricultural methods that reduce the yield, it might not be the most sustainable option to do so.

- Not every region is suitable to grow every type of crop. It has environmental benefits to grow the crops in the region that is most efficient: a smaller need for water, pesticides and fertilizers. Thus for certain products it is more sustainable to get them from the other side of the world than to grow them here in the Netherlands.

Concluding, short food supply chains can contribute to a more sustainable food system.

A focus on changing the consumers' diet is also a necessary step to get there. Increasing awareness on the impact of our food by eating from these SFSCs could be a first step in the right direction. It should be taken into account that prices of our food should not rise too drastically, to offer a healthy diet to all layers of society. By reducing the number of links in the food chain and working with a fair distribution of the price, a SFSC product does not have to be more expensive than a conventional chain product. SFSCs should exist next to the conventional food chains to form a healthy balance. Also, SFSC initiatives should not be the ones to grow products that are way less efficient to grow in the local grounds, as this will result in a higher need of farmland and inputs.

1.4 The Dutch SFSC ecosystem

This section provides a clear image on how short food chains are currently present in the Netherlands and throughout the different agricultural sector, what is happening on a political scale, and how the Corona crisis impact the SFSCs. The image below displays an overview created by Local2Local to show the Dutch SFSC ecosystem. It includes many of the stakeholders such as political-, network-, and financial support, education, research, assemblers, suppliers and demand side of a short food chain.

Scale of SFSCs

One out of ten Dutch farmers is currently using short food chains to supply its products to consumers [17]. As a comparison: only 3% of the Dutch farmers are biological farmers. Out of these SFSC farmers, 43 percent gets at least half of their gross yield from this direct sales [38]. Looking more closely at provincial level,

large differences in the amount of SFSCs can be found. Limburg leads the way with 15% of the farmers being active in SFSCs, whilst in Overijssel only 6% of the farmers is part of this.

To get a better idea of the development of SFSC in the Netherlands over the years, the graph in figure 4 displays the percentage of agricultural initiatives that sell from their yards ('erf'). As can be seen, the amount of SFSC is quite steady since 2011.

Policy

The Common Agricultural Policy of the European Union led for most of European countries to explicit targets on the percentual amount of SFSC companies that should be supported. The Netherlands is one of the few exceptions in this, thus did not officially activate this support of short chains [39].



Figure 4. The percentage of agricultural initiatives that sell from their yards.

However, short food supply chains have been a topic in the Dutch politics. In 2018 Taskforce Korte Ketens is initiated by the ministry to support the increase in SFSCs in the Netherland [42]. In September 2020 the Dutch Minister of Agriculture, Nature and Food Quality organized a SFSC trade mission in the Netherlands, to create a stronger network of SFSCs [41]. The Green Deal 'Eten uit de korte keten' (food from SFSCs) was signed by the minister and most of the provincial deputies to increase SFSC food in governmental catering services.

producing fruit, (greenhouse) vegetables, eggs, mushrooms or other perennial crops have the highest amount of sales via short food supply chains [39]. It stands out that all of these sectors use little or no processing for their goods: they can sell their products to the consumer as harvested. This difference could be explained by the higher level of complexity and investments needed when processing your own produce before being able to sell it to the consumer.

Corona and SFSCs

On a provincial level, the provinces of Gelderland, Zuid-Holland, Noord-Brabant, Limburg and Utrecht have included the objective to increase the amount of SFSC in their provincial policies [39]. However, these objectives are non-binding and there is no monitoring of the progress. On a smaller scale some progressive goals are present: the city of Amsterdam wants to increase their share of local food use from 5 to 25% in the coming ten years [43].

Although the Netherlands did not have an critical issue with food security during the Corona crisis, the consciousness of all food supply systems that are working in the background to deliver our food has grown. The closure of the restaurants led to surpluses for food producers in the Netherlands, that actively sought for an alternative route to the consumer, launching local boxes of food to be saved [45]. The connection between production by the farmer and our food choices was now visible in the consumers eyes, for instance through the massive pile of molting potatoes due to a decline in the consumption of French fries

SFSC per agricultural sector

The amount of SFSCs differs vastly between the different agricultural sectors. Companies

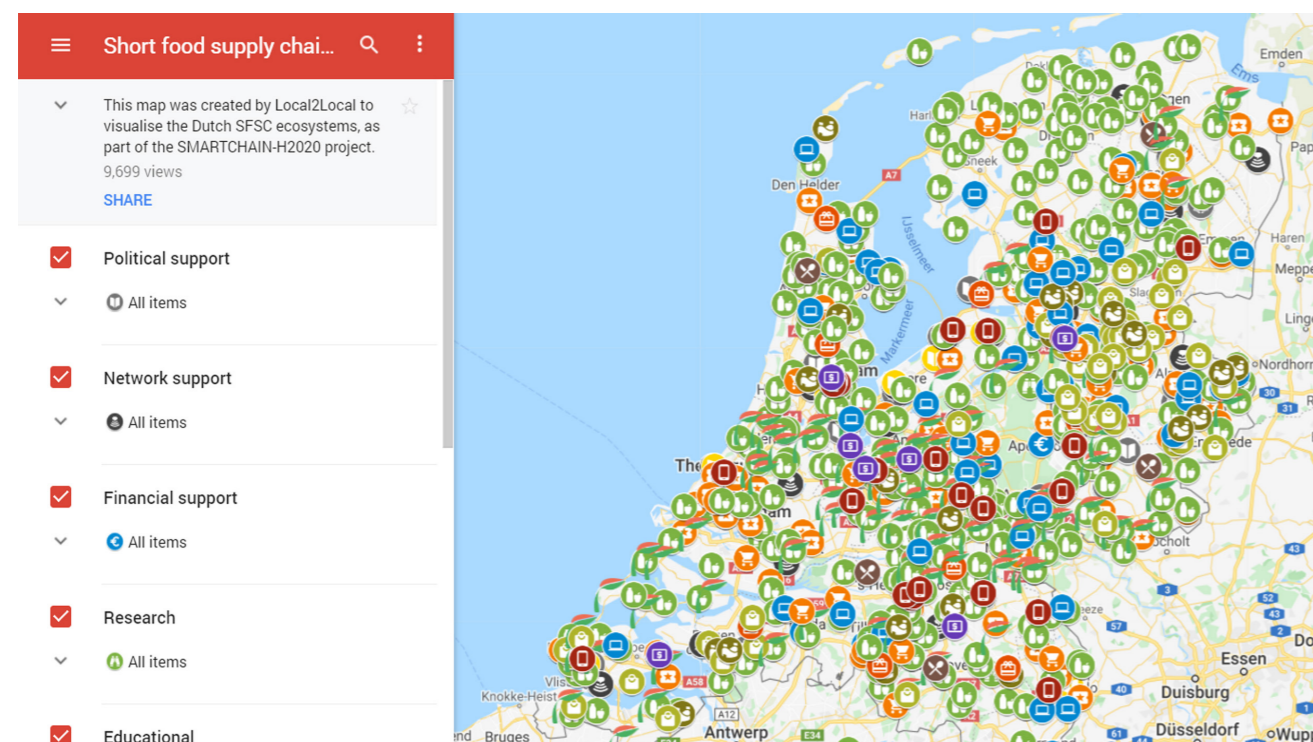


Figure 3. The Dutch short food supply ecosystem.

[32]. Before the crisis, seasonal workers would harvest most of the Dutch crops. But during the Corona season they could not come to the Netherlands, which resulted in initiatives like helpnoogsten.nl and an inclusion of many Dutch workers on the local farm fields [47].

Many consumer sought a way to avoid the busy supermarkets and thus discovered the offer of local initiatives to fulfill their food demand. Furthermore, consumers could not dine out anymore and had extra time on their hands. Searching for that special or extra tasty ingredient in your neighborhood to prepare a nice meal at home became a well-enjoyed activity.

The local food movement well embraced these developments and launched the Support your Locals campaign. Initiatives like Rechtstreex saw the amount of order grow four till five times bigger than before [8]. However, after the first weeks of the crisis many entrepreneurs already noticed a decline in demand of the local boxes like Bart Boon, that was already back to half its sales within two months in the crisis [45]. Even though the extreme increase in locally purchased food might not be sustained after the crisis, the awareness of where are food is coming from has grown. This offers a window of opportunity to increase the amount of SFSCs in the Netherlands.

1.5 Type of SFSC initiatives

A SFSC initiative can have many different shapes. Some SFSC initiatives involve only one party, namely the food producer, and some work together with different partners to get the food from farm to fork. This paragraph will firstly touch upon the different shapes of SFSC initiatives based on the actors that are involved.

Three types of SFSC entrepreneurs are defined, based on their involvement in producing the food, and visually represented in this visual overview of the SFSC and its possible actors. The short supply food chain and its possible actors are illustrated in image 5 below.

Note: only SFSC entrepreneurs that are involved in producing the food are included in the project. This leaves out the SFSC entrepreneurs that act as middleman by connecting consumer and producer, such as Halloboer. This choice is made after interviewing different types of SFSC entrepreneurs (chapter 2.1.4.). Entrepreneurs involved in the food producing process have a very different relation to the product they sell than a middleman in the chain. The middleman has less feeling of ownership, does not know the ins and outs of that product and shows a different motivation to be a SFSC entrepreneur (appendix B). To have a clear scope for this project, only SFSC entrepreneurs that work on producing the food are included.

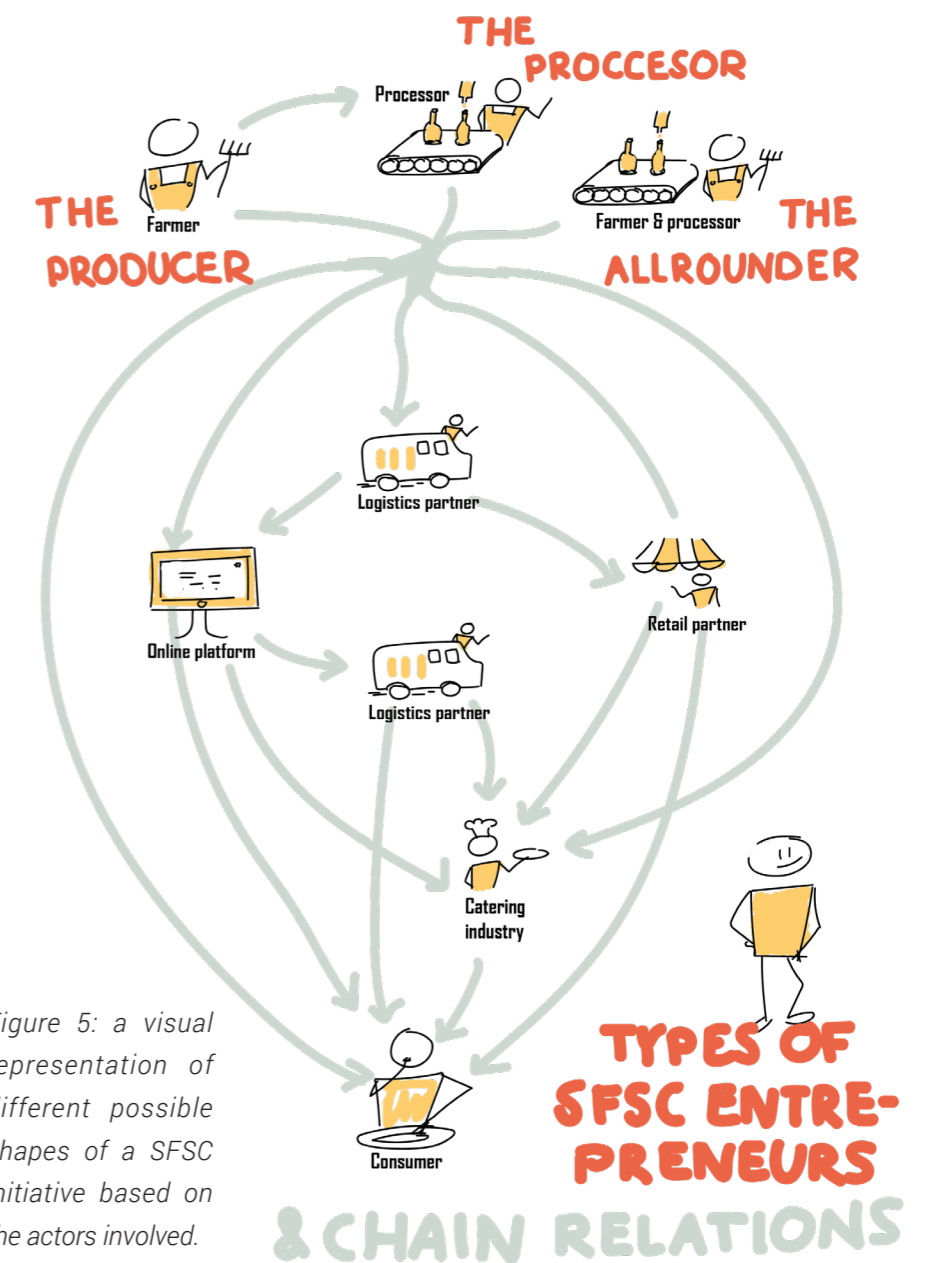
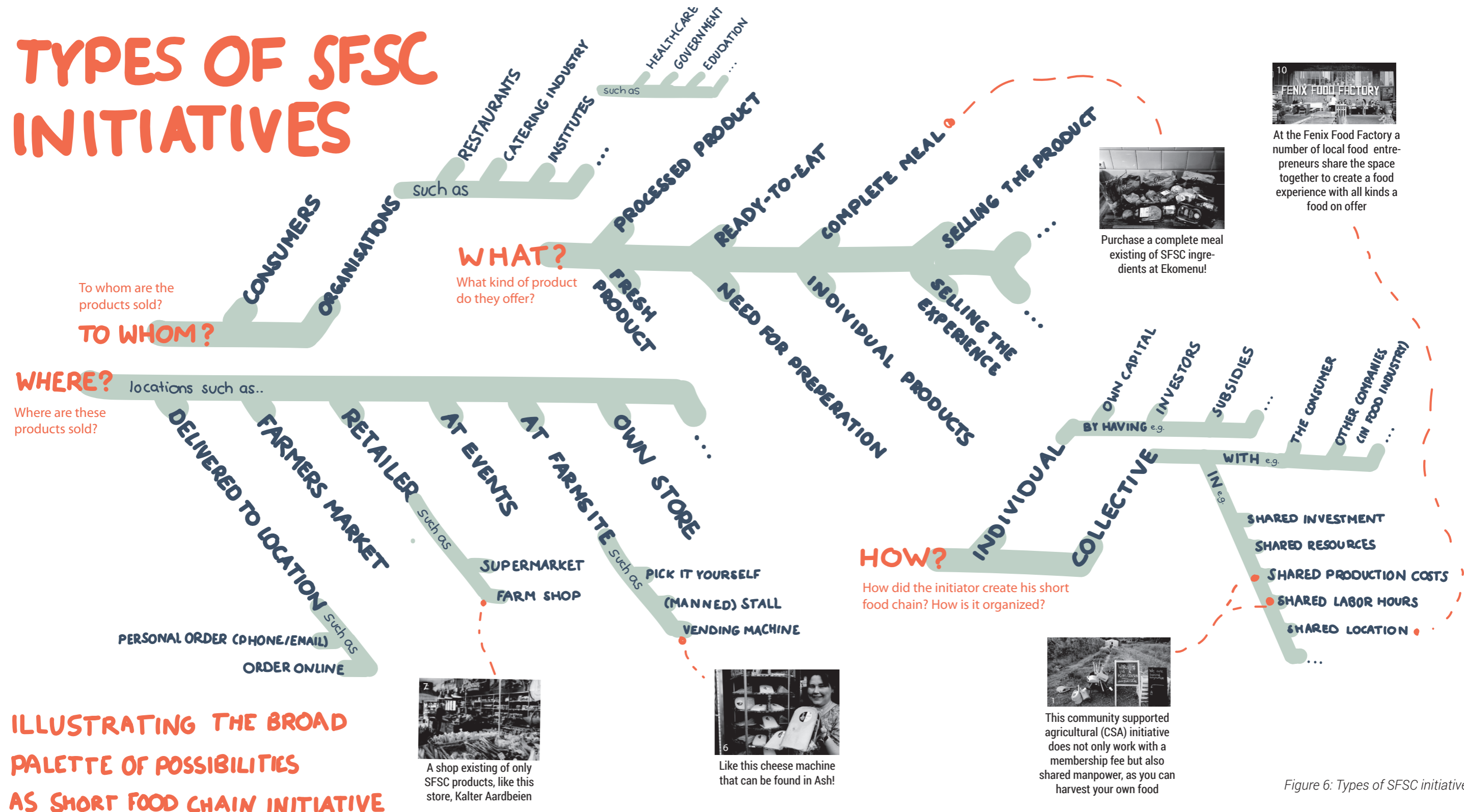


Figure 5: a visual representation of different possible shapes of a SFSC initiative based on the actors involved.

Besides from the differing actors involved in a SFSC, there is much more variation to be found amongst different SFSC initiatives. Four questions were answered to paint a picture on the width of possibilities as short food supply

chain: to whom is the SFSC entrepreneur selling his product, where is it sold, what is sold and how do the initiative is managed. An overview of this can be found in the visual below.

TYPES OF SFSC INITIATIVES



ILLUSTRATING THE BROAD PALETTE OF POSSIBILITIES AS SHORT FOOD CHAIN INITIATIVE

Figure 6: Types of SFSC initiatives.

1.6 Stakeholders in the SFSC

The stakeholder map below (figure 7) displays the different stakeholders in the short food supply chain and their extent of power and interest in the chain. Stakeholders with both high power and high interest in the SFSC will be the ones to focus on during this project. Other stakeholders and their influence on the chains will be kept in mind.

The SFSC consumer and entrepreneur

Both consumer and entrepreneur have high stakes in short food supply chains. Therefore, they are the key focus of this project's research. Extensive insights on the motivation for SFSC entrepreneurs to create a short food chain, the challenges they face when doing so and the motivation for consumers to buy from a SFSC can be found in chapter 2.1 and 2.2 respectively.

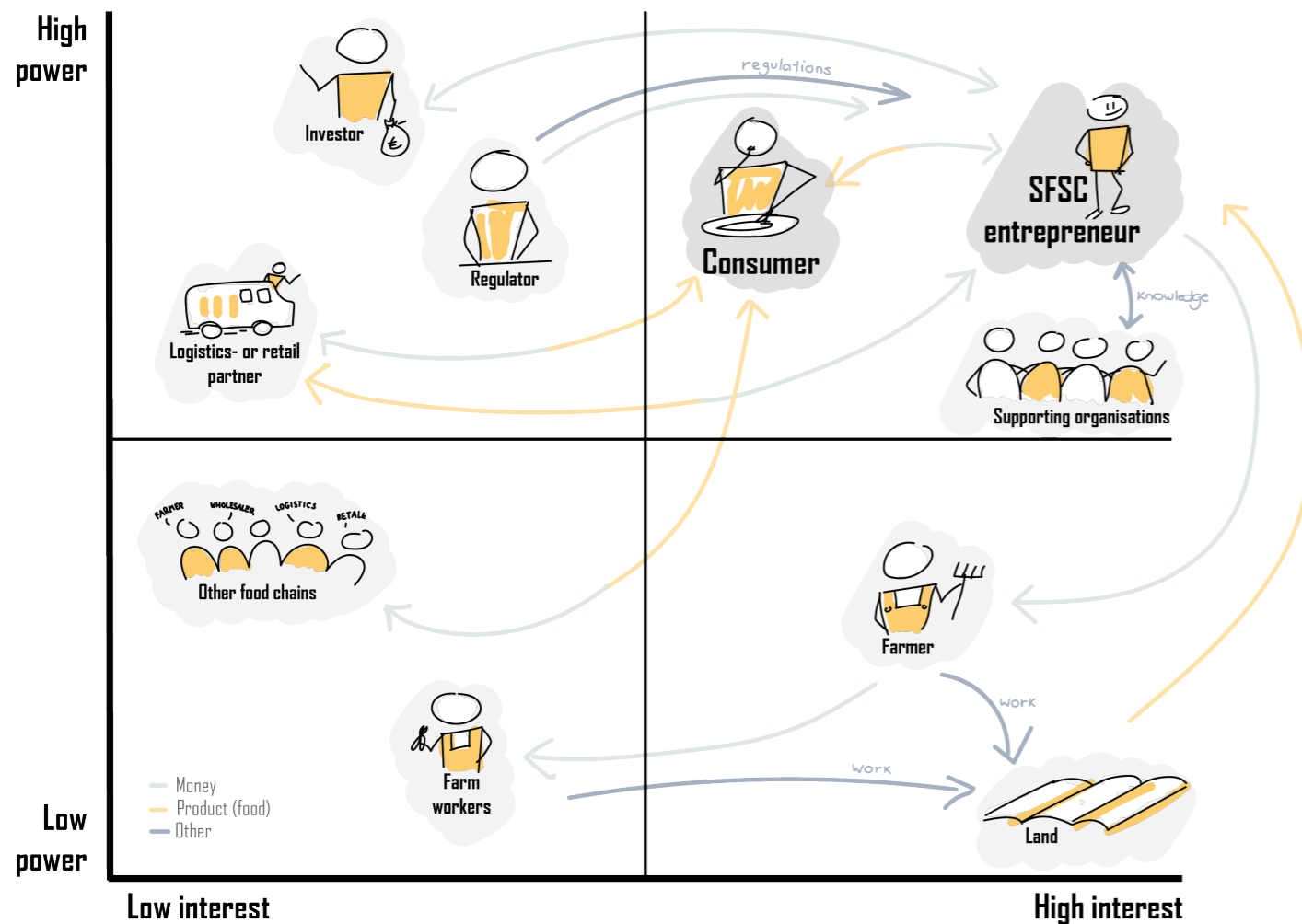


Figure 7. The stakeholders in a short food supply chain.

Supporting organizations

The supporting organizations are a third key stakeholder in this project. This paragraph will give a short overview of the ways in which SFSC are currently supported in the Netherlands, to see where there may be potential for further action.

Taskforce Korte Ketens (Taskforce SFSCs)

An organization founded in 2018 to support the regional dynamics and make use of the current momentum of SFSCs in the Netherlands during a four-year period. They do so by sharing knowledge and facilitate development. The taskforce is underwritten by the Dutch Minister of Agriculture. A concrete example of that are these that are organized to share knowledge and prevent SFSC entrepreneur to all individually reinvent the wheel.



Figure 8. Session of Taskforce Korte Ketens.

Wageningen University & Research (WUR)

The WUR has published research on SFSCs in the Netherlands, elaborating on the dynamics of SFSCs, consumer behavior in SFSCs and the potential for a more sustainable food system. Recently a roadmap was published together with a few successful SFSC entrepreneurs, to

support SFSC entrepreneur in realizing their short food supply chain. This roadmap can be found in figure 9 below.

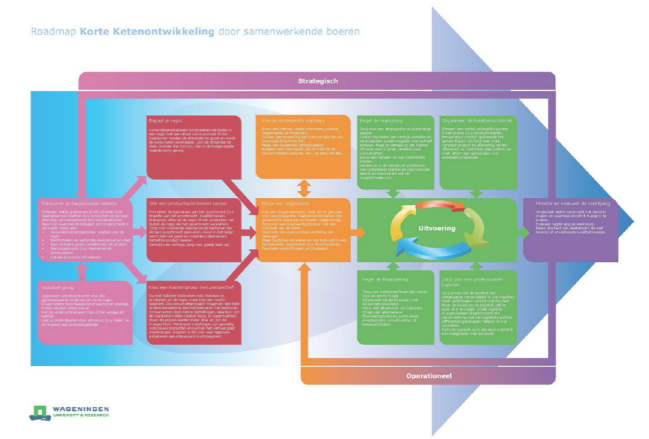


Figure 9. Roadmap created by the WUR.

Other initiatives

Besides, several smaller initiatives are working on increasing the amount of SFSCs in the Netherlands. Sandra van Kampen is doing so with her one-man business De Schaal van Kampen. She has done research on urban agriculture and direct consumer sales and hosted several workshops and events. The platform organization Aarde Boer Consument created on extensive online guide [10] on how to find your consumers as a farmer and Voedsellanders is sending out surveys on local food to get consumers' opinion and organizes workshops on how to create your own food community. In short: SFSC entrepreneurs have quite some places to go to in search for help.

1.7 De Nieuwe Melkboer

This project is initiated in collaboration with De Nieuwe Melkboer, a start-up created by the brothers Bart and Tom Grobden. After deciding to take over their parents' extensive dairy farm, they were looking to create a future-proof perspective. They saw two roads ahead: intensifying the farm or looking for alternative ways to differentiate themselves. They choose the second path and decided to grow plant-based milk in addition to their cow milk and process this themselves. Currently, they focus on growing soy on the field next to their dairy farm. They are the first ones to create an all-Dutch soy drink from it.

Looking at plant-based drink options at retail stores, there is still little choice in origin and no fresh plant-based drinks available. At Rechtstreef, a local farm to fork initiative, they do have a fresh soy drink on sale called Silk. However, at most alternative and organic stores such as the Ekoplaza and An-dijvie there is no comparable soy drink for sale (figure 10). Thus at the moment De Nieuwe Melkboer is quite unique with their soy-milk. And the timing seems right: the Netherlands is a dairy-loving country and ranked third in the amount of milk drunk per capita [15]. The amount of plant-based dairy drinks in the Netherlands is rising and in 2019 the market share was about 12% off all dairy-like drinks [20].

Growing soy in the Netherlands has just recently become an option and the crop is still in progress, just like its ideal conditions of growth. Getting a successful harvest has therefore already been a challenging task for De Nieuwe Melkboer. Just before the Corona crisis they started delivering their soy milk for the first time to a few local restaurants. They

put this to a stop when the crisis hit and the restaurants closed. In November 2020 they had their marked relaunch and now they are again selling their Dutch soy milk.

The second challenge lays in processing your own crops, since there is no advantage of scale and many food regulations to take into account. Major investments are needed to get the right equipment, before the product can launch on a bigger scale. When telling their story, of taking over their parents' dairy farm and deciding to grow plant-based alternatives as an addition to their milk cows, they receive much enthusiast response. But how should De Nieuwe Melkboer position itself after this initiation phase and how can they hold on to this trustworthy knuffelboer (cuddly farmer) image? What consumer markets should they target? And how to tackle the logistics of this fresh milk product that got to be cooled? These are just a few of the examples of challenges that De Nieuwe Melkboer is facing. The next chapter will dive deeper in the challenges and opportunities for SFSC entrepreneurs.



Figure 10. Offer of plant-based drinks at An-dijvie (left), Ekoplaza (middle) and the fresh soymilk at Rechtstreef (right).



2. Research

This chapter sheds light on the perspective of the two ends of a short food supply chain: the SFSC entrepreneur and -consumer. It provides an overview of the main insights that research uncovered on the challenges that SFSC entrepreneurs experience in setting up their short food chain, their motivation to do so and the different motives for consumers to buy from a short food chain.

2.1 Short food chain entrepreneurs

2.1.1. Research approach

The research on short food chain entrepreneurs serves two goals. First, to uncover barriers that the entrepreneurs face and see the relative relevance of these barriers when creating their initiative. Second, to understand the perspective of the SFSC entrepreneur and their motivations to create a short food chain, as to create a solution that fits their values.

Barriers for SFSC entrepreneurs

To uncover the barriers that entrepreneurs face when setting up their short food chain initiative a diversity of methods is used. The width of barriers is researched by doing literature research into the currently acknowledged challenges for SFSCs in the Netherlands. Besides, observations were done in several online meetings that contained different stakeholders of the Dutch food system to discuss current developments and challenges. The analysis on the wall method [46] was used to analyze and combine the results into 16 problem categories.

In-depth interviews are performed to deepen the knowledge on challenges found, to spot challenges that might be overlooked and see what challenges are perceived as most relevant to tackle to the interviewees. The three types of SFSC entrepreneur -the producer, processor and allrounder- were interviewed at their production sites. A semi-structured interview approach [61] was used to give the participants the freedom to address different topics according to their perceived level of importance and allowing the

interviewer to ask follow-up questions on the topics that came up. Furthermore two experts in the field were interviewed, one that is part of board of -- Taskforce Korte Ketens and one that coordinates a yearly farmers innovation program. An informal conversational interview method was used [17] to leave room for focusing on topics that the experts bring up. A two week emergence at Schapenstreek further increased the understanding of the life and tasks of a SFSC entrepreneur, the challenges they face in daily life and their motivations to be build a short food chain (further deliberated upon in the next paragraph).

Motivation and perspective of the SFSC entrepreneur

To better equip short food supply chain entrepreneurs in overcoming the barriers they face, it is important to find a solution that fits these entrepreneurs. Research is done in the motivations and perspective of the SFSC entrepreneur to be able to create a persona of the one behind the initiative. The in depth-interviews and emergence, as mentioned in the last paragraph, uncovered motivations to start the initiative and made the author more familiar with the entrepreneurs' perspective. To get a clear picture on how short food chain entrepreneurs would define success, the future perfect method [51] is used. Six entrepreneurs are interviewed using the semi-structured interview approach [61] and described the perfect scenario of how their initiative would look like in 2025. Insights were combined using the procedure as described in the Delft Design Guide [57] and as such a persona is created.

2.1.2. Literature research

To get familiar with the present knowledge on challenges that short food chains face in the Netherlands and form a quantitative basis for further research a literature research was performed.

Set-up The research included reports of Taskforce Korte Ketens [48] [49] [50], the Dutch Minister of Agriculture, Nature and Food Quality [9], the Municipality of Rotterdam [52], Province of Limburg [54], lectorate Duurzaam Coöperatief Ondernemen [55], WUR [44] [60] and some smaller initiatives [53] [56] [58].

Main insights

This literature research gave a broad perspective of the challenges that can occur when building a SFSC. The following categories are determined and used as a ground layer for further qualitative, user-centered research. The overview can be found in figure 11 in which underlying relations are displayed with arrows.

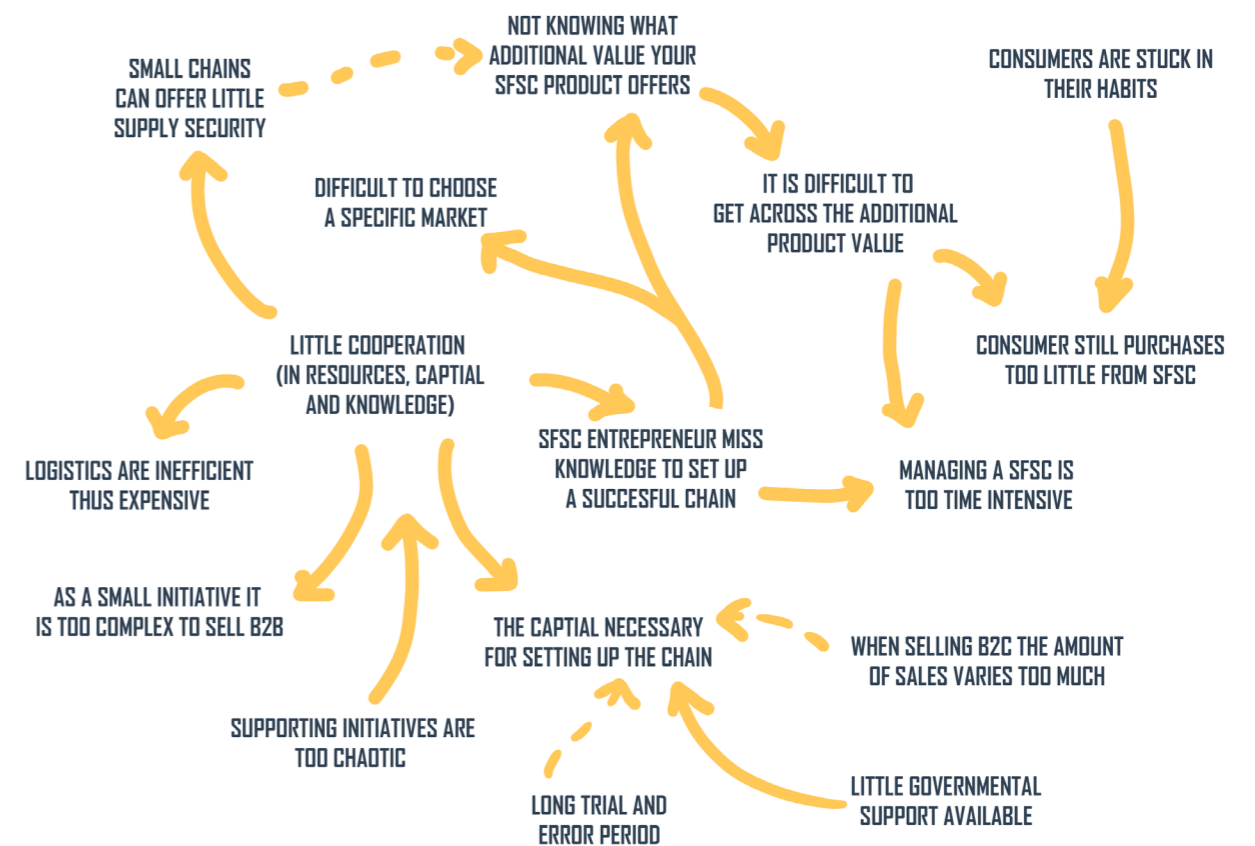


Figure 11. Main insights literature review.

2.1.3. Observations

Observations provide insight in the different actors in the SFSC ecosystem in the Netherlands, how they act and interact and how they experience the Dutch short food supply chains.

Set-up Two meetings of De Nieuwe Boerenfamilie and one meeting of Transitie Coalitie Voedsel are attended. These gatherings brought a diverse group of for instance farmers, SFSC entrepreneurs, policy makers, entrepreneurs and designers together to talk about tackling challenges and how to move forward in the transition towards short food chains. My detailed report on one of the meetings can be found on denieuweboerenfamilie.nl!

Main insights

• **All these initiatives and platforms for cooperation and support:** I've lost overview Initiatives like Boeren en Buren, Hallo Boer and Taskforce Korte Ketens organize sales channels, local markets and meetings for SFSC entrepreneurs. But not all of them are as professional as they should be and initiatives are starting to compete with each other. A participant of De Nieuwe Boeren Familie tells us "ik zie echt door de bomen het bos niet meer!", she totally lost track so gave up on using one of these facilitative initiatives all along.

• **A too small of a share of the harvest can be sold via a SFSC** A lot of farmers scaled up their production in the last decades, following the push for large scaled agriculture. The limited size of local sales is just not substantial enough for them, thus selling via the SFSC is hardly a viable option for the large scale farmers.

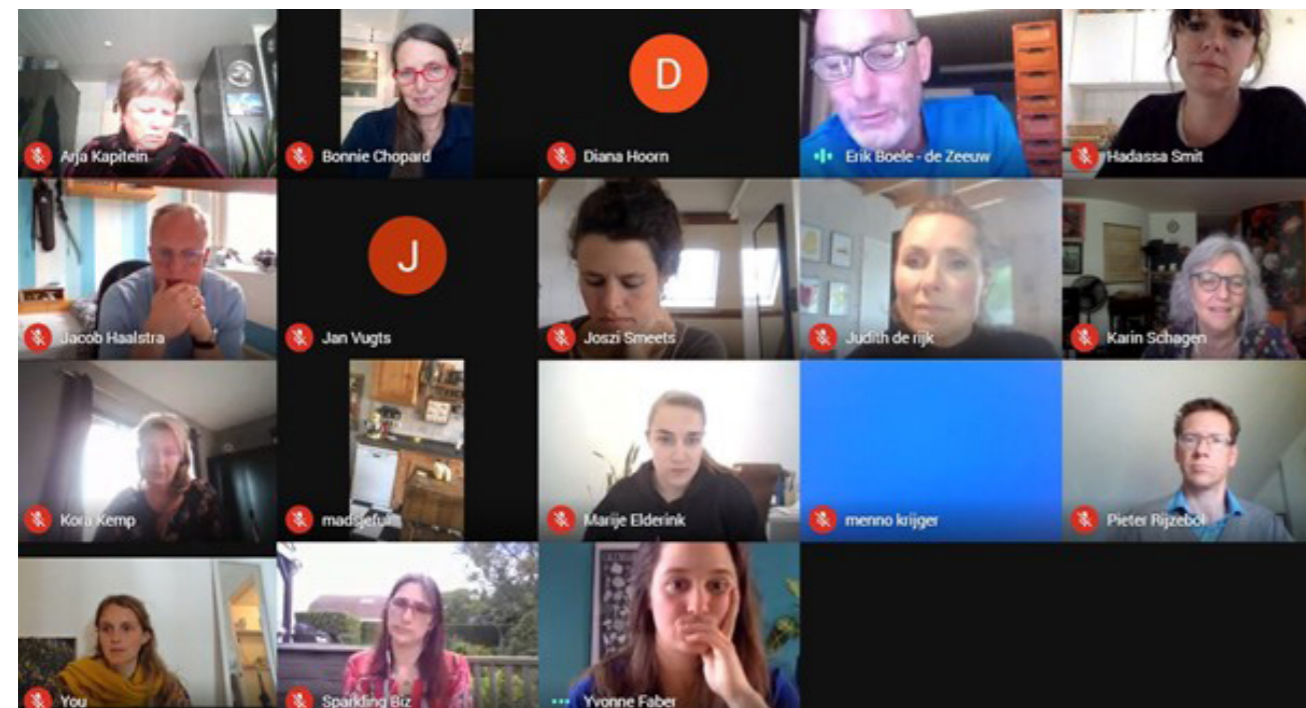


Figure 12. A meeting of De Nieuwe Boeren familie.

2.1.4. In-depth interviews SFSC entrepreneurs

In -depth interviews created further understanding of the SFSC entrepreneur and deepened the knowledge on the problem categories found in previous research.

Set-up The three types of SFSC initiators were visited at their production site. The general interview guide that was used included topics on their main (future) challenges, the actions they took to overcome these challenges and their motivations for creating a SFSC. The second part of the interview is interactive, in which interviewees performed an exercise to categorize the challenges extracted from literature by how much they relate to them. The interview guide covering these questions can be found in appendix C.

Main insights

A portrait of each of the SFSC entrepreneurs, including their motivations, was created and can be found on the next pages.

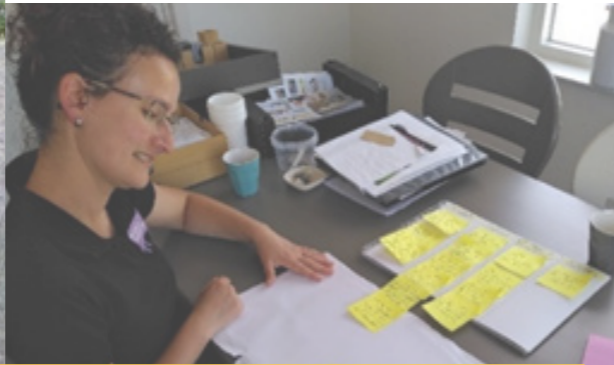
Besides, the interview provided insight in challenges that the three entrepreneurs faced in their initiative and the exercise gave insight in the perceived relevance of the challenges gathered in literature research. The complete results of the categorization exercise can be found in appendix D. Main insights are stated on the next page.



Figure 13. Oyster mushrooms at Erik's production site.



Figure 14. The stables of Marja's farm.



The main challenges experienced, meaning thoroughly mentioned by at least two of the three interviewees, are:

- **The time intensity of maintaining a short food chain** The challenge that stand out most in the interviews. The entrepreneurs struggle with finding the right timing to hire third parties to take on part of the tasks or do not want to do that because the personal approach is part of their charm. Also communication and marketing of the initiatives' story is a major time-consuming activity, that takes up too much time next to producing the products yourself.
- **Making the additional value of your product visible to the consumer** All three entrepreneurs did not struggle with creating the additional value and have a clear story in mind. However, getting this story across is a struggle. "Yeah, I think it is difficult to judge if this story is really coming across to the consumer" "How can you tell your story in such that people appreciate what you are doing and are willing to pay extra for that?"
- **The platforms and initiatives to support the entrepreneur do not match their needs** Two out of three entrepreneurs do not make use of a supporting platform. The reason for that lays partly in the need to have matter into your own hands and partly in the major amount of initiatives that are out there. This big amount of platforms keeps competing with

each other and it is perceived as a too big of an time investment to find out which one fits your needs best "so yeah, than I rather spend my time on something else".

- It is tough to compete with the big players in the food industry "When consumers see your product laying there between all others in the supermarket shelf, they will just choose for the cheaper option. So you need to find other channels such as farm shops, to actually sell your product."

Additional challenges that were uncovered are:

Being small and personal competes with being economically viable All the interviewees mentioned this as a challenge for their initiative. "Yeah, and then you just realize: if we continue like this we won't make any money in the next two years. Unless we will put down something large-scaled, like a mushroom factory." "I deliver all the ice-cream myself. And sometimes I think I'm crazy to still be doing that, because it takes up so much of my time. But the personal chat with the chef also generates new sales, so I have to do it in person, I cannot outsource it."

Consumer simply does not know about their existence As a small initiative, most consumers do not even realize that your product is also an option. "In the beginning I had the problem that not even my neighbor knew that I am making ice cream... you work on it so much that you just suppose that everyone will know".

Portrait of Marja - Allrounder



Figure 15. Portrait of Marja.

- 36 years old
- Studied Food and Technology in Wageningen
- Lives on a dairy farm together with her husband and launched her ice cream business in 2017
- Mainly sells to restaurants and farm shops, but her ice cream can also be found at the local Albert Heijn supermarket and at Saturdays she sells from her yard
- Besides graphic design, she tackles everything herself: making ice cream, advertising, sales and distribution

Motivation as SFSC initiator

Less dependent on the narrow margins you have as a farmer "Ja, ik zit meer zelf aan het stuur. Wat ik voor m'n product vraag."

Passion for making ice cream "Maar zoals ik begonnen ben, je begint vanuit een hobby een passie. Niet met het idee om even heel snel rijk te worden. Dat gaat hem niet worden."

Positively changing her view of the farm "We zien ook wel, nu je bezig bent met je eigen product maken, ga je ook weer anders tegen je boerderij aankijken. We ontvangen veel meer mensen hier, vinden we heel erg leuk, te vertellen en te laten zien, vertellen wat we doen. Het is geen abracadabra wat je hier aan het doen bent. ... En dat je merkt dat je daardoor er ook voor open staat om andere dingen te gaan doen op je bedrijf, dat hadden we van tevoren misschien niet verwacht. ... Dat je op die manier er ook meer naar kijkt. Dat het niet altijd is..., je bent minder economisch aan het kijken."

Portrait of Erik - Producer



- 59 years old
- Oyster mushroom grower since 1.5 years, Michael recently joined his initiative
- Aiming to grow completely circular: nearly all of the materials have been used before
- Picks up coffee residue himself at restaurants and sells lots of his harvest back to these restaurant, but is recently also actively selling to consumers
- Driving force in the Boeren en Buren platform in his neighborhood

Figure 14. Portrait of Erik.

Motivation as SFSC initiator

Telling the story of a more sustainable food system "Wij zeggen ook, wij zijn geen oesterzwammen kweker, wij vertellen het verhaal van de kringlooplandbouw, circulaire economie, de inclusieve economie, aan de hand van een prachtig product wat bijna iedereen gebruikt en dat is koffie"

Creating awareness and educating "Wij willen een rol spelen, juist omdat we in de stad zitten, in educatie, van bewustwording en juist gezond eten. Dus we willen geen fabriek worden want dan kan je geen mensen rondleiden, of leren hoe ze zelf oesterzwammen kunnen kweken of hoe je er lekker mee kan koken of het verhaal vertellen hoe gezond het is, dat wij belangrijk zijn voor de eiwittransitie"

Portrait of Tom - Processor



- 28 years old
- He and his brother took over his parents' dairy farm last year and founded De Nieuwe Melkboer 1.5 year ago, bringing the first all-Dutch soy milk to the market
- Studied Consumer Studies at Wageningen University
- Focus on selling their product to restaurants and had their first sale before the Corona crisis
- Active in the Slow Food Youth Network and participated in De Boerenversneller last year

Figure 15. Portrait of Tom.

Motivation as SFSC initiator

Finding their own way "Mijn broer en ik hebben besloten, we gaan de boerderij voortzetten, maar dan wel op onze eigen manier."

Making a positive impact "Na een aantal jaar in Wageningen gestudeerd te hebben is duurzaamheid wel met de paplepel ingegoten, dus daarom besloten: sojamelk, dat is wel interessant" "We willen zorgen dat we genoeg inkomen kunnen genereren met de boerderij, maar daarnaast willen we ook gewoon zorgen dat we een positieve impact kunnen maken"

2.1.5. Expert interviews

To validate and improve knowledge of the problem areas and to look for gaps in the current ways in which SFSCs are supported, two experts were interviewed.

Taskforce Korte Ketens

A member of the board of Taskforce Korte Keten was interviewed. The organization has defined three main problem areas for creating short food chains in the Netherlands: data, logistics and multi-channel approach. They are currently active in finding solutions for these problem areas and supporting SFSC entrepreneurs in these areas.

Set-up the interview was conducted over the phone and the interviewee was asked about the main challenges he recognizes for SFSC entrepreneurs and the main gaps he sees in providing support for short food chain entrepreneurs.

Main insights

- **A lack of cooperation is the main problem TFKK is trying to tackle.** They believe that the key to successful SFSCs is regional alliances. The main challenges there, is to create trust amongst entrepreneurs to work together. "By working together you will probably make bigger steps as an individual, but you need to open up and expose parts of your ideas to others"
- **A solution gap:** solutions from the SFSC entrepreneur's point-of-view are needed TFKK is working on a higher level of abstraction, creating the conditions in which SFSC entrepreneurs can operate better and indirectly influence them. Bart sees that TFKK is still challenging with creating value that can directly benefit the food producers.

De Nieuwe Boerenfamilie

The interviewee is Coordinator of De Boerenversneller ("The Farmer accelerator") and project manager at Food Hub. As coordinator of De Boerenversneller, she has worked with many agricultural entrepreneurs over the past two years, working on finding solutions for their challenges.

Set-up again a phone interview format is used. The interviewee is asked about the challenges she most often recognizes for SFSC entrepreneurs and whether she recognizes challenges that were defined earlier on in this project.

Main insights

- **Changing pathways is a big challenge for farmers** "Often you are stuck in contracts with purchasers or still paying off big investments you did in the past. It is so difficult, once you decided to take the pathway towards efficiency, to change pathways to creating a specialized product."
- **It is tough to find a target audience for your product** "This is visible in the entire short chain, the product sales keep being a challenge. I often get that"
- **When scaling up the initiative, it is even more difficult to stand out**
"A big part of the additional value is knowing the face behind the cheese. That's why people come back. And when you lie between all these other cheeses, what is decisive in buying the cheese or not? That is a pretty big questions that comes back with many entrepreneurs."

2.1.6. Future perfect interviews

To paint a clear picture on how an ideal situation for a SFSC entrepreneur would look like, six future perfect scenarios were created.

Set-up six entrepreneurs participated in an interview over the phone describing their future perfect. They were asked to describe their future perfect, in which everything went exactly like they wanted it to, for 2025. The interview guide can be found in appendix E.

Figure 16 shows the future perfect scenario of Tom from De Nieuwe Melkboer, interviewee and client of this project

Main insights

- **All the entrepreneurs see growth in their future perfect scenario.** There are no clear target in sales, but they would like to see an increase in customers to spread their story
- **Large diversity of activities happening on the farm!** There are dreams of becoming a knowledge hub, creating an example farm of the future, diversifying to all types of products, getting people to improve the biodiversity in their own garden and creating merchandise abroad to spread their concept: they dream big!



Figure 16. Future perfect De Nieuwe Melkboer.

2.1.7. Emergence at Schapenstreek

To familiarize myself with the tasks and live of a SFSC entrepreneur, I volunteered at Schapenstreek for two weeks. Schapenstreek is a biological sheep farm existing of 100 sheep, run by Mark and Anita. They are a care farm, so have some help with the daily tasks. Besides that, they take care of the processing and selling of all of their sheep milk themselves. In other

words: a good environment to experience the whole spectrum of being a short food supply chain entrepreneur.

The diversity of work struck me, as well as all the effort that is needed to produce ice cream or cheese. The pictures below paint a picture of the diverse tasks on the farm.



Figure 17. Insight in the different tasks at Schapenstreek.



Figure 18. The stables of Schapenstreek.

Main insights

- **Doing things in a small scale leads to inefficiencies.** Having to clean the ice cream machine between each flavor takes up much more time per ice-cream when creating small batches every time. All small things, like having to go to the shop to help customers whilst making ice-cream or having to sticker all ice-cream cups by hand, really add up in time needed to create one ready-to-sell product in the end.
- **Having a lack of time and finances leads to inefficiencies.** The lack of time due to inefficiencies is leading to even more inefficiencies. For instance, if there is no time and money to create fences to prevent your sheep from falling in the water ditches, the sheep cannot stay outside during the night. Therefore, every morning and evening half an hour has to be spend to move the sheep and feed them by hand.
- **It is a constant balance between focus on attracting customers and working on creating your product.** The one cannot exist without the other, but a big focus on attracting customers will result in less focus on developing and producing your product, whilst the demand of the product is about to rise.

2.1.8. Conclusion

Persona of the SFSC entrepreneur

To summarize insights about the short food chain entrepreneur, a persona is created representing typical characteristics and motivations.

The challenges for a SFSC entrepreneur

A conclusion of the challenges a SFSC entrepreneur faces is created based on all research insights of this chapter 2.1. Two criteria were used to select the main barriers for SFSC entrepreneur: their level of influence on the research problem and my level of influence as a designer to tackle said barrier. Based on these criteria, a matrix is created in which the research insights are plotted.

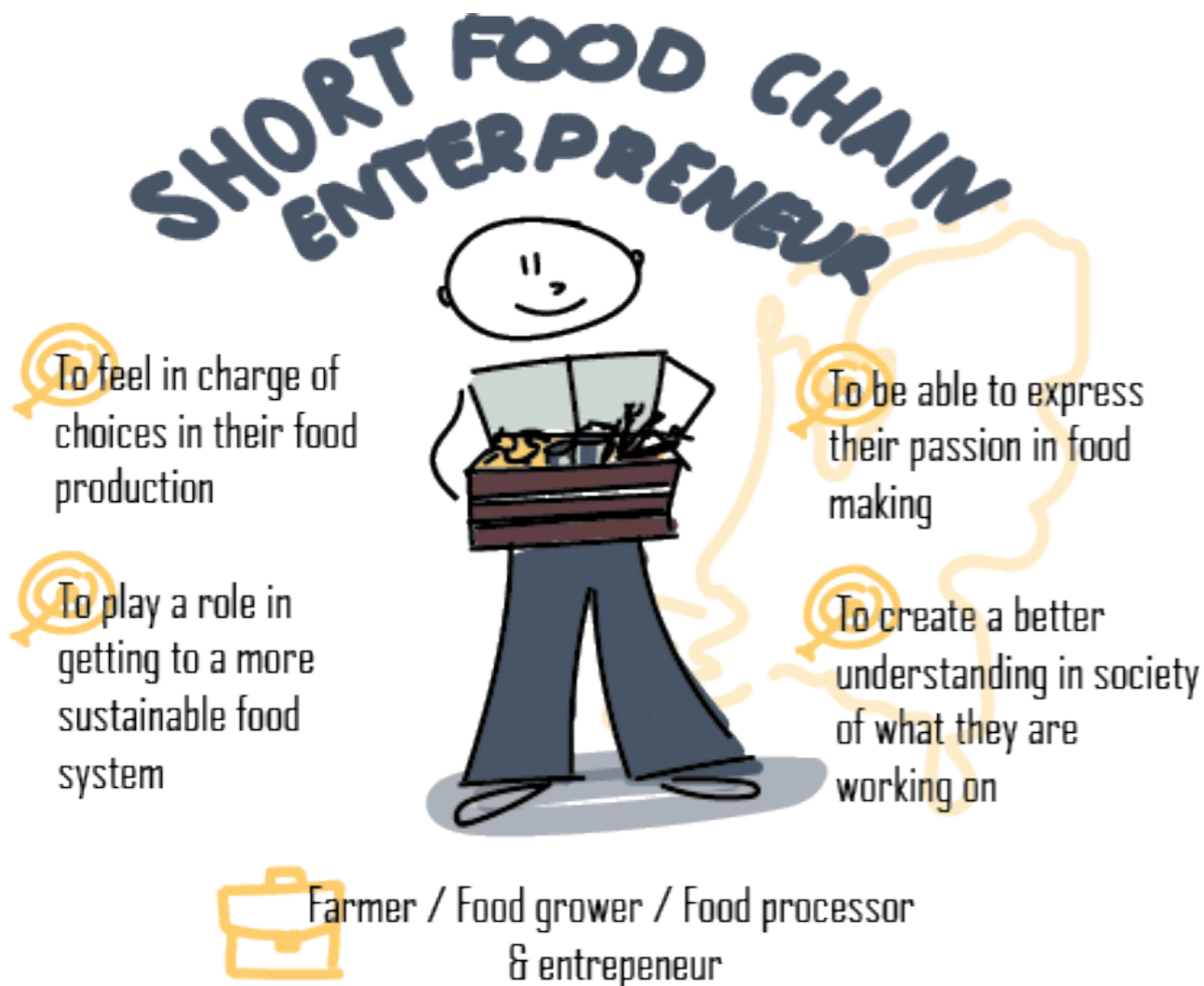


Figure 19. Persona of the short food chain entrepreneur.

To ensure a higher level of objectivity of said matrix, an evaluation session with a fellow design student is organized. In this session the research insights were presented and the student mapped all insights according to the 'Wow, How, Now'-method [67]. Next to mapping the insights, the connection between each of the insights is drawn into the matrix, to uncover main causes. The results of the exercise can be found in appendix M. In conclusion, the matrix below was created.

The five challenges in the upper right quadrant are most relevant to tackle. The connection between these elements is examined and as a result the main challenge for the SFSC entrepreneur is selected. A one-pager summarizes these main challenges and can be found on the next page.

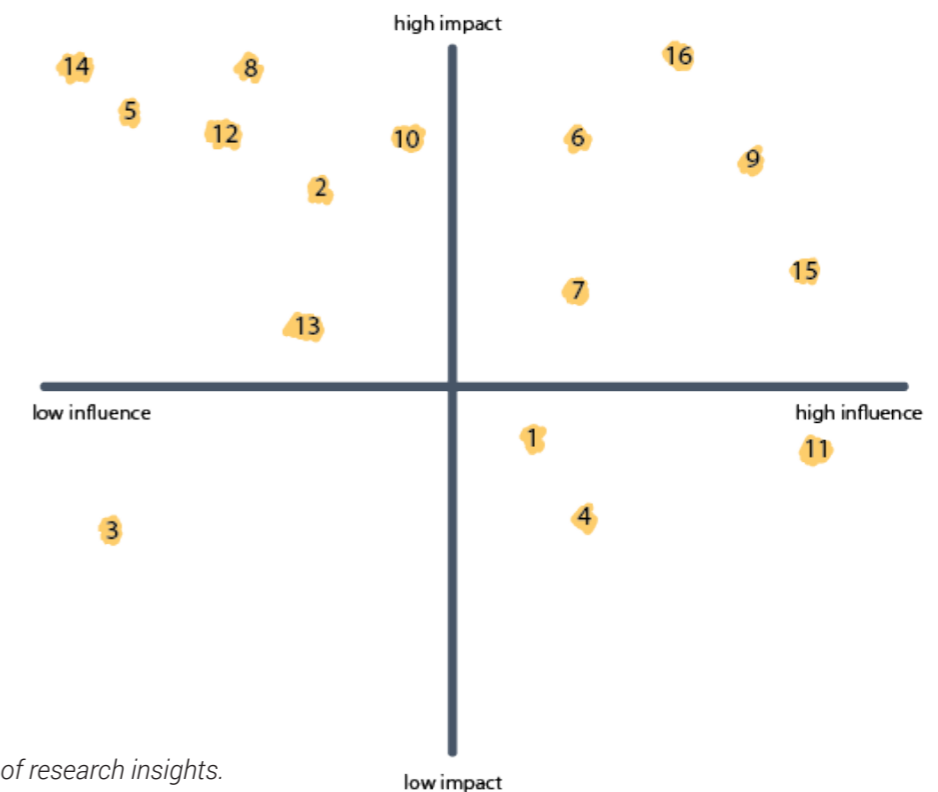


Figure 20. Matrix of research insights.

Legenda

Vertical axis impact on better equipping SFSC entrepreneurs
Horizontal axis area of influence within this design project

Challenges

- | | |
|--|--|
| 1. The private market offers little purchase security | 11. The time intensity of maintaining a SFSC |
| 2. The logistics are inefficient thus expensive | 12. The consumer is stuck in their food habits |
| 3. All these initiatives and platforms for cooperation between short food chains: I've lost overview | 13. Long trial & error period |
| 4. A too small part of the harvest can be sold via SFSCs | 14. The large capital needed when initiating a SFSC |
| 5. It is tough to compete with the big players | 15. Small and personal versus economically viable |
| | 16. Initiatives tend to be stuck in the initiation phase |

BARRIERS FOR SFSC ENTREPRENEURS

Every SFSC entrepreneur has an unique story they are eager to tell

"Yeah, every human being enjoys talking about its job right?"

They really want to share their story on everything that's behind the food we eat, how their approach is special and how they took matters into their own hands and looked past the conventional food supply chains.

"With this ice cream we can more easily make the translation towards the farm; let the ice cream tell a story on what you're doing and how you're doing it"

"We're always saying: we are no oyster mushroom growers, we are storytellers, telling the story of circular agriculture through a wonderful product."

A high-priced product has to very clearly offer additional value

Processed products in a SFSC are more expensive than conventional chain alternatives: how to get your additional value as a SFSC initiative across to the consumer?

"For us it's important to make a valuable contribution to society and to express that in all our operations. But how do you do that? Making your additional value visible to the customer and also getting this value reflected in the price of your product? ... That is why telling our story is no game to us, it really is... it is the most serious component of our company, getting people on board with your story."

"Yeah, I try to have additional value, by using my own milk, having the whole story with using products from the local bakery, ingredients of the region that are recognizable and no weird additional stuff in my product. But how to convey this message in such a way that people appreciate it and are willing to pay that extra amount?"

It is a challenge for SFSC entrepreneurs to keep offering and expressing their additional value as SFSC initiative when scaling up

The relationship with the customer changes completely when the initiative scales up, as direct contact with all of your customers is not a viable option any more: the number of customers is simply too high.

However, personal contact is the main power of SFSC initiatives. This poses a big problem in the scaling up phase.

The SFSC entrepreneur struggles with questions like

- How to have the consumer still feel involved with the organization, the farmer and the food?
- How to let the consumer know who they support with their purchase?
- How to remain trustworthy?

Sharing your story & getting across your additional value is easier in the early phases of the initiative

Interacting with a smaller crowd of very local consumers, whilst having that cute, 'kneuterig' image as farmer

"I personally deliver all the ice-cream I sell. I always make conversation with the chefs and have a talk about my product. That is why my products are not anonymous. It is quite time consuming, but it really is the thing that sets you apart."

"Yeah, people think it is quite awesome that we are not like these big anonymous brands, that we have a clear face behind our small initiative."

Scaling up and professionalization is a necessary phase to become viable

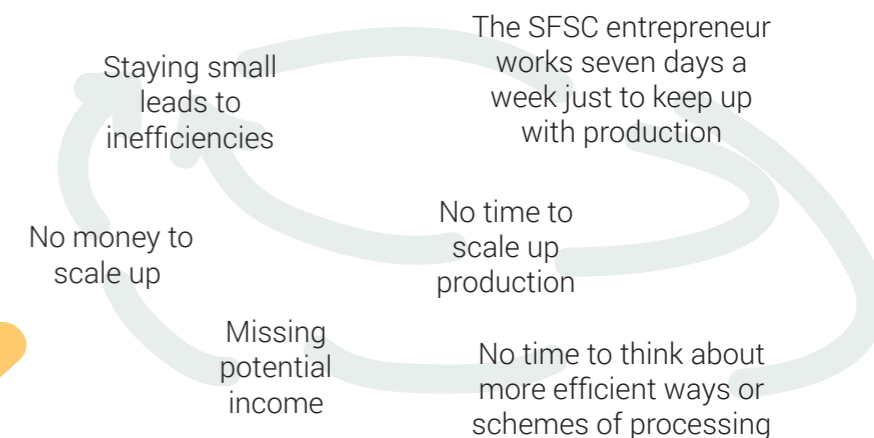
"Yeah, to make my SFSC ice-cream a profitable part of our company we definitely have to keep growing"

Not being able to cover fixed costs

"If you just see the prices for a m2 of property the first thought is: just with this rental costs we won't be able to make any money in the coming two years, unless we would scale up massively and put down an entire mushroom factory."

Getting out of the inefficiency vicious cycle

"Yeah, for me time is the most limiting factor in growing my initiative"



And it is not just about the necessity of becoming viable...

All entrepreneurs are quite ambitious when talking about the future of their company. Growing is part of all their 'future perfect' vision to get their story across to more consumers and having a bigger positive impact (see chapter xx)

CLASH

"Personal contact is what keeps it from being an anonymous product. ... So when you will professionalize by outsourcing or automating parts, the charm might get lost. So yeah, that is also a difficult thing for me" - Interviewee

"That is kind of the core of the problem: how can you scale up whilst maintaining that 'knuffel-boer-gehalte', the snug of it?" - Client

"It is telling your story and the balance between growing bigger but still being able to tell your own story" - Interviewee

"Interviews and literature research show that the power of short food chain initiatives is the direct contact with the customer. This can really pose a problem when scaling up" - Arkenbout et al.

2.2 Short food chain customers

2.2.1. Research approach

As one of the main stakeholders of a short food supply chain, a better understanding of the SFSC customer is needed. This chapter will focus on uncovering the motivation of SFSC customers to buy food in the short food chain. A better understanding of these motivations will allow us to better take their needs into account when creating solutions.

To understand the motivations of SFSC customers to buy their food at a short food chain initiative, a both qualitative and quantitative approach is taken. Literature research is used to gather quantitative data on consumer criteria and motivations to buy in a short food chain. This research is analyzed using the analysis on the wall technique [46] and resulted in several categories of consumer needs. These categories form a basis for the qualitative part of this research, that is used to enrich the data.

Two different perspectives are taken on to dive into the consumers' motivation to buy in a SFSC. On the one hand, semi-structured interviews took place at a farmers market to uncover motivations to buy at this market. Eight consumers were asked for their experiences. On the other hand, motivations to not buy your food at conventional food chain were sought. A qualitative research with thirty consumers is executed to disclose reasons for consumers to buy their food outside of the most conventional food chain in the Netherlands: the supermarket.

2.2.2. Literature research

A literature study on consumers preference and motivation for buying from a short food chain or local initiative is executed. Sources include the results of an EU focus group [63], studies of the WUR [66] [68], the Dutch government [64] [65], the municipality of Rotterdam [5], two Flemish reports [69] [70] and student research [62].

Main insights

The quantitative research has led to five first categories of motivations to buy in a SFSC:

- **Practical benefits** it is cheaper or easier to purchase or -prepare
- **A better product** the taste, freshness or quality is better, there is a high level of transparency and the product is good for your health
- **The sales experience** the product is unique, the atmosphere at the sales spots is nice and it is fun to see the link between the food and your own region
- **To support producers in the region**
- **It is better for the environment** including things like nature, greenhouse gasses and animal welfare

The complete analysis on the wall can be found in appendix G.

2.2.3. Interviews at the farmers market

To gain in-depth insight in user motivations to buy from a short food chain, a farmers market in Rotterdam was visited.

Set-up Eight consumers were approached. Each of them is asked the following questions: "why are you buying here?" and "what type of products are you buying here". Follow-up questions on their motivations and needs were asked to uncover insight in the consumers' way of thinking.

About the farmers market

It's an early rainy Saturday morning in Rotterdam: time for the weekly Farmers market "Rotterdamse Oogstmarkt". All products that can be found at this market should be produced in a 50 km radius from the center of Rotterdam. With about 20 stalls the offer is quite diverse. The olive oil from private Spanish yard seems to be one of the showstoppers, next to the flowers, plants, humus, cheese, bread, coffee, meat, fish, fruits and vegetables, marmalade and fresh fries that can be found at the square. The big offer of processed food stands out. According to one of the salesman, the amount of stalls keeps increasing.



Why are you selling here? – a conversation with BioKaas and De Buytenhof

"It's just incredibly gezellig! Especially when the music is here and there are all these places to sit down and enjoy a meal". "I'm a volunteer and I think it's splendid fun to be here. I also like to support the goal of De Buytenhof, I feel involved in their bigger goal".

Another reason to join the market is to gain brand awareness. For both salesman, the bi-weekly market stall is worthwhile. "Yeah, we now really have our regular customer base here". Besides the market they both work with a multi-channel approach. So next to selling at the market, they sell from their yard and for instance deliver to Rechtstreeks and Interatuin. According to the cheese salesman, most of the consumers coming here are environment-conscious.

Figure 21. Stall at the Rotterdamse Oogstmarkt.



“Het is gewoon een mooie gezellige markt met lekkere dingen. En dat is het belangrijkste.”

“Nou eigenlijk zijn het vooral overbodige dingen die we hier kopen.”
 Vrouw: “Nou, niet helemaal, maar, nouja. De lekkere dingen.”
 Man: “Ja, de lekkere dingen.”

Main insights

- **Motivations to buy at the farmers market** are combined and summarized into customer needs and can be found in the conclusion of this section.
- **The personal contact is clearly present** This interviewee is telling about all the things she buys at the Oogstmarkt by referring to the names of the salesmen as can be seen in figure 23: “I always go to the olive oil guy, at Paul I get my meat, at the Poy my cheese, vegetables and eggs at Maaike’s, bread at Jordi’s and furthermore I just see what’s there”
- **Products bought at the market are often seen as indulging oneself** The couple showed in

figure 22 explained the type of products they buy at the farmers market: “Well, actually it’s mostly the unnecessary stuff we buy here! His wife: well... mostly the tasty stuff. Man: Yes, the tasty stuff”

- **For some people, it is like a hobby, they love to spend extra time on** “What we recently discovered, someone said he didn’t have any more of a certain plant, but had more of them in his yard in Sliedrecht. And then we go there to have a further look”

- **Distance is not always a boundary** some people actually come from far; one couple came all the way from Geldermalsem(!), which is a one hour drive, to go to this market

Figure 22. Quote of a couple at the farmers market.



“Ik kom altijd bij de olijfolie man, bij Paul haal ik vlees, bij de Poy kaas, bij Maaike groenten en eieren, Jordi brood, de rest kijk is zo’n beetje, wat er is”

Figure 23. A woman that is interviewed at the farmers market.

2.2.4. Negative associations with buying at the supermarket

To get a better understanding of consumers' reasons to buy food outside of the conventional food chains, 30 interviews were conducted.

Set-up Fitting the current Corona restrictions, Whatsapp is used as a low-key medium for people to share their experiences. A mixed group of participants is approached: a difference in age (ranging from 23-77) and gender, spread

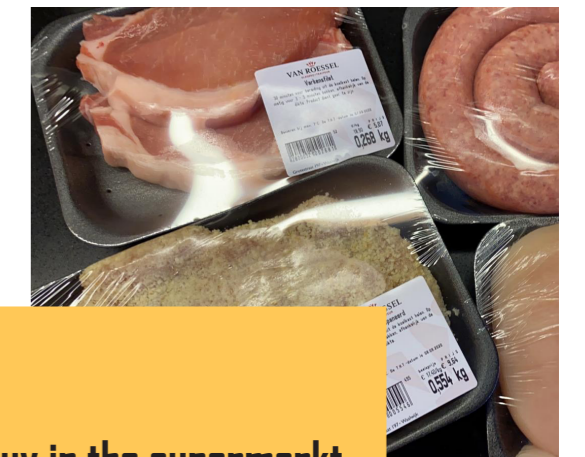
What and where do the participants buy when they go outside the supermarket?

- When the participants do not buy their food at the supermarket, they mostly go to the (farmers) market. Vegetables, fruits and cheese are mostly purchased there often because they are cheaper, fresher or because going to the market is a nice getaway.
- Secondly the specialty store, bakery, butcher, Turkish store and green grocer (on wheels) are stores mostly mentioned by the participants. Price is no longer a factor in buying here, but the product's characteristics such as uniqueness are determining factors.
- Next to fruit and vegetables the products that are mostly mentioned to be bought outside the supermarket are cheese, meat and bread. Graphs of these results can be found in appendix L.

throughout the Netherlands with high- and low educational backgrounds, living in urban or rural areas is sought. Each participant is asked about the type of products they buy outside of the supermarket, why they do so and what they perceive as the biggest disadvantage of buying in a supermarket. The interview guide can be found in appendix K.

Main insights

- **Nearly everyone has experience with buying their food outside the supermarket:** just one participant did not
- The participants mention two main reasons to buy these 'non-supermarket' products: **either the products are cheaper or the products provide additional benefits.** These additional benefits are used to define customer needs, that can be found in the customer journey in chapter 2.2.5.
- **'Non-supermarket' products are perceived to be more tasteful, healthy, unique and better for the world.** However, many consumers do not mention any evidence for this and do not seem to necessarily have a need for this evidence. "I know the fish at the market is not necessary fresher. But still, it seems like it is. ... That is just the whole image: seeing the complete fish laying there and getting filleted at the spot" "At the supermarket I just get the feeling of overproduction: as if it is produced in bad circumstances".



"Kijkje in de keuken"

- a behind the scenes of products participants did not buy in the supermarket

2.2.5. Conclusion

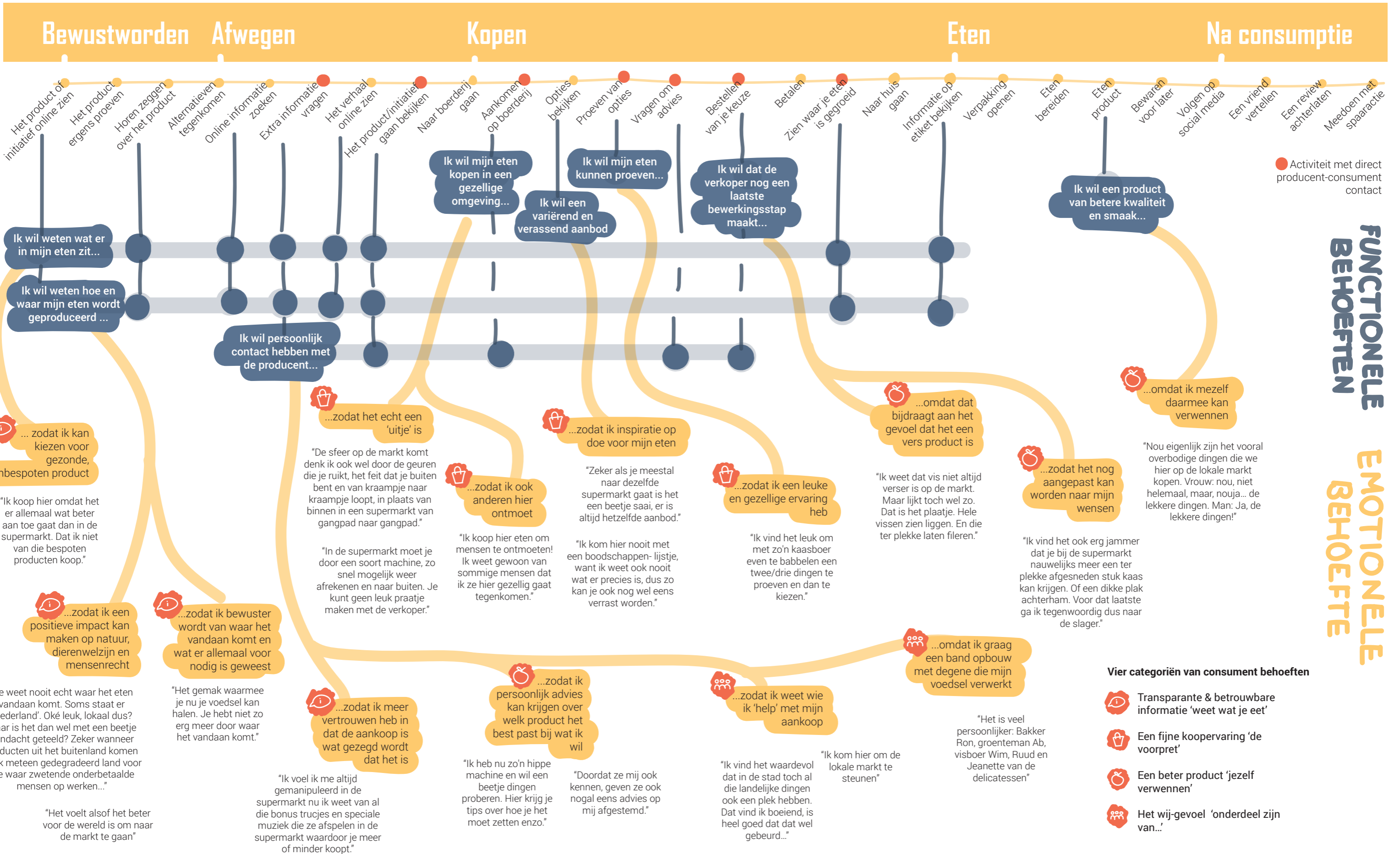
The categories of consumer needs that followed from the analysis on the wall (appendix G) are used to define consumer needs. To create a clear overview on which consumer needs are present in which elements of the SFSC, a customer journey is created.

The customer journey is based on the shortest way of supplying to your consumer: selling the produce directly from the farmyard. The farmyard way of selling is chosen, as it contains all consumers touchpoints that are mentioned as a reason to buy from a SFSC in this research. Therefore, it able to provide a complete overview of SFSC consumer motivations.

What stands out, is that many of the customer needs are based on direct contact with the producer (displayed with a red dot). This supports the conclusion of the previous section, that states that direct producer-consumer contact is one of the main powers of a SFSC initiative.

WAAROM KOOPT DE CONSUMENT IN DE KORTE KETEN?

BEHOEFTEEN DIE DE CONSUMENT VERVULT TIJDENS HET KOPEN IN EEN KORTE KETEN
WEERGEGEVEN LANGS DE MEEST KORTE KETEN: LANGSGAAN OP DE BOERDERIJ



3. Design brief

The previous chapter gave us insight in the perspective of the two main stakeholders of a SFSC: the SFSC entrepreneur and -consumer. This chapter will bring both perspectives together in defining a design focus. Based on this focus, guidelines for the design are established and further specified by searching for best practices. To wrap things up a design question is formulated.



3.1 Design focus

A SFSC-entrepreneur should be able to create a customer experience in which the consumer feels close to its food and -producer through indirect producer-consumer contact

SFSC-entrepreneur

Why should the SFSC entrepreneur take up this role?

SFSC-entrepreneurs are keen on having the matters in their own hand: the entrepreneurial spirit and drive to not rely upon the big players in the food industry are a clear characteristic of the SFSC-entrepreneur. Therefore, this design should enable and empower the short food chain entrepreneur to create its own solution.

Customer experience

Why customer experience?

Supplying your food directly to the consumer entails so much more than putting the right product in the right place. The consumer will be in touch with different parts of the product and/or service throughout different phases of his journey of purchasing and consuming the product. Thus the total picture of services and products that the entrepreneur provides to the consumer has to be thought through.

Indirect producer-consumer contact

Why through indirect producer-consumer contact?

A major challenge for SFSC initiatives is the phase of scaling-up. The changing producer-consumer relationship is the main cause of this struggle, as the power of short food chain initiatives lays in the direct contact with the customer (chapter 2.2). When scaling up this direct contact with all of the customer is no longer viable due to the rising amount of customers and production. Therefore, the SFSC initiative has to find a different way to get its additional value across in indirect producer-consumer contact. Want to know more? Check out the insights in the challenges for SFSC entrepreneur in chapter 2.1.

The consumer feels close to its food and -producer

Why should the consumer feel close to its food and -producer?

The reason for this is twofold. Firstly, having this feeling of closeness with your food and your -producer is closely connected to many customer needs as described in chapter 2.2.5.: receiving trustworthy and complete information on what you eat, choosing to enjoy a quality product, having a happy purchase experience and feeling that you are part of something bigger. The feeling itself is further defined and elaborated upon in the next section.

Secondly, this connection to its food and -producer will increase the food-literacy amongst consumers. They realize that their purchases have an impact on their surroundings. As described in chapter 1.2, only then the consumer can start acting and make a more conscious choice for its food.

3.2 Design guidelines

To further specify the design focus, the feeling of being close to your food and -producer as SFSC customer is further specified and established as design guidelines. First, five design qualities are defined, to later research best practices on how to design for these design qualities.

Defining design qualities

To define the design qualities needed to reach this feeling of being close to your food and -producer as SFSC customer, a focus session with the client is organized. All customer needs were presented and ranked on importance, to select the customer needs that match the core proposition of De Nieuwe Melkboer most. Results can be found in appendix H. The session results are reflected upon with the broader societal goal, of reaching a more sustainable food system, in mind. In conclusion, four design qualities were defined.

Design qualities - the customer experience should have the following effect on the customer:



1. To realize where your food comes from and how it's made: to reconnect to your food.



2. To know the impact you make with your food choice on nature, human and animal rights and the food initiative.



3. To feel part of something; be together with others in working towards a bigger goal.



4. To trust the information you get.

Best practices

Goal define elements that are necessary to successfully apply these design qualities in practice

Approach find food initiatives that successfully apply the four design qualities and extract design guidelines from that

Research questions:

1. How to make consumers realize where their food comes from and how it's made?
2. How to let consumers know the impact they make with their food choice on nature, human and animal rights and the food initiative?
3. How to have the consumer feel like being part of something, of being together with others in working towards a bigger goal?
4. How to have the consumer trust the information they get?



1. To realize where your food comes from and how it's made: reconnect to your food.



Figure 24. The Elke Melk bottle.



Figure 25. A Hak commercial.



Figure 26. Carrots from Rechtstreex.

Paint the picture give the consumer an image of where their food comes from, how it grows or how it is made. A visual image contains lots of information on what happens before you consume your product and where this is happening. Elke Melk is painting a very specific picture for the consumer, by actually having the name of the cow that produced your milk on the milk bottle. You can look up the cow online and look the animal in the eye!

Make it relatable the sign on the picture above is placed in a field and people that actually pass by this field will notice it. This creates a very relatable image for the consumer: the field they happen to pass by actually grows the food that you find in your HAK jar at the supermarket! Now the HAK vegetables will easily be connected to this recognizable image.

Don't mask it these carrots are sold at the local farm-to-fork initiative Rechtstreex and look much more like a product that grows in the soil than most carrots a consumer buys. The sand tells the consumer something: this product has to grow in our soils first, before you can consume it. Staying close to the origin of the product, or the way a product looks just after it is produced, is important to get the consumer to reconnect to the food production.



2. Know the impact you make



Figure 27. Screenshot of the Farmbrothers website.

Make it tangible making an ‘impact’, a ‘positive difference’ or a ‘sustainable choice’. These terms are used all around us these days. But they all do not have a clear meaning; they are hollow terms. Make the positive impact tangible, by for instance referring to saving “a cookie-sized piece (12cm²) of degraded farmland in Flevoland” for each pack of cookies as the Farm Brothers do (figure 27).



Figure 28. Tool on the Tony chocolonely website.

Make it personal like Tony Chocolonely, that has this tool on their website that gives consumers the option to measure their own impact. This provides a clear image of how your purchase is contributing in the bigger impact-picture and thus what impact you are making as a person.

Share the numbers don't be vague about it: share the numbers to provide a clear, to the point image of the positive impact you are making. Do not forget to link these numbers to something tangible for your consumer. Like the local food initiative Rechtstreek, that mentions the exact amount of revenue that each person in this short food chain receives and offers the possibility to check out these people.



Figure 29. Product information at the Rechtstreek website.



3. Being part of something bigger



Figure 30. A poster from a coffee bar in Utrecht.

Find a common ground when finding and highlighting the things you have in common, it is easier to create a bond. Like this restaurant that approaches the customer as “hey neighbor”. They highlight that you are both part of this



Figure 31. A page on the Boeren van Amstel website asking consumers to also become a milkman.

Make people feel needed emphasize that you are in need of help and cannot succeed on your own. First of all, most people like to be needed. Secondly, this provides the opportunity for people to actually take up a role in your initiative. This can be very low-key, by asking people to support you by buying your product, or a bigger commitment like the Boeren van Amstel ask for on their website. They state that they are very busy, so are looking for extra milkmen. “This does not only help Boeren van Amstel, but also

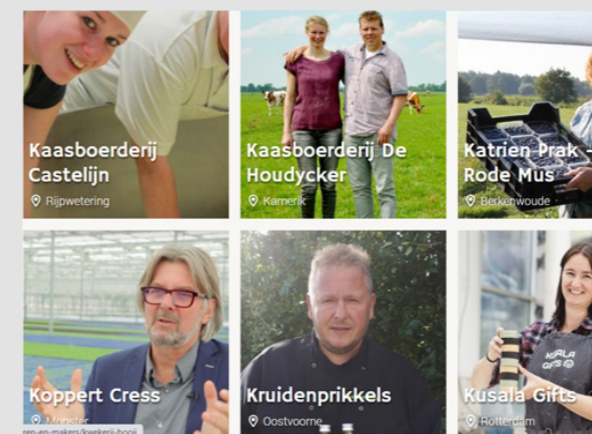


Figure 32. Pictures of the food producers on the website of Rechtstreek.

Give people a face it is easier to feel a connection with someone if you have seen that persons' face. When seeing the faces behind an initiatives it will seem more like a group of people working together than ‘this inaccessible company that is working on its own success’. Thus, if you want the customer to feel part of your initiative, make sure they have seen some of the people that are too part of the initiative. Rechtstreek is doing that very well, by including all farmers and ‘district chefs’ on their website, including a picture of the person or farm and



Figure 33. Notification at the Tony chocolonely website.

Make every contribution feel worthwhile acknowledge that every small contribution is important to reach the bigger goal. You are in this together and whatever level of involvement the consumer chooses to have, they are a part of the mission. Tony Chocolonely highlights that here by stating that 'with every bite you are contributing'.

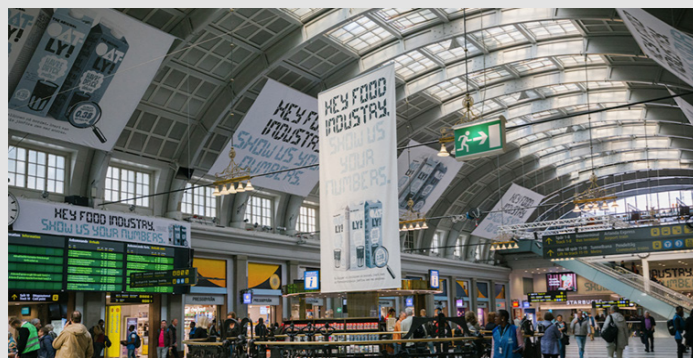


Figure 34. Campaign from Oatly.

Us against them it is often said that having a common enemy creates an instant bond. Oatly is making smart use of this tactics by speaking up to other players in the food industry and asking them to 'show their numbers'. Having a common vision on how things can be better, or a common mission to work towards helps in uniting people.

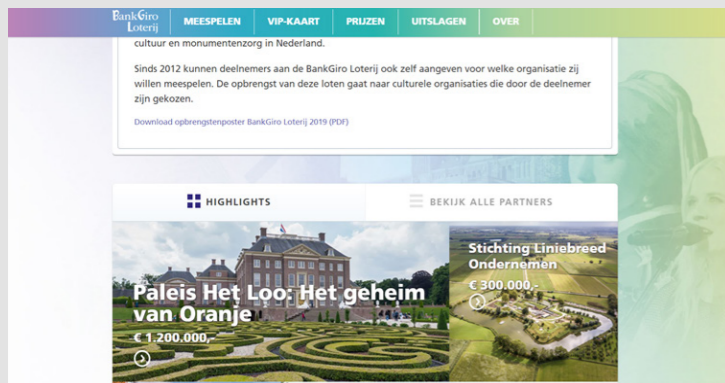


Figure 35. The Bank Giro Loterij website.

Give people a say let people feel involved in the process and the choices you make as a company. This Dutch lottery involves their customers by letting them choose the good cause they want them to support with their ticket. The customer actually has a say in decisions that are made and thus feels part of the result.



4. Trust the information

Als je maar lang genoeg gewoon blijft, word je vanzelf bijzonder



Figure 36. Promotion from Klaverblad.

Be yourself your initiative and your product are just 'as they are'. You do not need the unnecessary fuss and coating to sell it, because it is good as it is. Klaverblad Verzekering uses this principle as a clear company statement: "If you just keep being regular for long enough, in the end you'll be special". With this they really position themselves as the trustworthy guy next-door or plain Jane.



Figure 37. A quote from Tony Chocolonely.

Share your mistakes be honest about a mistake you made, or share the things that you are still not satisfied about but working on. If you show your vulnerable side, people know that you are honest about the negative things of your initiative and more easily trust the positive things that are stated. Tony Chocolonely admits that they are not 100% slave-free yet, but are working their hardest to get there. This is a nice challenge laying ahead, that consumers like to be part of.

It's Swedish!

Zo'n 30 jaar geleden was er geen Oatly; alleen wat wetenschappers op een beroemde universiteit in een land - dat op de een of andere onverklaarbare reden bekend staat om ijsberen - die als ware onderzoek nerds manieren probeerden te vinden om haver in melk te veranderen door een productieproces te ontwikkelen dat de bèta-glucanen (een groot, wetenschappelijk woord voor oplosbare vezels) in haver lang genoeg intact zou kunnen laten om de wereld compleet gek te maken met heel veel verschillende soorten haverdranken en havercuisines en haverspreads en barista edities die een voorbestemd persoon als jou op een bijzonder mooie dag als deze aan zouden kunnen sporen om, in toevoeging tot het lezen van deze lap tekst, onze producten

Figure 38. Text from the Oatly website.



Figure 39. Picture from the website of Den Eelder.



Figure 40. A sign in a farmers' shop in Wageningen.

Keep it simple make sure everyone will get the message. Complex language or terms can cause confusion, which makes it seem like you have something to hide. Your message should be to-the-point and easily understandable by all. Writing text as if you are having an every-day conversation with your neighbor can be a good approach to do so. Oatly is making good use of this approach and writes all text on their website as if they think out loud; they keep the 'ehh...' and funny side-tracks that are part of an every-day conversation in their written texts.

Show it all Don't hide things that you think do not matter, but be open about everything you do as a company. For instance, the picture of this yoghurt from Den Eelder feels honest because the man in the picture is still wearing his working clothes and the background shows part of the production facility.

Be approachable let people know who you are and how to reach your initiative if they have questions or doubts. If you can be approached and asked about when something is wrong or unclear, you will probably not lie about what you can offer, as this will get yourself in trouble. Figure 40 shows a sign in a farm shop that has a very low key lay-out that does not look too fancy or thought trough (fitting with the previous point of 'be yourself'). They start off by saying they want to introduce themselves: they think it is more than logical to be open about who is producing your food. They end with both

3.3 Design question

The design focus and guidelines will be used to design a solution for De Nieuwe Melkboer. Their initiative will pose as a case study to practically apply the aforementioned design outlines. Working with a case study leads to a more practicable design question within the limited timeframe

of this project. The aim is to ensure a tangible result that can be used as a clear example when communicating project findings and results to the broader audience of Dutch short food chain entrepreneurs.

Design a customer experience for De Nieuwe Melkboer in which the consumer feels close to its food and - producer through indirect producer-consumer contact.

The customer experience should:

1. Create a realization to where your food comes from and how it's made.

- Paint the picture
- Make it relatable
- Don't mask it

2. Let know the impact on nature, human- and animal rights that is made with your food choice.

- Make it tangible
- Share the numbers
- Make it personal

3. Create a feeling of being part of something bigger; working towards a bigger goal.

- Find a common ground
- Make people feel needed
- Make every contribution feel worthwhile
- Give people a say
- Us against them

4. Create trust in the information that is given.

- Be yourself
- Keep it simple
- Be approachable
- Show it all
- Share your mistakes



4. Ideation

This chapter provides insight in the creative process of solution making that is used to tackle aforementioned design question. First, a divergence in solutions was sought by generating a large quantity of ideas. Input from other angles was found by organizing a creative session. Second, the large quantity of possible solutions is converged by combining them into concept directions. A co-creation session with consumer and producer was organized to improve and select aforementioned directions and a couple of rounds of quick prototyping were used to end up with one concept.

4.1 Approach

The aim of the ideation phase is to find an answer to the design question;

Design a customer experience for De Nieuwe Melkboer in which the customer feels close to its food and - producer through indirect producer-consumer contact.

First, a divergence of possible solutions is sought. A creative session with industrial designers is organized to broaden the solution space and other creative methods like brainwriting are used to come up with a high quantity of ideas. Aiming for this high quantity is important to get to the third wave of novel but useful ideas [51] as is displayed in figure 34.

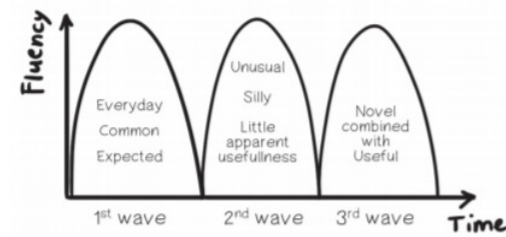


Figure 41. Three waves of ideation.

After this diverging phase ideas are combined to form a more complete set of eight different directions on how to tackle the design problem. These ideas are presented in a co-creation session with the soy-milk user and producer and further build upon. Ideas are combined and improved with feedback from this session and later on evaluated using both the harris-profile and angels and demons method [57] [51]. This has eventually led to two concepts that are quickly prototyped and user tested. A solution was chosen and again quickly prototyped and tested to develop the final concept.

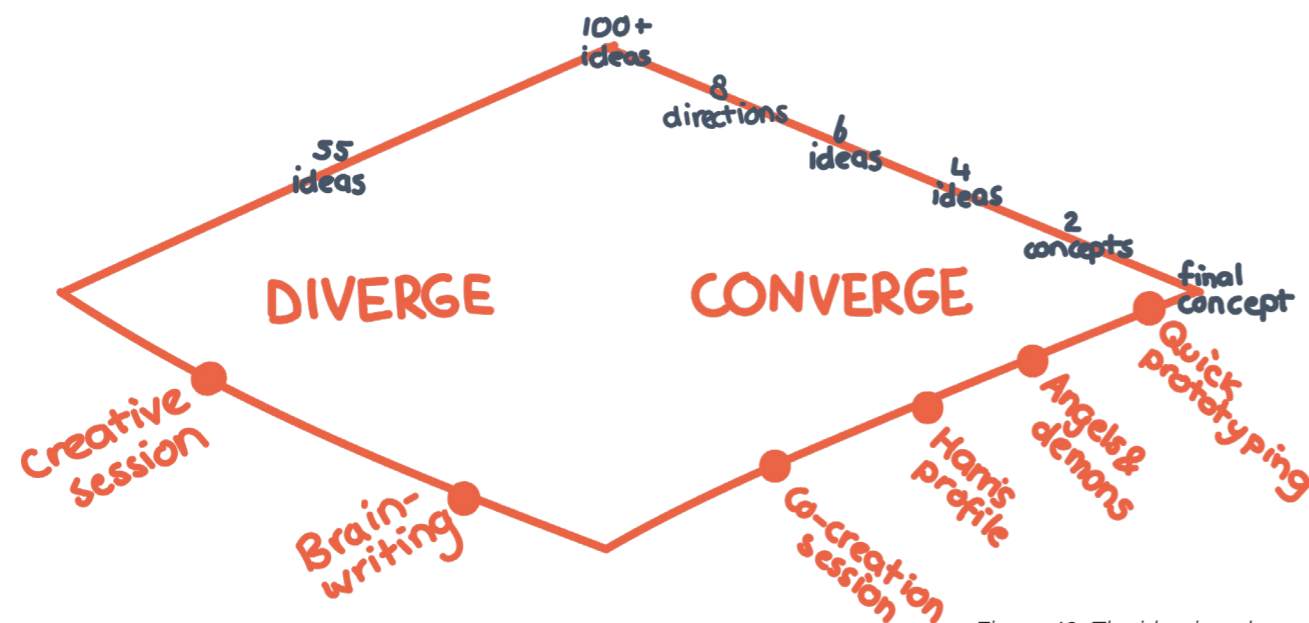


Figure 42. The ideation phase.

4.2 Diverge

Brainwriting

A few rounds of brainwriting have resulted in a high amount of ideas on possible solutions to the design challenges.

Set-up The different customer needs as defined in chapter 2.2.5. are used to create 'How to' questions for different brainwriting exercises. Separately addressing all the different elements of the design question should lead to a more broad and open view to possible solutions and make sure all elements are included in the early ideation phase.

How to...

- ...feel part of a 'we', like you are part of something bigger?
- ...trust the information you get?
- ...know the impact you make on nature, animal- and human rights?
- ...feel like you just got yourself something unique?
- ...be inspired in your food choices?
- ...feel like you have a nice 'treat-yourself' moment when consuming a product?
- ...create a nice 'treat-yourself' moment when purchasing a product?
- ...know who you are supporting with your purchase?
- ...perceive a product as fresh?
- ...know a product is good for your health (does not contain harmful substances)?
- ...receive advice when selecting a product to fit someone's personal needs?
- ...get a product that exactly fits your personal needs?

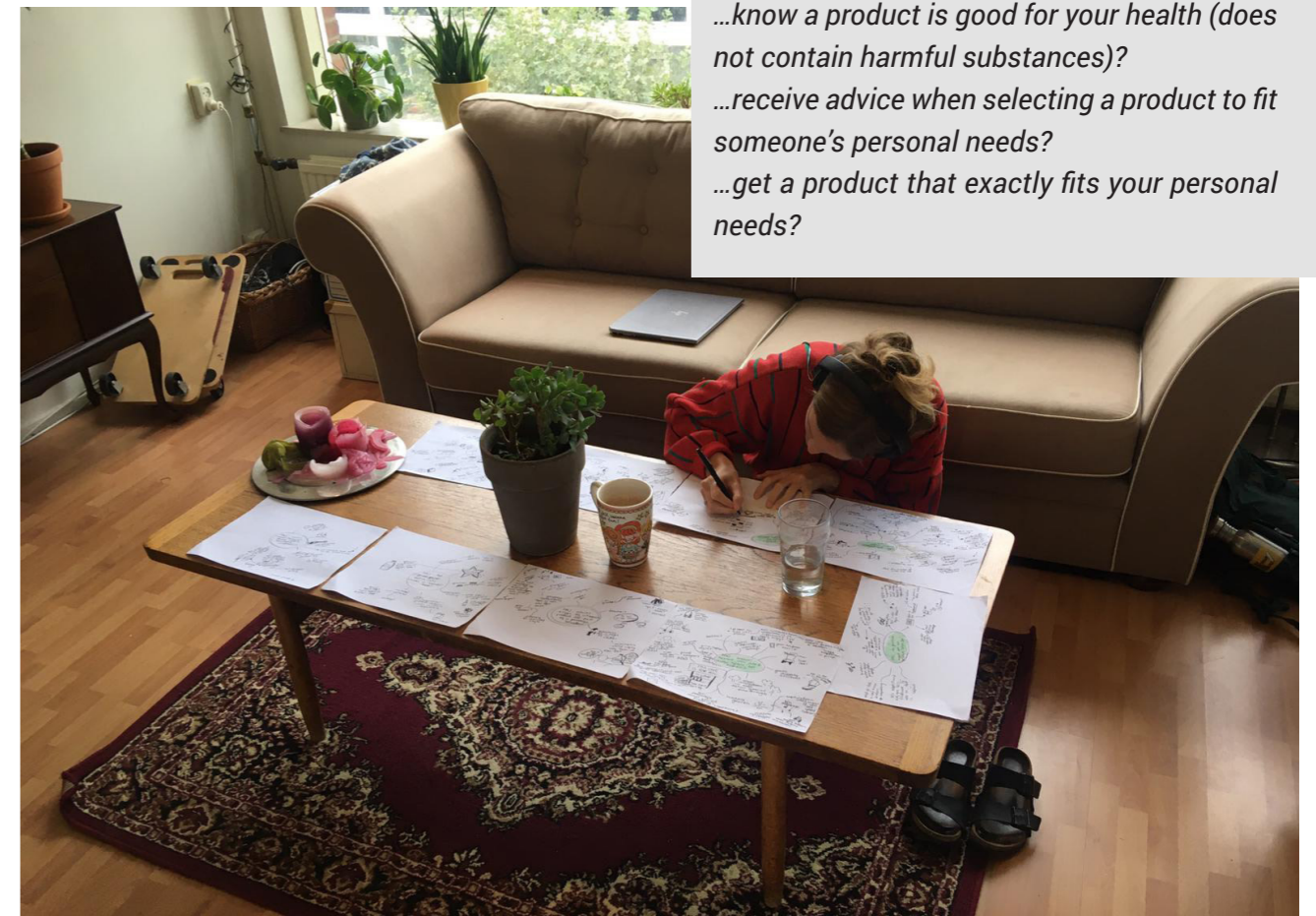


Figure 43. Brainwriting exercise.

Creative session

To explore the design focus and enlarge the solution space, a creative session is organized.

Set-up Six designers were invited to join in a two-hour online creative session on how to bring the consumer closer to its food and -producer.

In this early phase of the ideation process the focus lays on quantity of ideas and getting the

most 'out-of-the-box' ideas to get the author out of the comfort zone. The most promising ideas are selected to get a feeling of what resonates and stuck with the participants and a quick concept will be put together to end with both feet back on the ground. A detailed outline of the session plan, based on methodology from the books Creative Facilitation [51] and Delft Design Guide [57], can be found in appendix I.

Main insights



Worst idea ever: give people a VR experience of when they are gone (e.g. kidnapped) and let them see that nothing changes without their presence: they do not matter.

Insight: it is important to show people why they are valuable, why they count a person.

Idea: give people an incentive to do it again and provide them with a super clear 'thank you' message

Insight: it is important to give people an incentive to make impact and the feedback or reward should be a clear message; avoid giving too much or complex information



Worst idea ever: make the physical surroundings completely inapproachable

Insight: not necessary the act of going somewhere is important, but to have the option to physically go somewhere is a big plus in creating a trusting connection

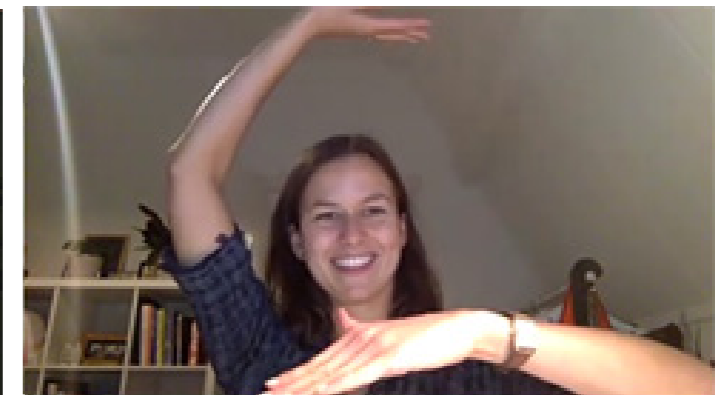
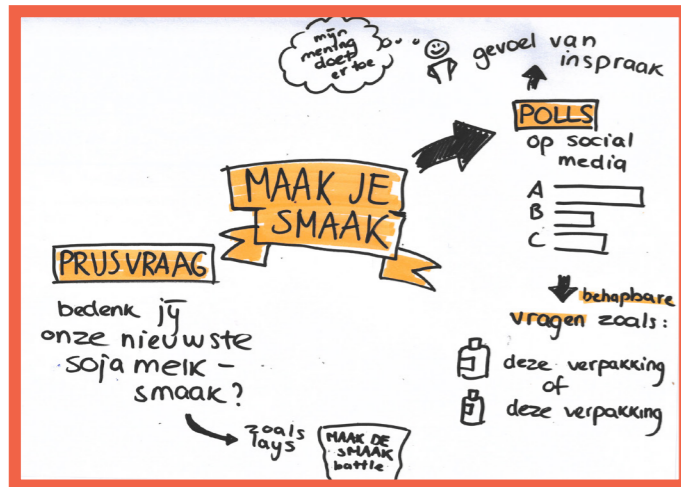


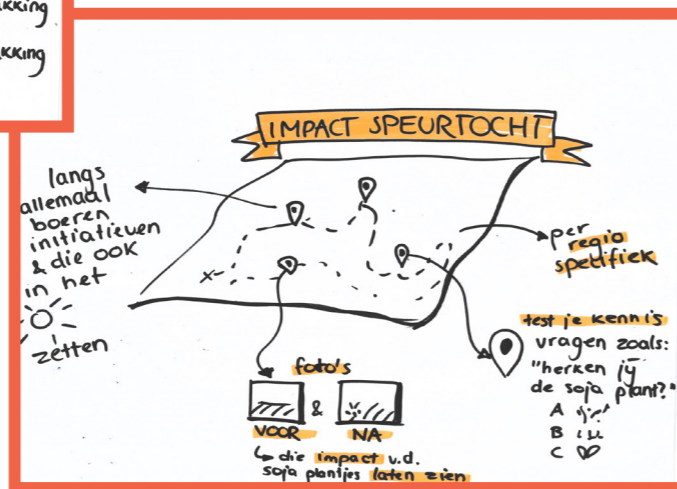
Figure 44. Wrapping up with the participants of the creative session.

4.3 Converge

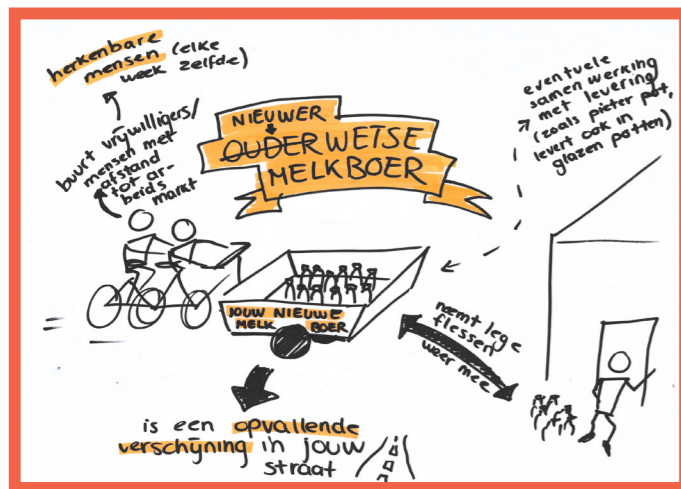
Eight ideas



Idea 1: "Make your taste" have regular polls on social media to have the consumer feel included and relevant



Idea 2: "Impact quest" go on a quest to find soy fields in your region. Questions about your soy knowledge are prompted and 'before and after' photos are shared. You will actually see and connect with where your milk is made from.



Idea 3: "The new(old)-fashioned milkman" a striking appearance with the cargo bike in your street, that takes your empty bottles and replaces them with filled one. Some friendly, re-appearing faces will be delivering your milk at your doorstep.

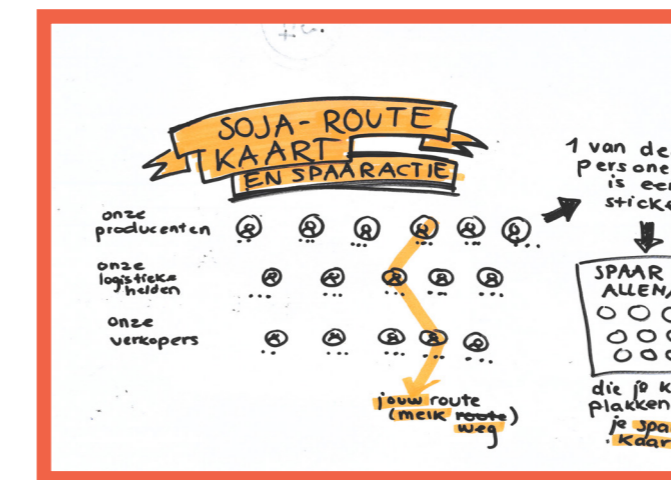
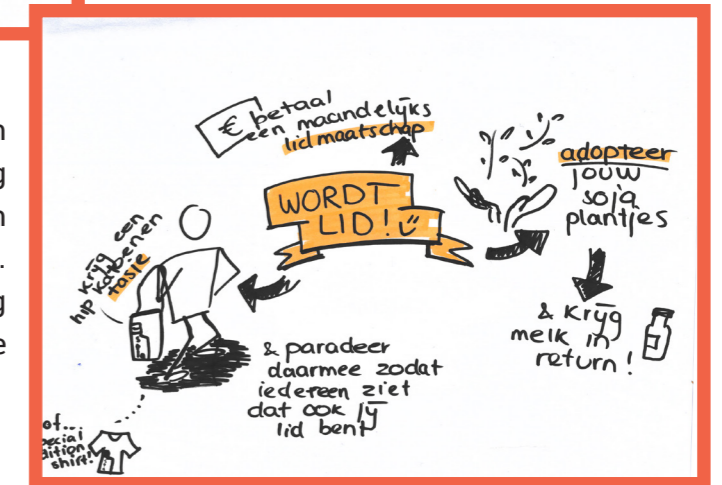


Idea 4: "Get your hands dirty" give consumers the opportunity to volunteer by organizing a festive day. It literally gets them involved and gives a feeling of what it takes to produce a bottle of plant-based milk



Idea 5: "The golden ticket" some packages hide a golden ticket that gives you a free tour in the soy fields and production facility and may even include some workshops on how to make your own soy milk.

Idea 6: "become a member" a long-term involvement with montly payment, getting to adopt your own soy plants, seeing them grow and get the milk they produce in return. You will get a hip sustainable cotton bag as a thank you gift, which you can parade around with



Idea 7: "Soy roadmap & collection game" see the route your milk took and collect the stickers of the farmers, logistic heroes and salesman. Make sure to 'get them all!'

Idea 8: "Thank your farmer" get a postcard with your bottle, write your thank your card, post it and see the farmer receiving it. The bottle says 'did you know the farmer gets twice as much for this soy plant, such a nice way to say thank you!'



Co-creation

A co-creation session with consumers and producers is organized to collect feedback and to build upon the eight ideas as presented in the last section from both perspective. Moreover, to get the client involved in, and feel ownership of, the solution.

Set-up the two founders and communications intern were invited to join, to represent the producer of the product. Besides, three designers were invited to represent the consumer of the product and help with the creative process as creative experts.

The session was focused on creating a high quality of ideas with a high level of concreteness.

The eight ideas are used to build- and iterate upon. Later, the participants are invited to get into a more creative space and generate ideas in two teams. They will select the most promising ideas and generate and present one concept per team.

The two concept that were created are displayed below and can be found in appendix J.



Figure 45. Participants in the co-creation session.



Main insights

Idea put a 'stemwijzer' (voting help) on the package

Insight a vote should represent a value

Idea create a personal record of your own votes, that keeps score on how many farmers you supported so far.

Idea give people a say in what investments will be made

Idea build a platform in which you can see what other customers are supporting with their purchase

Quick prototyping

Evaluating the two concepts

Ideas are combined and revised based on the input gathered in the co-creation session. Later, using the Harris profile method [57] and the Angels and Demons method [51] two directions were selected. The two selected directions are further developed into concepts. These are evaluated using the quick prototyping method [57].

To quickly bring the two concepts to a high level of concretion and see how the consumer would react to - and interact with- the concepts, two quick prototypes are created.



Figure 46. First participant evaluating the prototype.



Figure 47. Second participant interacting with the prototype.

Main insights

The scan&stem label definitely triggers curiosity

"Oh, this actually trigger me a lot!" "The first thing I think: interesting, I can vote for something, contribute to something as a consumer."

"Well, that definitely makes me curious!"

The scan&stem concept gives more of a feeling of making a positive impact on the world than the See your impact

"I would buy it because I think I will make a little bit of impact with this for sure; you are helping with changing or improving the world, just with buying this product."

Points of improvement:

- The threshold to scan the label in the supermarket is high: make sure the label itself is convincing enough for the consumer to take the product home.
- The concept scan&stem is currently creating a 'feeling of a we', but only with the other customers. Being able to visit the farmer creates a 'feeling of a we' with the producer.
- Consumers do not know that there are farmers in the area growing soy. In order to immediately grasp the concept, this kind of context has to be made clear from the start.
- Make sure to have a simple and clear message: e.g. what do consumers vote for when using scan&stem?



Figure 48. Prototypes of the two concepts.

Concept 1: See your impact

The label on the bottle shows a soy field in your region to provide transparency, to educate on how soy grows and to show that it actually grows closer to your home than you might think.

Curiosity and interaction are stimulated by asking the consumer if they know where this specific, artsy photo that states 'De Nieuwe Melkboer was here' could be taken.

The consumer can scan a QR code to check out the 'Milky Way' in their region. When scanning the QR code, the consumer will see a mapped out route in their surroundings that highlights spots in which the Nieuwe Melkboer is present in growing crops. The map includes the names of the farmers and places where you have a nice coffee with their milk. Online they can click and read more on the farmers in their area and how they produce their crops. Offline they can actually walk or bike this route in their region and see for themselves where their tasty milk comes from. For kids, a quest is available, testing their knowledge and searching for 'hidden' places.

Concept 2: 'Scan & stem' (scan & vote)

The label on the product emphasizes that 'this purchase is a vote', to make the consumer aware that every purchase can actually make a difference and generate curiosity. "but how is this a vote?"

The consumer can scan the barcode of the product and speak up ('zijn stem laten horen') to make a positive local impact. He can do so by voting on which positive-impact project De Nieuwe Melkboer should invest in. Once chosen his preference in impact, the consumer can save his preference, so all future scans will automatically vote for the chosen impact category. With every scan you will see the number of votes that are needed changing. This incentivizes to keep voting and shows that many others are also voting: you are part of a movement.

Once a project has enough votes and is executed, the consumer will receive feedback with a picture and short description of it. In this way, the consumer literally sees the impact he has made with his purchase.

Developing the one concept

To develop a concept that is immediately understood by consumers that do not know about the initiative yet, quick prototypes are created. The three main touchpoints of the concept are developed: the milk bottle, voting pages and 'thank-you' message. The prototype is shared with three consumers (either online or offline). After each user test, the prototype is adjusted based on the feedback received.



Figure 49. Evaluation of the first quick prototype.

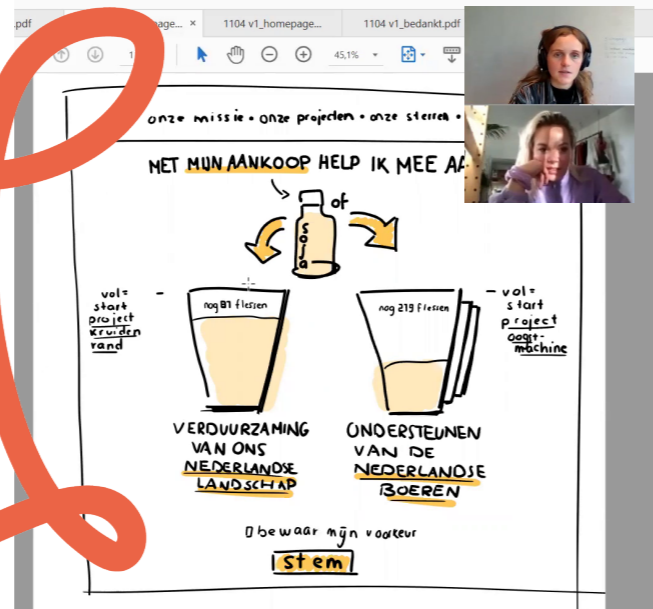


Figure 50. Evaluation of the second quick prototype.



Figure 51. Evaluation of the third quick prototype.

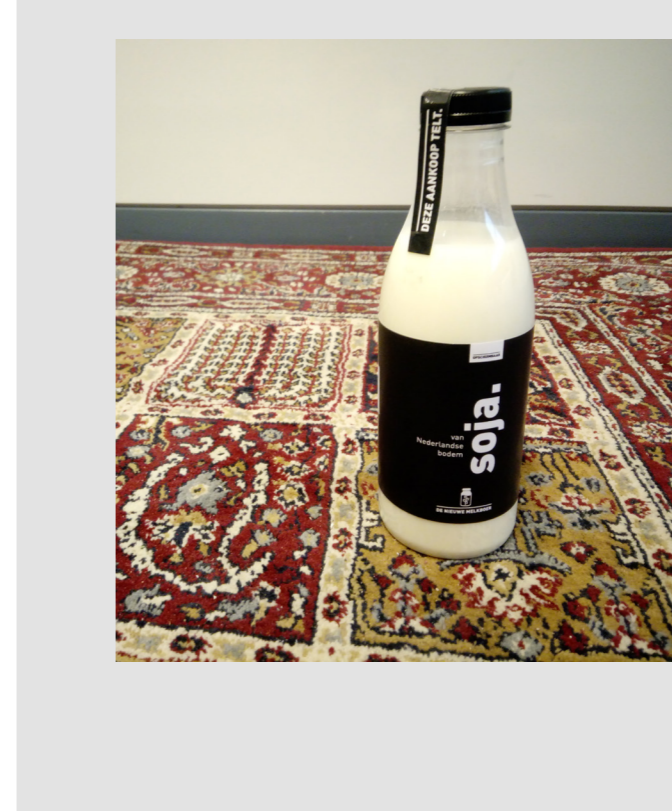
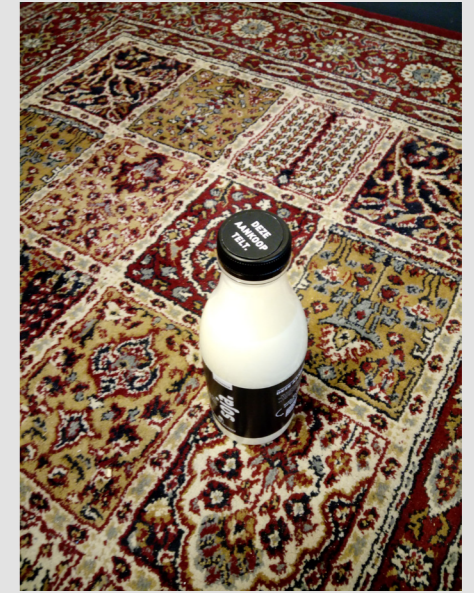


Figure 52. Iteration in bottle design.

5. Concept

This chapter presents the customer experience that is created for De Nieuwe Melkboer, in which the consumer feels close to its food and - producer through indirect producer-consumer contact. First, a user scenario describes the use of the product and service. Second, the touchpoints are deliberated upon in greater detail and evaluated based on the design criteria as defined in chapter 3. To wrap things up, we will zoom out and look at the customer experience as a whole.



Every purchase counts.

Creating awareness by involving consumers in the impact of their food choices.

De Nieuwe Melkboer will relaunch their product with the big statement 'this purchase counts' on the label. An additional service is launched, in which the consumer can see the two positive impact projects that De Nieuwe Melkboer is working on and choose which to which of the projects their purchase will contribute. After, the consumer will stay involved as they receive a picture of the project when completed. The image tangibly states the personal impact of the consumer and thanks them for being part of the mission.



Figure 53. Participant showing her 'purchase'.

5.1 A consumer perspective



1. The consumer will first meet De Nieuwe Melkboer as he runs into the remarkable product at a friends' place or sees a sponsored message on Instagram.

2. Once in the supermarket, the consumer is triggered again by the product on the shelf, reads the label and decides to try it out.



3. At home the QR code is scanned.



4. The consumer decides on his preferred positive project with one swipe. When interested or in need of further information, both positive projects are further explained on the page.

There is a countdown clock to show the amount of purchases needed before the project can be launched.

5. After deciding on a project, the consumer is referred to this page, with a personal thank-you from Bart and Tom. The page displays the amount of times that you have made an impact with your purchase and which projects you have chosen before. The consumer is asked whether Tom and Bart could send them a picture once the project is executed.



6. The consumer decides to leave his email address and a couple of weeks later he receives this message in his mailbox. The picture shows a regional spot, where positive impact is made. It states the amount of impact you made with your personal purchase and the total size of the project. It again thanks you for choosing to making a positive change.

5.2 Consumer touchpoints

The five most crucial touchpoints of the concept are detailed and further developed into a prototype:

1. Label
2. Voting page
3. Extra information pages
4. Result page
5. Project feedback email

This section will describe each of the touchpoints and their relevance in giving the consumer the feeling of closeness with their food- and producer according to the following design qualities (as described in chapter 3):

1. Create a realization to where your food comes from and how it's made.
2. Let know the impact on nature, human- and animal rights that is made with your food choice.
3. Create a feeling of being part of something bigger; working towards a bigger goal.
4. Create trust in the information that is given.

The label

Immediately highlights that there is more to this purchase than choosing a nice milk to drink. Making the choice between one of two things on a supermarket shelf has an influence that goes so much further than that shelf alone.

The consumer realizes that every single purchase helps in making a positive difference in the world.

For the text there is a focus on transparency. The label states in clear,

easy words what the product is all about. Sentences are kept short. The content is designed to cut right to the chase. There is no need to make it any prettier than it is, because the core proposition of this product checks out.

The consumer is offered room to give their opinion on what this positive difference should actually be. They are offered a say in the initiative and thus are part of shaping the mission of the initiative.

Scan the QR code on the label to have a look at the digital prototype!



Figure 54. Prototype of the concept bottle.



Figure 55 Label design. The title reads 'this purchase counts.' On the right side the concept is explained: 'This purchase counts. We are building a new milkyway. The shortest route from the soy plant to you. Local, transparent and plant-based. And every purchase counts. What will you help to build? Scan. And choose the positive project for which this purchase counts. Thank you! Bart & Tom.'

Voting page

The consumer is offered two options of positive impact projects to support with their purchase. This positive impact is divided into two bigger goals, in which the positive project represents a specific, tangible action towards reaching this goal. Thus, the consumer knows what exact impact could be made with his purchase and to what bigger goal this impact contributes.

It is openly communicated how many purchases are needed to realize the project.

Showing the 'half-full cups' highlights that other consumers already contributed towards the projects with their purchase. The consumer is working towards this bigger goal together with others and is thus part of a bigger movement.



Figure 56. With my purchase I will help with ... (left) creating a more sustainable Dutch landscape. Project beehotels on the soy field. 147 left to go. (right) ... supporting the Dutch soy farmers. Project free use of harvesting machine. 421 left to go.



Figure 57. The first extra information page.

Extra information pages

The projects are explained in a manner that is easy to grasp for all. The page only addresses what is important: the relevance and the intended result of the project. Facts are openly shared, for instance with mentioning the 21 soy fields to have bee hotels in figure 57.

The detailed impact that such project can make is further elaborated upon. The consumer will better understand the impact that his purchase could make.



Figure 58. The second extra information page.

Result page

The consumer is thanked for contributing to the mission. The page is signed again with 'Bart & Tom', making it more personal. Furthermore, the question if Bart and Tom could send them a picture when the project is finished, creates a feeling of inclusion in the mission.

The page shows the total personal contribution of the voter and provides an overview of the past projects he or she contributed to, so they can keep track of your actions.



Figure 59. The result page.

Result page

Receiving an update when milestones are achieved makes you feel included in the process of making positive impact. It makes you feel part of the mission.

“Together we again made a positive impact” recognizes that this project is a result of communal efforts. Your personal contribution is recognized by pointing out the amount of herbs that are planted because of your purchase.

The message contains a picture of the positive project. It displays a very recognizable situation as it is not overly Photoshopped into a wonderful but unrealistic image. Such a image immediately paints the consumer a clear picture on the actual impact of the project. The facts on the executed project are shared (e.g. 1250 meters of herbs around our 21 soy fields) and the project is realized somewhere in the consumers' region, thus highly recognizable.

The regional picture will make consumers realize that the food they eat is influencing the landscape close to them. Every action, every purchase, has an effect on your direct surroundings.

The consumer knows exactly what his personal impact is, as they are given the size of their contribution in the project.



Figure 60. The result page.

Other touchpoints

Besides these five crucial touchpoints, there are several other moments in which the consumer will be involved with De Nieuwe Melkboer. These remaining touchpoints will shortly be touched upon in this paragraph.

Instagram used for:

- Keeping followers up-to-date on the positive projects that are completed.
- Targeting new customers – let them know De Nieuwe Melkboer exists.
- Sharing 'behind the scenes' of the processes of creating the soy milk such as harvesting, growing and processing of soy.

The website that contains the following aspects:

- **Homepage** – the highlights of the concept and product.
- **Mission** – relevance of the initiative and explanation of the three phases of impact (as can be found in chapter 7.3).
- **Our projects** – all projects that are executed already and why they are relevant.
- **Behind the milk** – A map of the Netherlands that shows the people and places behind the soy milk: the farmers, the production and sales points. Focus on the farmers and production: when clicking on the map, the consumer sees a picture of the farmland, name of the farmer and size of the land where soy is growing.

The production is done in the in-house facility and should transparently be explained. Preferred media to do so are pictures and videos as they give the consumer a complete

image on how such process works and makes it easier to relate.

• **FAQ** – page that explains in an approachable and to-the-point manner why certain decisions are made. For instance: why is the soy milk sold in a plastic bottle and why do you produce in one spot, thus generate extra travel miles for the soy?

• **Contact us page** – where you can reach someone in a low-key way, like via phone, to get your critical questions answered. Create some time-slots to keep it maintainable.

• **The voting environment** – as described in the previous sections. It is only accessible when scanning the unique QR code on the purchased bottle.

Promotion at events

Being present at events with a freight bike to sell coffee and cappuccino -and of course bottles of soy milk- to create awareness of the brand. The consumers are given the option to vote on a positive impact project with their empty coffee cup. The physical vote lets consumers discover the proposition of the initiative in a different and noteworthy manner.

Open days for loyal customers

This concept uncovers the most loyal customers who scan and vote regularly. They have proven their strong interest and thus should get some extra attention to keep them involved in the initiative. Therefore each month the most loyal customers are invited to visit one of the soy farms or be part of a soy milk workshop at Bart and Tom's farm in Enschede.

In the long term, to mix things up, volunteering days can be organized for people that really

want to make their hands dirty in contributing. Harvest fest days are organized once a year and people are invited to work along in building a bee hotel for the fields. The goal is to show consumers that they are needed and included in the mission.

5.3 The customer experience

The totality of the concept forms a complete customer experience for consumers of De Nieuwe Meklboer that creates inclusion and awareness on the positive impact that the initiative makes. As such, the feeling of being close to your food- and producer is created whilst using indirect producer-consumer contact.

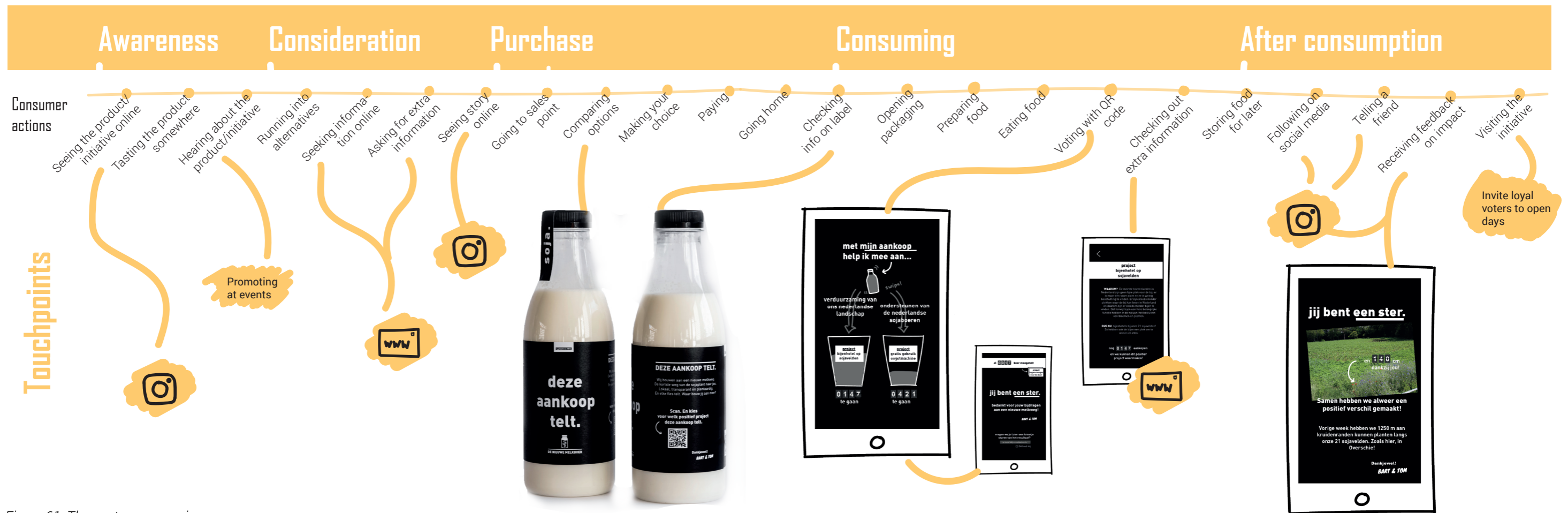


Figure 61. The customer experience.

6. Validation

To determine whether the concept has the intended result on the consumer experience, validation research is performed. First, the concept interaction is simulated by creating a prototype for participants to use and go door-to-door as is displayed in the chapters' background image. Interviews with the participants provided insight in their experience with the product and its service. Secondly, the voting experience is evaluated by simulating the voting scenario on social media.

6.1 Research approach

The validation of the presented concept focuses on the most critical and most risky assumptions in the concept. The following elements are selected:

1. Do consumers feel closer to their food- and producer in this customer experience? – To evaluate whether the design goal as formulated is reached.

2. Do consumers take the time to choose their preferred positive impact project? – Because if consumers will not take the time to scan the QR code and choose one of the projects, a major part of the unique selling points of the product will stay hidden to the eye of the consumer, which would majorly influence the customer experience.

The best way to answer these two questions is to run a pilot with a minimal viable product of the concept as proposed, in which at least 100 bottles are sold. However, this is not within reach due to the limited time and limitations on crowds due to the Corona measures. Thus, the necessity for such a pilot is taken into account in the implementation plan (chapter 7.3) and a different approach, both qualitative and quantitative, is used for a first validation of the concept;

The interaction prototyping and evaluating method from the Delft Design Guide [57] in

combination with a standardized open-ended interview [61] is used to simulate and test how consumers will experience the future interaction with the concept. The results of the interview are transcribed and analyzed by selective coding [61]. The author's conclusions were shared, and agreed upon, with half of the participants to increase objectivity.

A simulation of the voting interaction is created and tested with a large quantity of possible respondents to evaluate whether consumers take time to choose their preferred positive impact. In addition, it provides insight to which type of positive impact the consumer is most interested in.

Of course, the question whether the concept will lead to consumer satisfaction and -sales is also a very relevant one; without the sales, De Nieuwe Melkboer has no existence and thus cannot make any positive impact at all. For now it is assumed that when the design meets the design goal as described in chapter 3.1, the product will indeed be successful in consumer satisfaction- and sales. That is because the design qualities are based on consumer research. However, in reality results of such consumer research do not always reflect the true consumer behavior.

6.2 Interaction prototyping and evaluating

The milk bottle and voting environment are prototyped and the future interaction is simulated using the interaction prototyping and evaluating method as described in previous section. The test includes four participants, all (ex)-students of the TU Delft in the age category 25-30. The narrow target audience is caused by the Corona measures at the moment of testing and will be taken into account during the reflection.

The prototype is personally delivered at the participants' address and the participants are asked to interact with it as if they bought this product in the supermarket. Afterwards, an interview is performed covering the following three questions:

1. What would be a reason for you to buy this product?

2. What would be a reason for you not to buy this product?

3. Is there something you would change about the concept?

To wrap up, the participants are presented a page with 80 words to reflect the product personality and are asked to encircle the words they think fit the concept best and why. Mugge et al. [71] developed a scale to evaluate product personality, consisting of 72 product characteristics. Thus to evaluate the participants perception of the product, this scale was used. Eight extra characteristics were added that reflect the design qualities as intended, to see whether participants will recognize these.



Figure 62. The simulation set-up.

Main insights

The outcomes of the interaction prototyping and evaluating were subscribed and analyzed, reflecting upon the four intended design qualities as defined in chapter 3;



1. Create a realization to where your food comes from and how it's made.

Two of the four participants did immediately link the label with 'deze aankoop telt' to it being something of a sustainable product.

"With 'this purchase counts' big on the label you realize that it is not just about the product, but more about what this product does. It is more about what is behind the product. Lots of people do not even realize that, they do not realize where it comes from." – Chenna

"I see 'deze aankoop telt' on the front. That does sound sustainable, like it is a product that is good for the world." – Gabriëlle

All four mentioned that the label triggers curiosity, so it can be concluded that it does make the consumer think about what is behind the milk: in what way a soy milk could contribute to what kind of cause.

"Deze aankoop telt – if you read that it makes you wonder: why does this purchase count?" – Larissa

"The text does trigger you to check it out and see why the purchase makes a difference. I would even make it bigger and leave out most of the other stuff on the label, make it even more mysterious!" – Koen

The label mentions that the consumer can decide on a positive project, but to make it more easy to grasp what such project is, two of the

participants recommended to put an example picture on the label. *"Sometimes I am too lazy to scan such code. Maybe it helps to put an example on the bottle, so I would know: this is where I could vote for." "If you want to inform people on the impact that is made, I would put an example of the impact on the bottle. You could read that during breakfast, like with that chocolate sprinkles packaging!"*



2. Let know the impact on nature, human- and animal rights that is made with your food choice.

Three out of four participants recognized the impact that they were making with their purchase *"I really contributed to supporting the bee population here in the Netherlands, even in my direct surroundings of Rijnmond!" – Larissa*

The other participant tried out the product at her front door. She did not really consciously make a decision on the impact she wanted to make and just swiped to one side because the voting page told her to. This can partly be explained by the lack of interaction design of the prototype: it reads 'swipe' on top. However, the other participants were asked to sit at their dining table and they did notice the impact that their product could make. This indicates that the place and time of scanning the QR code is important in really getting across the information. Ideally the consumer would scan it when they have some time to read the texts and let it sink in, like at the breakfast table.

To receive the project feedback email, the consumer does have to leave behind his email address first. However, half of the participants did not do that: one did not see that there was such possibility and the other did not like the idea of getting an email, it reminded her of all the spam she receives from other companies. Thus, it would be a good idea to give a more

detailed idea of the personal impact via another channel or to incorporate it a bit more in the current voting pages.

Two participants interpreted the experience as if they, as consumers, were the ones that executed the positive impact project. They really felt ownership of their part in the positive impact:

"Nice, I have planted these swell herbs!" – Koen

"Oh and I did 140 centimeters then, that's quite a lot! That does indeed make me a star of course. That is really nice, that you get that feedback!" – Larissa

This indicates that they are aware of their personal impact. Besides, this feeling of ownership contributes to the next design quality, as they feel like they personally work towards the bigger goal.



3. Create a feeling of being part of something bigger; working towards a bigger goal.

In addition to the two participants that really felt ownership of the impact, three out of four participants positively mentioned one or more of the elements that were designed to contribute to this feeling of being part of something bigger. This indicates that consumers recognize this design quality in the customer experience. The following aspects were mentioned:

"The personal connection that I have with this brand now, because of receiving that picture of Overschie, yeah that would be a reason to buy it again." – Larissa

"I think it is quite inspiring, that every small act helps. En we moeten allemaal ons steentje bijdragen – and we should all contribute" –

Larissa

To have a say in the matter. "People sometimes complain, like: 'I always pay my taxes, but I can never choose what they do with it'. Now, you pay for something, but you can actually choose what you want to do with it." – Koen

"It is nice, because you are building towards something." – Chenna



4. Create trust in the information that is given.

Three participants referred to the initiative as trustworthy or honest during the product characteristics exercise. The fourth did not, however she also did not express any skepticism about the initiative and its promises. Therefore the user test indicates that the consumer would trust the information that is shared with them.

"It looks trustworthy... it feels like it's honest, also because of the information that is given and the things they do, that is what makes it honest. And that they are not trying to sell something that isn't true. The bottle is like: 'Dit is wat het is. Punt. Dit komt uit Nederland. Punt.' – This is just how it is and nothing else." – Gabriëlle

"I think it is honest, approachable and happy. But at the same time also tough. In a weird way, that is also what makes it trustworthy." – Koen

Chenna referred to the concept as modern, hip, masculine, serious and decent. Especially the reference as 'decent' indicates a trust in the initiative.

Other positively received elements

Some elements were very positively received by just one of the participants or did not directly contribute to one of the design qualities. Although these points of feedback were not validated by all users, they do provide insight in which elements positively trigger the user and it would be valuable to further explore their possibilities.

The locality of the impact

One participant got quite excited with the premise of making an impact in your own region: *“Overschie, that’s for me... I pass that place when biking. So maybe now I could even go and have a look at these wildflowers and be like: this is mine!”* – Larissa

The hip look and feel

“I am digging this hip bottle for sure, would be perfect for keeping up a hip image.” – Koen

“This black packaging really does not match the usual milk packages, that have happy cows and fields on them, so it feels a bit less friendly. But it also makes it more contemporary: quite hip and modern.” – Chenna

A positive approach

“The whole experience, with ‘you are a star’, ‘deze aankoop telt’ and things like that, it is nicely positive. Like, I did something good for the world today. Whilst you are just drinking soy milk, something you maybe already did every day”

“Sometimes the tone with stuff like this is more negative, like: why don’t you do this already? But this is more relaxed and uses a positive approach: if you buy this you will have an even bigger positive influence.” – Larissa

Given a right to vote

“Normally I would not scan such a QR code. But if you buy this bottle and you know that now you are allowed to vote, it gives you some sort of voting right. Then I would actually scan it.” – Koen

6.3 Simulating the vote environment

To verify if consumers would take time to choose a preferred positive project, the voting environment is simulated on the Instagram account of De Nieuwe Melkboer, that has a little less than 2000 followers.

Of course this scenario does not perfectly reflect the situation as it would be when purchasing the soy milk. The user is already taking time to look at their phone and there is less of a one on one incentive – you can vote whether you buy it or not, whilst the purchase of a milk bottle in the concept actually gives you a one-time right to vote. However, given the current COVID measures this method is most suited to evaluate the voting environment.

Main insights

26% of the 494 viewers voted for a cause that they would like their purchase to contribute to, showing that there is a group of customers interested in deciding on their own impact. A

pilot test, as proposed in the implementation plan chapter 7, should reveal if this interest also shows during a true purchase situation.

The topics that were presented during the test varied between a more sustainable Dutch landscape, and supporting the Dutch food producers. It included a focus on increasing the insect population, the reduction of greenhouse gases, a focus on the farmer and the local entrepreneur. The test showed that there is some variety in what the consumer finds important, but that all topics are found to be relevant; the relative difference was 26% to 74% for one of the questions and 35% to 65% for the other. Thus, putting such topics against each other seems to work out.

Besides, 14 consumers, which is about 3% of the total, actually took the effort to fill out the ‘extra suggestion’ box. This suggest that a part of the consumers is open to really put in that extra effort and be involved in the decision

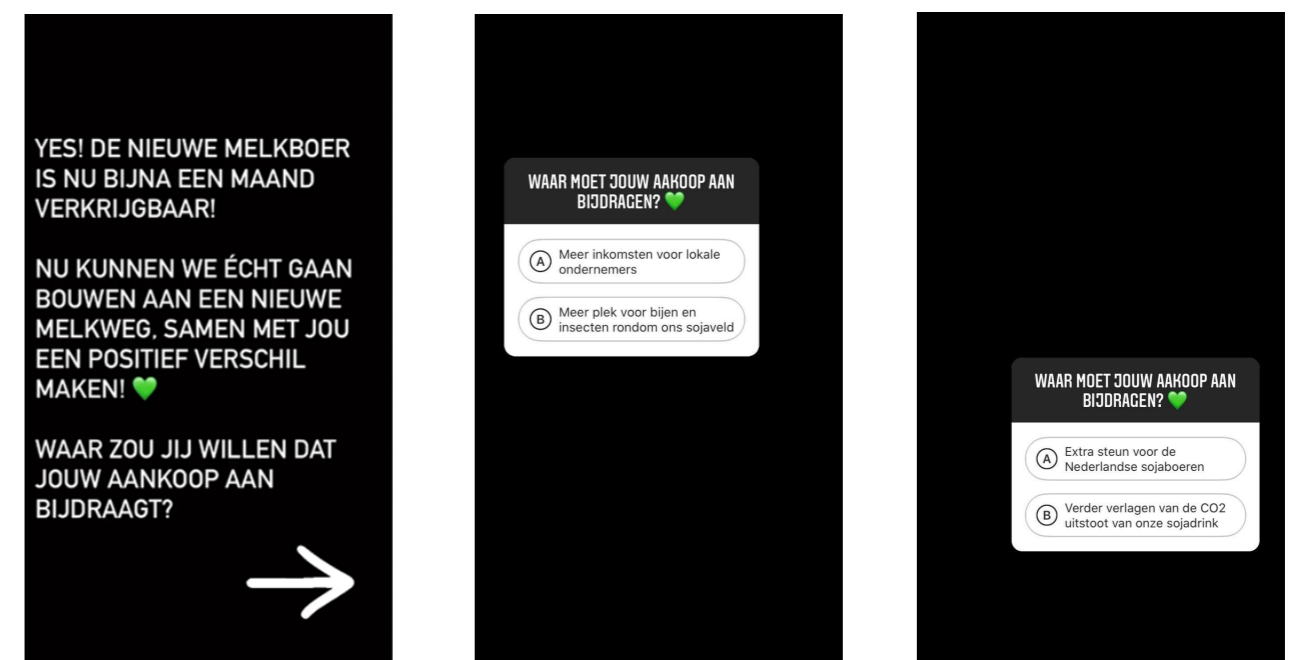


Figure 63. The simulation set-up.

7. Implementation

The concept offers plenty of space to fill it in according to the size, budget and fame of De Nieuwe Melkboer. The chapter describes how the back-end of the product and service has to be organized and how De Nieuwe Melkboer should implement the concept step by step. This plan of implementation will provide answers to the following questions; how should a small initiative, with little recognition and budget, make such a concept happen? How would it grow into the concept as proposed? And lastly, how would this concept look like if the initiative grows into a successful, widely recognized business?

7.1 Approach

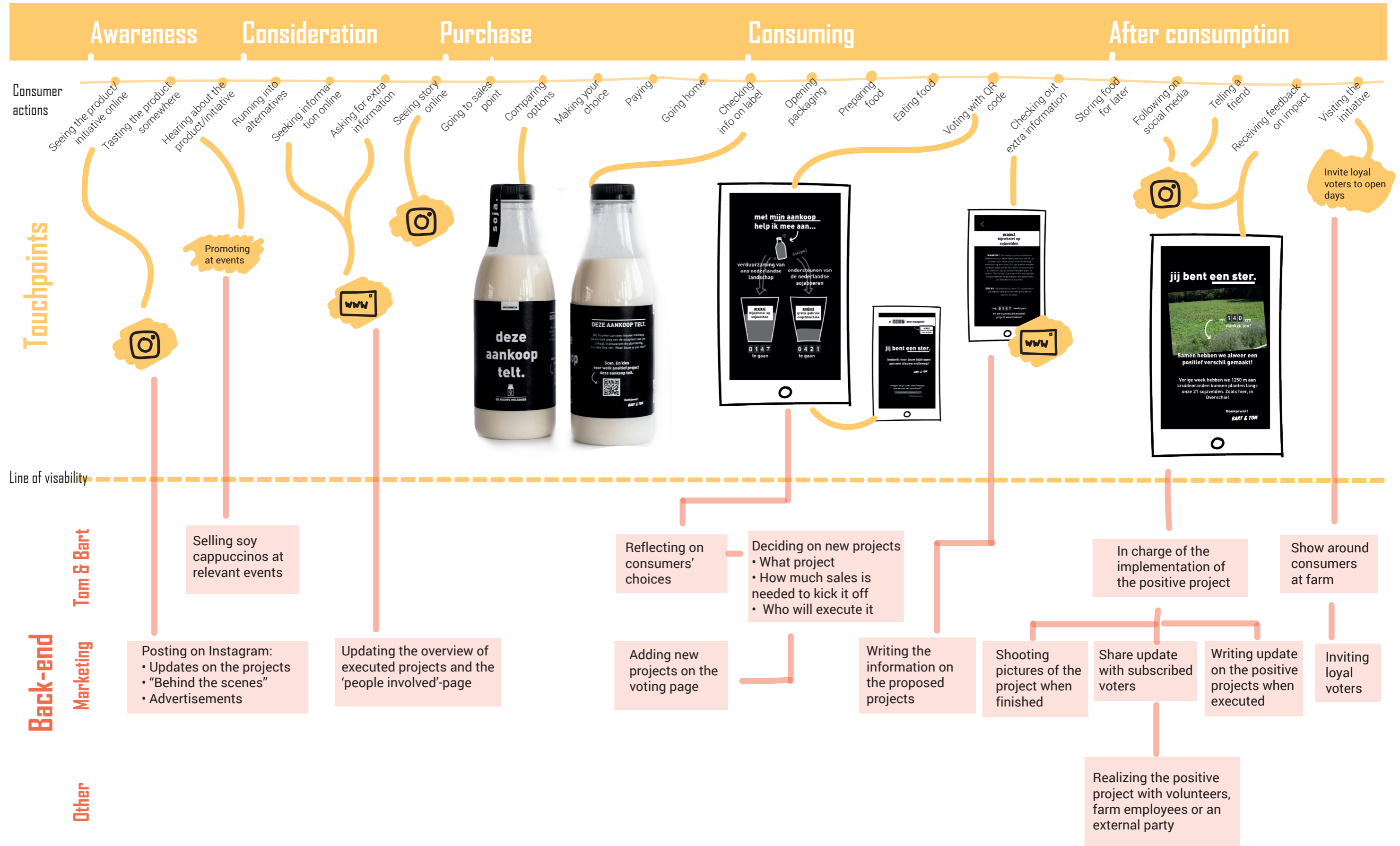
Interviews with De Nieuwe Melkboer about their current operational approach offered insight in the current status and organizational format of the initiative. The future perfect scenario of the initiative (chapter 2.1.6.) created understanding of the desired future state of De Nieuwe Melkboer. Based on that, the back-end processes and four phases of development of the initiative could be formulated. To further specify steps in these phases and processes, both Tom (co-founder) and Tessa (marketing

intern) were contacted on specific elements that match their expertise in the initiative. Based on these conversations a first draft of the implementation plan is created. To validate, the implementation plan and service blueprint are presented to Tom, Bart and Tessa to collect feedback and further iterate on both deliverables.

7.2 Service blueprint

The customer experience as presented in chapter 5.3 requires certain back-end actions from De Nieuwe Melkboer, to be able to deliver upon this experience. The service blueprint on the next page provides an overview of the back-end processes that have to be in place. Furthermore, it defines who should take on which of the responsibilities.

Service blueprint



7.3 Implementation plan

The concept should be implemented in four phases, to allow for further development of the concept and to match the status of the SFSC initiative. The figure below presents the overview of the implementation plan. The next pages provide a more detailed description of each phase and the steps necessary in this phase.

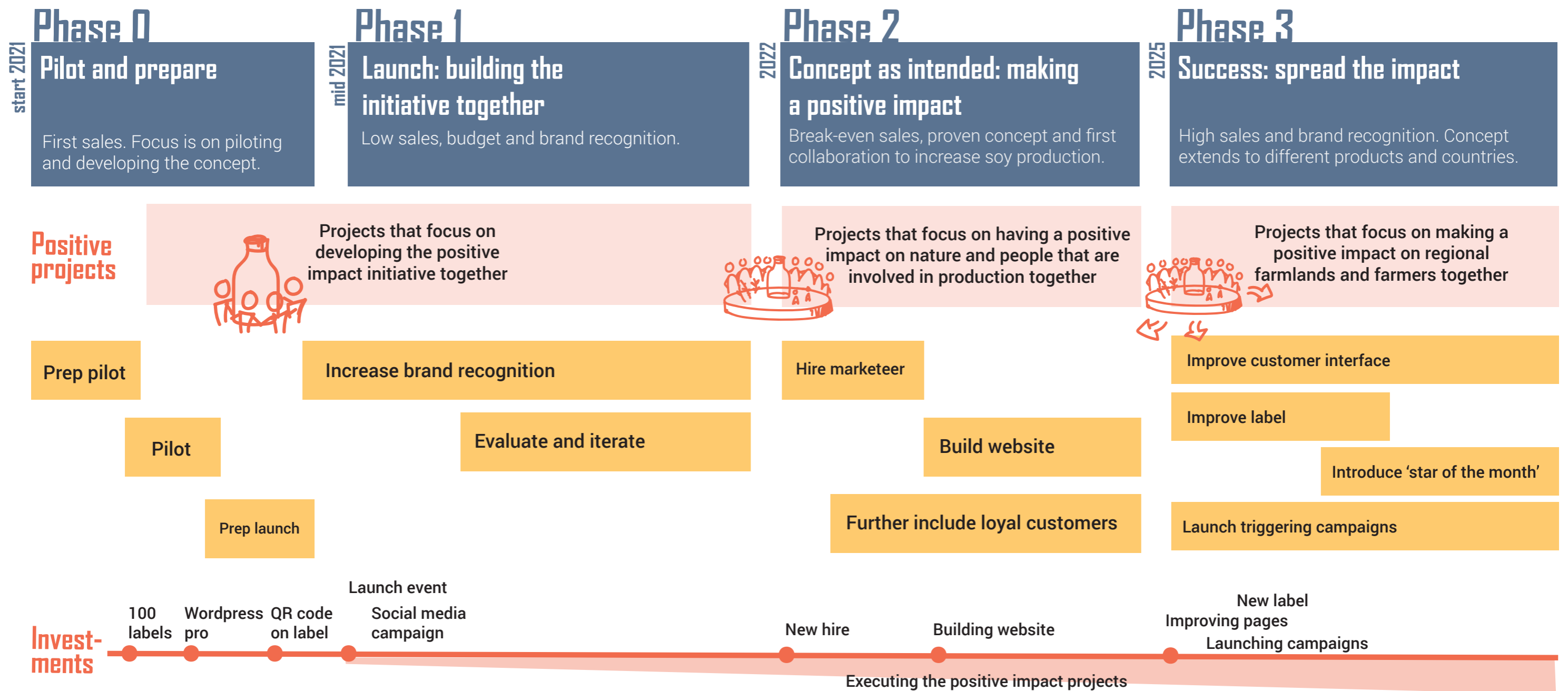


Figure 64. The plan of implementation.

Phase 0

Pilot and prepare

Phase characteristics:

- o Starts just after presenting this report to De Nieuwe Melkboer.
- o The initiative has just launched to its first customers and is still unique with its all-Dutch soy milk.
- o Focus lays on preparing and piloting the concept.

Prepare the pilot

A 100 small cards will be created and printed. The cards include the text that is designed to be on the label of the bottle (chapter 5) and will invite consumers to vote for their preferred impact. Costs should be around €10 for printing. The marketing intern could take up the role of designing and printing the cards. The cards will be attached to the bottles by hand for this pilot.

To update the webpage, which is made in Wordpress, an upgrade to a premium account is necessary for €8 a month. A first version of the voting webpage will be created within the current website. The design of the page is kept simple and gives consumers that scanned the label a choice between two projects. The page will explain both projects clearly according to the designed format and example (see chapter 5). This should take up to one day of time from the marketing intern.

Two positive projects will be chosen for this pilot test, that focus on building the initiative. A thorough description on how these projects should look like can be found under 'positive projects' in the next section. After casting its vote the consumer will be notified that this vote is still part of a pilot, but that their opinion

is much valued and that they can follow De Nieuwe Melkboer on social media to stay up to date on the actual launch of the service.

Pilot test

The pilot test will take place on a farmers market in e.g. Amsterdam or Rotterdam. At least one of the founders is present to sell the soy milk that includes the small cards which refer to the voting environment. The salesman will get some direct feedback on the added card with the QR code: do people notice it, do they respond to it and if yes, how do they respond to it? After the market day, the total amount of sold bottles can be compared to the amount of people that scanned and the amount of people that voted for their preferred positive project. First bugs in the functioning of the pilot voting pages can be pointed out.

Prepare the launch

To prepare for launch the pilot test will be critically evaluated and the concept will be adjusted and iterated upon. The website will be updated based on the results of the pilot test. Tom and Bart will decide on a couple of possible positive projects based on the preference of the consumers during the pilot and the current status and whereabouts of the initiative.

With the next order of labels for the soy milk bottles, the new design for the labels is implemented along with a unique QR code per label. These unique QR codes can be printed at the company where De Nieuwe Melkboer currently orders their labels, for a one-time investment of €85 per order.

Phase 1

Launch: building the initiative together

Phase characteristics:

- o Little brand recognition.
- o Low sales numbers.
- o Limited budget.
- o Building towards the initiative as intended.
- o Target audience: early adopters.

Positive projects

In this first phase the positive projects will contribute to the further development of the initiative as intended. The initiative is in development and the most important thing is to keep developing the initiative to become this positive-impact soy milk they are planning to be. Thus in this first phase of development, the positive impact is indirectly made, by helping to build the initiative which has the core proposition of making a positive difference in the Dutch food system.

The consumer can choose which part of the development of the initiative has their priority. For instance, De Nieuwe Melkboer is currently working on finding a more suitable packing for their soy milk. Next to that, they are developing a product from the Okara, the residue of making the soy milk, which would increase the circularity of their product. Thus at this point, two suitable positive projects would be 'a more sustainable packaging' and 'decreasing production waste'. Both are aspects that Tom and Bart want to develop and invest in anyway and therefore created room in their budget for. Yet now they include the consumer in the process by being open about the projects they are working on and explaining their importance. The consumer

realizes that purchasing the milk will help to further develop one of these projects and that their opinion is taken into account. On the other end, Tom and Bart will gain insight in the aspects of their positive impact product that are found to be most important by their consumers. So all in all, this phase will focus on making a positive impact together through further building the De Nieuwe Melkboer initiative.

Increase brand recognition

As the product and initiative are still hardly recognized, this phase focuses on putting both De Nieuwe Melkboer and their proposition with 'deze aankoop telt' on the map. The following elements are part of that:

- Launch events will be organized, where Tom and Bart personally sell their renewed product and service. The events will take place in major cities in the regions where De Nieuwe Melkboer sells their product at that moment.
- A paid campaign on Instagram will be launched.
- De Nieuwe Melkboer will be present at events with a freight bike. They sell coffee and cappuccino – giving buyers the option to vote on a positive impact project with their empty coffee cup to create awareness of the brand and have the interesting touch of physically voting with your purchase.

Evaluate and iterate

In this phase the concept will be optimized to better fit the consumers' wishes and increase its usability. It is valued whether the concept benefits outweigh the costs. Besides, the following four questions will be reflected upon:

- **How many customers scan the soy bottle to share their preference?**
 - o More than half? Good, people like to be involved in the concept.

o Low percentage? Check the sales numbers: does the concept seem to be well received in sales? Ask a sample of customers to give their feedback on how they perceive De Nieuwe Melkboer and what aspects contribute to that. Perhaps some consumers do like the service and its premise, but just do not feel the urge to get involved in it themselves. Nevertheless, it can still be one of the reasons they have decided to purchase this product. A possible set-up for these tests can be found in chapter 6.

• **How many of the consumers that scan the QR code are repeating scanners and how many are one-time scanners?**

o High percentage of repeating consumers to scan the bottle? Good, people like to stay involved in the concept.

o Low percentage of repeating scanners? How are the sales numbers? Does it seem like the consumer does like the concept and service but not feel the urge to keep being involved? Reflect on factors that will give the consumer an incentive to come back, such as the speed in which projects alternate and whether this provides enough variety to the consumer.

• **How many of the consumers filled out their email address to be kept up to date?**

o High percentage? Perfect, now you have a way to reach your interested customers.

o Low percentage? Change the feedback channel. Look at the possibilities of giving feedback when scanning the next bottle, or asking for the consumers' contact details at another place or time in the voting page sequence. Also, choosing a more low-key medium like Instagram to provide feedback can be an option.

• **Which categories and projects are most often voted for?** What can you learn from that? Create a future vision, based on the consumer

preference, that describes which positive impact you want to make with your initiative now and in the future.

Phase 2

Concept as intended: making a positive impact

Phase characteristics:

- o The consumer has proven its interest in the concept.
- o There is room and trust to make investments.
- o A group of early adopters is familiar with the concept and the early majority is now reached.
- o Sales numbers are high enough to break even.
- o The initiative as intended is developed: De Nieuwe Melkboer is now a local, transparent soy milk company that offers the shortest way from the soy plant to the customer. The phase from start-up to scale-up.
- o De Nieuwe Melkboer is now collaborating with Dutch farmers to grow soy.

Positive projects

In this phase the focus is no longer on building the initiative and as such making a positive impact. The initiative has reached a level of maturity and is now ready to make a positive impact on all direct stakeholders in processing the milk, including the farmlands that are involved. Projects focus on themes such as increasing biodiversity on the soy lands, decreasing the greenhouse gases emitted for each bottle of soy milk and supporting local farmers.

The projects will increase in size, as the amount of sales rises and thus the amount of purchases needed before realizing a project can rise along. The projects will fit consumers' wishes better and better, as De Nieuwe Melkboer receives

constant feedback on the preference of the consumers.

Invest in the website

As the company matures, a proper website will be built to reflect their mission and brand values. The content of this website is elaborated upon in chapter 5. According to the budget and specific needs of De Nieuwe Melkboer, they can either hire a (student) freelance web developer or decide to outsource it to a web development company.

Hire a marketer

De Nieuwe Melkboer will first hire a part-time marketer and when needed shift to fulltime. The marketer is responsible for the following tasks:

- o Making suitable pictures of the finished projects.
- o Writing updates on projects and share them on the website, the social media channels and with the consumers that subscribed after voting.
- o Writing content for the website to further improve transparency, such as information on the soy farmers and the production processes for the soy milk. In addition, the marketer will write about decisions that are made and how these decisions contribute to the initiative's impact.

Extra focus on including loyal voters

The voting service has been launched a while, so extra effort will be made to involve consumers that show high interest in being a part of the mission. First to thank them, as they are an important part in the initiative's success. Second, to keep them interested in staying involved. The loyal consumer can be invited for

open days, workshops or volunteering days, as mentioned before in chapter 5.

Phase 3

Success: spread the impact

Phase characteristics:

- o High sales numbers: profit is made.
- o The brand and its concept is well known in the Netherlands.
- o The target audience is passed the early majority and going into the late majority.
- o There is room for investments.
- o De Nieuwe Melkboer is now also producing other plant-based drinks. Franchises in other European countries are launched.

Positive projects

Projects will have a positive impact further than the direct involved landscapes and people; they help restoring and supporting other farmlands and farmers as well. All involved parties, such as consumers and farmers, can propose projects to be included in the positive impact service.

Improve customer interface

The consumer interface is improved, so that the consumer gets a better picture on their soy's influence on the natural surroundings and involved stakeholders. A clear overview of all the projects that the consumer ones contributed to is provided. The voting environment is improved to be more intuitive.

Improve label

The label is redesigned, to contain extra information in a hidden layer. This can be realized in a double-layered label or by including a design on the inside of the label, which will appear once the bottle gets emptied

further. The hidden layer will counterpart the black, simplistic label and paints a vivid and informative picture on how the soy grows, is produced. It will also provide an example of the positive impact that is made.

Introduce 'start of the month'

Every month someone involved is chosen and put forward to be 'this month's star...'. This will be presented as an extra sticker on the bottle and on the social media channels. The aim is to thank this person for its contribution to the new Milkyway and to share one of the faces behind the initiative with all consumers.

Triggering campaigns

De Nieuwe Melkboer has enough fame to launch triggering campaigns using slogans like "waar tel jij aan mee" (what do you want to contribute to) or "tel ook mee" (count along) to increase the awareness of the positive impact a bottle of milk could make. Although the main aim is to trigger consumers' awareness, the tone of the campaign remains positive. De Nieuwe Melkboer will do so by focusing on offering a solution instead of blaming bad alternatives.

8. Implications

This chapter shares recommendations for further improvement of the concept and for future research and development of this project to better serve the needs of Dutch SFSC entrepreneurs. After, the effect that this project can have on the Dutch food system and its main stakeholders will be reflected on. Firstly, this will be done by focusing on the case study and the possible effects when De Nieuwe Melkboer realizes the concept solution. Secondly, the broader implications of the case study are discussed by reflecting upon its effects on the project goal.

8.1 Recommendations

De Nieuwe Melkboer

This section provides recommendation for De Nieuwe Melkboer on how to improve the concept as proposed in chapter 5.

Extra focus on what's behind soy milk

The concept focusses mostly on creating awareness about the impact of soy milk. However, the current approach could be too big of a jump for the consumer. Most consumers will not realize that the milk comes from soy plants which grow here in the Netherlands. The label does state 'soy milk from Dutch soil' but some extra focus on getting this message across and painting a better picture of the context behind the soy milk is recommended. This could happen by having a picture of a soy field, and perhaps the location of it, added to the bottle. Otherwise it can be included in the first page of the voting environment.

Also, the positive projects that are presented could use some extra visual context. This can be included in the information pages of said projects.

Other communication channels to share consumers' impact

The notification that consumers receive when the project is executed, is in the current concept only acquired when the consumer fills out their email address. The results of the first pilot should indicate the percentage of voters that leaves their email address to receive this feedback photo. However, it is assumed that part of the voters will not leave their contact

details and therefore an exploration of different options of notifying consumers on executed projects is recommended. Especially because this page offers the most tangible and personal insight in the positive impact that the consumer has made.

Improving the label

The current label design is well received in the user test and the product characteristics exercise shows that it fits the brand values of De Nieuwe Melkboer. The label could be further improved by adding an example of a positive project on the label, to give the consumer more of an idea on what is behind the QR code. This could give an extra incentive to actually scan the code. Furthermore, the current design uses a seal on the top of the bottle to indicate that it contains soy milk. It should be evaluated whether adding this seal is reachable within the time and budget limitations of De Nieuwe Melkboer. Otherwise, the indication of 'soy' should be placed instead of the 'opschuimbaar' mark in front of the bottle, next to the big eyecatcher of 'deze aankoop telt'.

Further focus on awareness creation

The consumer experience as presented in chapter 5 has its main focus on the phases of purchase, consumption and involvement after consumption. The awareness phase of the customer experience deserves some extra thought; the consumer will most likely not be triggered enough to actually break out of its buying habits and purchase this unknown soy milk brand, by only seeing the label in the marketplace. Also, when a consumer purchases the product, it would be beneficial

if the consumer is already aware of the voting service that comes with it, as it could increase the amount of purchases scanned.

The concept offers quite some space for catchy social media campaigns or visibility at certain events and mentions some possibilities in the implementation plan in chapter 7. However, an internal ideation session is suggested for De Nieuwe Melkboer to create a more detailed plan for creating awareness.

Iterate on the voting pages

The wireframes of the voting environment are thought through. However, converting these wireframes into short and clear texts can still use some extra effort. Some rounds of iteration and development with a couple of participants, that are unfamiliar with the initiative, are recommended to get the text sharp and precisely interpreted as intended.

Short food supply chain entrepreneurs

Pilot and feedback of the handout

The usability of the handout for SFSC entrepreneurs should be piloted by having a couple of entrepreneurs use it as a tool for defining their customer experience. The way the entrepreneur uses the handout will reflect if everything is clearly explained. The results of the participants after filling out the steps can be analyzed. A qualitative interview in the end should provide insight in which parts were easy to use, which parts were unclear and which steps and guidance were still missing in the handout.

Redesign of the handout

Based on insights from the pilot, the needs of the SFSC to overcome the barrier of getting his additional value across in indirect contact with its consumer should be reflected upon. Based on that, the handout should be redesigned to better fit the needs of SFSC entrepreneurs in coming up with solutions.

Besides, the information should be extended to better match all different types of SFSC initiatives. The current version of the handout only provides best practices on the customer needs that were selected for the case study. Further research should additionally uncover best practices that match the other customer needs. Moreover extra guidance would be preferred in between the second and third step of the three-step approach. This step includes solution making, for which the author used creative thinking methods and design evaluation methods, which are not yet included in the handout.

8.2 Effects

Effects of the concept being launched at De Nieuwe Melkboer

This section will touch upon the effects that the proposed solution for De Nieuwe Melkboer could have when launched. It does so by reflecting on the three main stakeholders that the solution was created for: the consumer, the SFSC entrepreneur and our planet and society.



- It offers a way to differentiate yourself from the conventional food-chain products by getting across the additional value of your product.
- It is creating a loyal group of involved consumers.
- The entrepreneur keeps collecting feedback on what his consumers want, thus has highly valuable information on how to respond to his consumers' needs.



Consumer

- The solution will create awareness about the production of our food: that all our food has to grow somewhere and that every food purchase influences the people and landscapes involved.

This awareness is important in changing consumer behavior and could effect other food choices too, since the consumer now realizes that every purchase counts.

- The consumer feels good when buying from De Nieuwe Melkboer, as they get positive feedback on -and recognition for- the positive impact that is made with their purchase.
- Consumers will experience more control in the impact they make with their food purchase, as the initiative is transparent in this.
- It makes consumers feel a part of something, feel included in a mission, as they are working on something positive with others.



- The concept creates room and budget to have positive impact as a SFSC initiative, because the positive impact becomes a main part of the proposition; it is part of the product you are selling.
- It will generates awareness amongst consumers that food has to grow somewhere and thus highly impacts our surroundings. This awareness offers opportunity for the consumer to make more sustainable choices.

Wider project implications

Reflecting on the research question, this section is elaborating on the effect of the case-study on **equipping SFSC entrepreneurs in the Netherlands in overcoming one or more of the barriers in setting up a SFSC.**

After researching the different barriers that SFSC entrepreneurs in the Netherlands face, the barrier of scaling-up was selected as an area of focus. Specifically, the decrease of personal contact between producer and consumer when scaling up is identified to be a challenge. The challenge of having the consumer feel close to its food- and producer, whilst only having indirect consumer-producer contact, is defined.

A case study is selected to come up with a concrete, tangible solution for posed challenge. This has resulted in a customer experience design for De Nieuwe Melkboer, in which the consumer is involved and aware of the positive impact they make with their food choice. The solution is fitted to De Nieuwe Melkboer, but is not restricted to that. It provides an inspiring example for SFSC entrepreneurs in;

- How a solution to this challenge could look like. Besides, the concept as proposed offers enough room for adjustments to fit other initiatives.
- A way of approaching this challenge by looking at the steps that are taken in this project to come to a solution.

Next to that, the insights of consumer research and best practices are very valuable for all food entrepreneurs.

For the purpose of **better equipping SFSC entrepreneurs in dealing with the decreasing consumer-producer relation when scaling up**, a handout is made. This handout offers relevant

insights in the consumer needs when buying in a short food chain. Besides, it provides guidance in how to meet those needs by sharing the steps that were taken to come up with a solution in the case study. Each step includes a question to trigger the entrepreneur to reflect on the proposition of their initiative. The aim of this reflection is to let the entrepreneur have a better grip on meeting consumer demand.

Following the request of De Nieuwe Melkboer, a detailed version of the concept solution is not presented in the handout, because they would like to have the possibility of launching the concept before sharing it with a broad audience.

If this hand out can help some of the SFSC entrepreneurs in the Netherlands to overcome one of the barriers they face, it will help SFSCs to have a stronger position in the market. Although this one study will only have a nominal effect, it is one part of the puzzle in having more SFSC initiatives in the Netherlands. So that in the end, the Dutch consumer can become more aware, the food system more balanced and the farmer more supported - and as such, our food can be produced with respect of its surroundings.



Figure 65. The handout.



Tel jij mee?

Sources

- [1] Korthals, M. (2018). *Goed eten : filosofie van voeding en landbouw*. Nijmegen: Uitgeverij Vantilt.
- [2] Robinson, Guy & Carson, Doris. (2015). *The Globalisation of Agriculture: Introducing the Handbook*. 10.4337/9780857939838.00006.
- [3] O'Kane, G. (2012). What is the real cost of our food? Implications for the environment, society and public health nutrition. *Public Health Nutrition*, 15(2), 268-276. doi:10.1017/S136898001100142X
- [4] Viviano, F. (2017). This tiny country feeds the world. *National Geographic*, September 2017 issue.
- [5] Monteny, A. & v.d. Schans, J.W. (2015). *Verkennd onderzoek kansen opschaling korte voedselketens Rotterdam*. Rapportage oktober 2015.
- [6] Muilwijk, H. et al. (2018), *Voedsel in Nederland: verduurzaming bewerkstelligen in een veelvormig systeem*, Den Haag: PBL.
- [7] F.Galli, G. Brunori (eds.) (2013) *Short Food Supply Chains as drivers of sustainable development*. Evidence Document. Document developed in the framework of the FP7 project FOODLINKS (GA No. 265287). Laboratorio di studi rurali Sismondi, ISBN 978-88-90896-01-9.
- [8] Vijn, M. (2020, April 15). Wat Corona ons kan leren over een robuust voedselsysteem. Retrieved at 21/05/2020 from <https://weblog.wur.nl/metropolitan-solutions/wat-corona-ons-kan-leren-over-een-robuust-voedselsysteem/>
- [9] De Snoo, E. (2019, December 23). Schouten: dichten van kloof gaat ook over waardering voedsel. Retrieved at 30/04/2020 from <https://www.nieuweoogst.nl/nieuws/2019/12/23/schouten-dichten-van-kloof-gaat-ook-over-waardering-voedsel>
- [10] Cleantech Tomorrow. (2019, September 26). Tafel voedsel & landbouw buigt zich over korte keten. Retrieved at 30/04/2020 from <https://www.cleantechtomorrow.nl/nieuws/695-tafel-voedsel-landschap-bedenkt-oplossingen-korte-keten>
- [11] Grobden, Tom. (2020, May 4). Phone interview.
- [12] Gladek et al. (2017). The global food system: an analysis. Retrieved at 05/05/2020 from <https://www.metabolic.nl/publication/global-food-system-an-analysis/>
- [13] Ruben, R., Slingerland, M. A., & Nijhoff, G. H. (2006). Agro-food chains and networks for development: issues, approaches and strategies. In *Agro-food supply chains and networks for development: Proceedings of the Frontis Workshop on Agro-food Chains and Networks for Development*, Wageningen, The Netherlands, 6-7 September 2004 (No. 14, pp. 1-25). Springer.
- [14] Van Lustgraaf, R. (2019, September 24). Kant- en klaarmaaltijden vliegen over de toonbank. Retrieved 27/05/2020 from <https://www.trouw.nl/nieuws/kant-en-klaarmaaltijden-vliegen-over-de-toonbank~bd3e1248/>
- [15] Sawe, Benjamin Elisha. (2018, January 17). Countries Who Drink the Most Milk. Retrieved from <https://www.worldatlas.com/articles/countries-who-drink-the-most-milk.htm>
- [16] M. de Krom & H. Muilwijk (2018), *Perspectieven op duurzaam voedsel. Pluriformiteit in debat en beleid*, Den Haag: PBL.
- [17] Baarsma, B. (2019). Essay Barbara Baarsma: 'Kunnen we meer lokaal eten?'. *Het Parool*. Retrieved at 30/04/2020 from <https://www.parool.nl/nieuws/essay-barbara-baarsma-kunnen-we-meer-lokaal-eten~b167bfda/?referer=https%3A%2F%2Fwww.google.com%2F> .
- [18] Conner, D., Becot, F., Hoffer, D., Kahler, E., Sawyer, S., & Berlin, L. (2013). Measuring current consumption of locally grown foods in Vermont: Methods for baselines and targets. *Journal of Agriculture, Food Systems, and Community Development*, 3(3), 83-94.
- [19] Timmons, D., Wang, Q., & Lass, D. (2008). Local foods: Estimating capacity. *Journal of extension*, 46(5), 1-11.
- [20] Van Zessen, T. (2020). *Plantaardig alternatief ligt gevoelig in de zuivel*. Serie vegan versus vee.
- [21] Sanders, L. (2012). *Convivial Toolbox: Generative Research for the Front End of Design*.
- [22] van der Schans, J. W., & van Wonderen, D. (2019). *Korte ketens in Gelderland* (No. 2019-072). Wageningen Economic Research.
- [23] CBS. 2020. *Landbouw; vanaf 1851*. Retrieved at 15/09/2020 from <https://www.cbs.nl/nl-nl/cijfers/detail/71904ned>
- [24] Taskforce Korte Keten. *Waarom de Taskforce Korte Keten?* Retrieved at 16/09/2020 from <https://taskforcekorteketen.nl/over/>
- [25] CBS. 2016. *Minder landbouw, meer natuur*. Retrieved at 22/10/2020 from <https://www.cbs.nl/nl-nl/nieuws/2016/08/minder-landbouw-meer-natuur>
- [26] Muilwijk, H., Westhoek, H. J., & Krom, M. (2018). *Voedsel in Nederland: Verduurzaming bewerkstelligen in een veelvormig systeem*. Planbureau voor de Leefomgeving (PBL).
- [27] Monsanto. (n.d.). *A Brief History of Agriculture*. Retrieved at 15/10/2020 from <http://www.monsantoglobal.com/global/za-en/improving-agriculture/pages/brief-history-of-agriculture.aspx>

- [28] VPRO. (n.d.). Feiten en cijfers over Shanghai. Retrieved at 15/10/2020 from <https://www.vpro.nl/programmas/yangtze/map/SH4-shanghai.html>
- [29] Ritchie, H. Roser, M. (2019). Land Use. Retrieved at 15/10/2020 from <https://ourworldindata.org/land-use>
- [30] Ramankutty, Navin & Mehrabi, Zia & Waha, Katharina & Jarvis, Larissa & Kremen, Claire & Herrero, Mario & Rieseberg, Loren. (2018). Trends in Global Agricultural Land Use: Implications for Environmental Health and Food Security. *Annual Review of Plant Biology*. 69. 10.1146/annurev-arplant-042817-040256.
- [31] WRR. 2014. Naar een voedselbeleid. Amsterdam University Press.
- [32] Rotman, M. 2020. Neer een kringlooplandbouw. De veranderaars. Retrieved at 15/10/2020 from <https://www.groene.nl/artikel/de-veranderaars>
- [33] Vanrespaille, H. Vandaele, J. 2018. 'Er verdwijnen driehonderd boeren per dag in de EU'. Retrieved at 15/05/2020 from <https://www.mo.be/analyse/er-verdwijnen-driehonderd-boeren-dag-de-eu>
- [34] Kremen, C., & Miles, A. (2012). Ecosystem Services in Biologically Diversified versus Conventional Farming Systems: Benefits, Externalities, and Trade-Offs. *Ecology and Society*,17(4). Retrieved March 25, 2020, from www.jstor.org/stable/26269237
- [35] Wageningen University & Research. Testimonial. "Als we onze visie over korte ketens willen uitdragen, hebben we harde cijfers nodig". Retrieved at 07/10/2020 from <https://www.wur.nl/nl/testimonial/Als-we-onze-visie-over-korte-ketens-willen-uitdragen-hebben-we-harde-cijfers-nodig.htm>
- [36] Ritchie, H. 2020. You want to reduce the carbon footprint of your food? Focus on what you eat, not whether your food is local. Retrieved at 09/09/2020 from <https://ourworldindata.org/food-choice-vs-eating-local>
- [37] Baarsma, B. 2020. Korte voedselketens dragen bij aan kringlooplandbouw. Retrieved at 14/09/2020 from <https://esb.nu/esb/20060805/korte-voedselketens-dragen-bij-aan-kringlooplandbouw>
- [38]Boersma, H. Boudry, M. 2020. Opinie. De landbouw moet juist verder intensiveren. NRC. Retrieved at 07/09/2020 from <https://www.nrc.nl/nieuws/2020/05/14/de-landbouw-moet-juist-verder-intensiveren-a3999777>
- [39] Schans J.W. van der en D. van Wonderen, 2019. Korte Ketens in Gelderland. Wageningen, Wageningen Economic Research, Nota 2019-072. 40 blz.; 22 fig.; 0 tab.; 10 ref.
- [41] Gruisen, W. 2020. Schouten eindigt handelsmissie Korte Keten met overeenkomst lokale producten. Retrieved at 17/10/2020 from <https://www.pigbusiness.nl/artikel/368434-schouten-eindigt-handelsmissie-korte-keten-met-overeenkomst-lokale-producten/>
- [42] Platform Arde Boer Consument. 2018. Veelbelovende 'Taskforce Korte Keten' gestart. Retrieved at 07/09/2020 from <https://www.aardeboerconsument.nl/taskforce-korte-keten-gestart>
- [43] Obdeijn, L. 2020. Over tien jaar is 25 procent van ons eten lokaal, is het plan. Het Parool. Retrieved at 07/11/2020 from https://www.parool.nl/amsterdam/over-tien-jaar-is-25-procent-van-ons-eten-lokaal-is-het-plan~bb2816aa/?utm_campaign=shared_earned&utm_medium=social&utm_source=copylink
- [44] Schans, van der. J.W. 2018. Korte ketens in beleid. Positon paper. WUR.
- [45] Heisen, E. 2020. Lokale voedselboxen zijn een succes, maar hoe lang nog? AD. Retrieved at 17/09/2020 from <https://www.ad.nl/koken-en-eten/lokale-voedselboxen-zijn-een-succes-maar-hoe-lang-nog~a7227eb2/>
- [46] Sanders, E. and Stappers, P. (2014). Convivial design toolbox. Amsterdam: BIS.
- [47] RTL Nieuws. 2020. Blijje boeren: Nederlanders helpen massaal asperges steken. Retrieved at 15/10/2020 from <https://www.rtlnieuws.nl/editienl/artikel/5091306/boeren-zijn-blij-oogsten-asperges-corona-nederlanders-helpen-massaal>
- [48] Taskforce Korte Keten. (n.d.). HIER KNELT 'T IN DE KORTE KETEN – lessen over data. Retrieved at 16/05/2020 from <https://taskforcekorteketen.nl/hier-knelt-t-in-de-korte-keten-lessen-over-data/>
- [49] Taskforce Korte Keten. (n.d.). HIER KNELT 'T IN DE KORTE KETEN – logistieke lessen. Retrieved at 16/05/2020 from <https://taskforcekorteketen.nl/hier-knelt-t-in-de-korte-keten-logistieke-lessen/>
- [50] Taskforce Korte Keten. (n.d.). HIER KNELT 'T IN DE KORTE KETEN – de multi-channelbenadering. Retrieved at 16/05/2020 from <https://taskforcekorteketen.nl/hier-knelt-t-in-de-korte-keten-de-multi-channelbenadering/>
- [51] Tassoul, M. (2012). Creative Facilitation. Delft: VSSD.
- [52] Montey, A. Schans, van der J.W. (2015). Verkennend onderzoek kansen opschaling korte voedselketens Rotterdam. Rapportage – oktober 2015.
- [53] Cleantech Tomorrow. 2019. Tafel voedsel & landbouw buigt zich over korte keten. Retrieved at 07/06/2020 from <https://www.cleantechtomorrow.nl/nieuws/695-tafel-voedsel-landschap-bedenkt-oplossingen-korte-keten>
- [54] 2018. Bijeenkomst Korte Voedsel Afzetketens in Limburg.
- [55] Foorhuis, W., Lutz, S., & Groeneveld, M. (2019). Monitor 2019 de regionale voedselketen: voedsel van de regio voor de regio-coöperatief en innovatief.
- [56] Hiemstra Media. (2019). Boer in de [korte keten]. Retrieved at 19/06/2020 from <https://www.edestad.nl/reader/55692/1965366/boer-in-de-korte-keten->
- [57] Boeijen, A. and Daalhuizen, J. (2013). Delft design guide. Johanneshov: MTM.
- [58] De schaal van Kampen. (n.d.). Efficiency in de korte keten. Retrieved at 19/06/2020 from <http://www.>

deschaalvankampen.nl/efficiency-in-de-korte-keten/

[59] De schaal van Kampen. (n.d.). Lokaal Voedsel Utrecht. Retrieved at 19/06/2020 from <http://www.deschaalvankampen.nl/lokaal-voedsel-utrecht/>

[60] van der Voort, M. P. J., van Dijk, S. M., & Roest, A. E. (2011). Het opzetten van korte ketens met streekproducten (No. 3250178310). PPO AGV.

[61] Patton, M. Q. (2002). Qualitative interviewing. Qualitative research & evaluation methods (3rd ed., pp. 339-418). Thousand Oaks, CA: SAGE.

[62] den Hollander, A. V. D., van der Geer, S., & Kooij, S. (2019). Consumentengedrag in de korte keten.

[63] Kneafsey, M. (2015). EIP-AGRI Focus Group Innovative Short Food Supply Chain management. Final Report. European Commission. Brussels.

[64] Rijksoverheid. (2020). Tenminste houdbaar tot: Bewegen naar een duurzaam voedselsysteem Brede maatschappelijke heroverweging

[65] Gorter de Vries, H. (2016). REIS DOOR DE KETEN herkomst- en productinformatie door de keten en aan de consument TRANSPARANTIE IN DE VOEDSELKETEN, EEN VERKENNING. Adviesrapport kwartiermakersfase. Alliantie Verduurzaming Voedsel (AVV) en het ministerie van Economische Zaken.

[66] Vijn, M. P., Schoutsen, M. A., & van Haaster-de Winter, M. A. (2013). De marktpotentie van streekproducten in Nederland: uitkomsten van een consumentenonderzoek en SWOT analyse (No. 539). PPO AGV. Marktpotentie streekproducten

[67] Board of innovation (2019) How-now-wow matrix. Retrieved from <https://www.boardofinnovation.com/tools/how-now-wow-matrix>.

[68] Van der Jagt, P. D., Groen, P., & Kavvouris, C. (2013). Consument aan het roer: onderzoek naar consumentenvoorkeur voor regionale producten in Wageningen en omgeving (No. 304). Wageningen UR, Wetenschapswinkel.

[69] Neukermans, J. (2018). Consumentenonderzoek korte keten Waasland. Retrieved 08/09/2020 from <https://www.ccbt.be/?q=node/3396>

[70] Cammaert, P. (2018). Korte keten landbouw en voeding: potenteel in het pajottenland. Onderzoek naar consumentengedrag. Gent: Universiteit van Gent.

[71] Mugge, R., Govers, P. C., & Schoormans, J. P. (2009). The development and testing of a product personality scale. Design Studies, 30(3), 287-302.

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Figure 3. Screenshot from <https://www.google.com/maps/d/u/0/>

Figure 4. van der Schans, J. W., & van Wonderen, D. (2019). Korte ketens in Gelderland (No. 2019-072). Wageningen Economic Research. -

Figure 8. Derived from <https://taskforcekorteketen.nl/over/>

Figure 9. Snels, J. C. M. A., Vijn, M. P., & de Bruin, R. (2020). Roadmap Korte Ketenontwikkeling door samenwerkende boeren. Wageningen University & Research. <https://edepot.wur.nl/518301>

Figure 10. Derived from <https://www.freshsuperman.nl/nl/soja-melk500ml.html>

Figure 15. Derived from <https://www.denieuweboerenfamilie.nl/marja-joosen>

Figure 16. <https://www.denieuweboerenfamilie.nl/erik-boele>Source:

Figure 17. <https://www.foodagribusiness.nl/melkveehouders-richten-pijlen-ook-op-sojadrank/>

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[de-fles-weet-je-precies-waar-je-melk-vandaan-komt/](https://www.de-fles-weet-je-precies-waar-je-melk-vandaan-komt/)

Figure 25. Derived from <https://hak.nl/pers>

Figure 27. Screenshot from <https://www.farmbrothers.com/>

Figure 28, 33 and 37. Screenshot from <https://tonyschocolonely.com/nl/nl>

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Figure 31. Screenshot from <https://www.boerenvanamstel.nl/word-jij-ook-melk-boer/>

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