



# Designing a new vegetarian restaurant concept

Master thesis

Willem F. Westerveld  
December 2021

Redesigning the customer experience and customer journey for the next generation of vegetarian restaurants



## Designing the customer experience of a new vegetarian restaurant

A vision for a new and improved meat-free restaurant concept

### Author

Willem Ferdinand Westerveld

### Master thesis

Delft University of Technology  
Faculty of Industrial Design Engineering  
Strategic Product Design

### In collaboration with

The Food & Eating Design Lab  
Cirfood

### Graduation committee

Chair | Dr. ir. Schifferstein, H.N.J.  
Delft University of Technology  
Faculty of Industrial Design Engineering  
Human-Centered Design (HCD)

Mentor | Dr. ir. Kobus, C.B.A.  
Delft University of Technology  
Faculty of Industrial Design Engineering  
Design, Organisation and Strategy (DOS)

Company mentor | Mark Voorhaar  
Cirfood  
Operational Manager

December, 2021

# Preface

Dear reader,

Welcome to my thesis for the Strategic Product Design masters course at the TU Delft. The completion of this project marks the end of my time here at the university. It was a period of time that formed my journey in becoming a designer.

A designer is a dreamer... A designer is a dreamer, and if the dreamer does not dream, what is to become of this world? Throughout my time at the university I started realising more and more that designers have the power to make or break this world. I had this epiphany when I started to look around me with a critical view. When I look around, I see that there are too many pieces of plastic that lay around that barely do more than only pollute the environment. As a designer, I did not want to contribute to this problem and therefore, for my last project at the university, I wanted to do something that left a definitive positive impact on this world. A project that is good for man and good for nature. And so, when I came across this opportunity from the Food & Eating Design Lab to design a concept for a brand new vegetarian restaurant, I knew I needed to get involved.

The project was not merely a professional exercise only, it became a personal journey. Diving into the world of vegetarianism was an eye opening experience for me. When I started this project I was not a vegetarian, but I did know that I wanted to know more about it. Not only to use for the creation of the restaurant concept, but also for my own betterment. At this point, I am still not exclusively a vegetarian. However, I did decide to reduce my meat intake. I have learned that reducing ones meat consumption or becoming vegetarian is a process that requires not only a personal drive, but also a social and cultural change. As a planet, as a country, as a university and as individuals we are moving in the right direction with regards to eating more healthy and more sustainably, but to be frank: there is still a long way to go and it will require a lot of collective effort. The concept presented in this report is my contribution to this help in this effort.

As I mentioned just now, this effort is collective and that also goes for this project. I would not have been able to do this project by myself, because, like with any challenging endeavour, it did have its ups and downs. I would like to thank both my chair (Dr. ir. Rick Schifferstein) and my mentor (Dr. ir. Charlotte Kobus) for being the listening ear and the guiding voice throughout this journey. I would also like to thank Mark Voorhaar, from Cirfood, for helping me throughout the project. Your encouraging words have lifted my mood and morale after each an every one of our meetings.

And now to you, the reader. I hope you will enjoy reading this report and I hope that you will learn and maybe even apply a thing or two from my writings.

Let's make this world a better place together!

**Willem**





# Executive summary

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With the increasing evidence of the effects of our food choices on the planet it is obvious that we have to make changes in order to live sustainably. Our food production systems are responsible for 26% of the total human induced global greenhouse gas emissions, with the meat and dairy industry being responsible for over half of that. Our planet is in dire need for more sustainable food choices and cutting back on our meat consumption is a great start. However, it is proving to be a difficult transition for both the industry and its consumers.

The assignment for this project was to develop a new vegetarian restaurant concept for Cirfood, a catering company of Italian origins. This was done on the basis of one of their already existing restaurants which is located in the Faculty of Architecture at the University of Technology in Delft. The focus of this project lies on the design of a new customer journey and a new customer experience, with a customer centric approach, in order to better cater to the needs and desires of the restaurants customers.

During the research phase two key problems were found. The first finding was that generally people want to reduce their meat intake. However, they experience barriers towards achieving this. The most important barrier in this is the perceived lack of skills and knowledge on vegetarianism that are needed to make the switch towards a vegetarian diet. The second key problem had to do with the stance of the customers towards the current restaurant: it is one of apathy and indifference. Additionally, the main drivers for the interviewees to come to the restaurant were found to be 'laziness' and 'convenience'. In short, the Ketelhuis customers don't see the added value of the restaurant.

The new restaurant concept aims to inspire its customers in order to change its apathetic attitude into one of enthusiasm. Furthermore, the new restaurant concept aims to engage its customers in order to equip them with the knowledge and skills that are needed to adopt a vegetarian diet. To achieve this the new restaurant has been built up of two sections: a 'Grab & Go' area for inspiration and a 'Make & Enjoy' area for engagement. The new concept took the form of several deliverables: a visual representation of the restaurant with design elements that inspire, engage and educate its customers and a customer journey map that explains the intended new customer journey and customer experience from the customers point of view.

This paper concludes with the following insights. With a global shift towards more plant based diets, the needs of Cirfood's customers are changing. To accommodate for these changes Cirfood needs to create new value by taking on the vegetarian expert role, through which it can empower its customers. It needs to change its restaurants customer experience and customer journey. Not to one that is as smooth as possible, but to one that is challenging its customers to think critically about their food consumption.



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# Chapter 1

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## About the project

This chapter describes the context and the motivation behind the project. It also lays-out the design approach for the project and the structure of the report.



# 1.1 Introduction

Throughout the last couple of decades the negative impact of human activity on our planet has become increasingly evident. The consequences of our increasing polluting actions has caused a shift that has led to the start of the Anthropocene, 'a *geologic timeframe that is used to describe the point in time when humans started to have a significant impact on the earths climate and ecosystems*' (National Geographic Society, 2019). With the development of rapid climate change and rise in global warming more and more people are looking to decrease their environmental impact. By altering their lifestyle they aim to decrease their environmental burden in the hopes of reversing climate change. One of the industries that has seen a great push towards more sustainable production and consumption is the food industry. The food industry is one of the largest contributors to climate, with a staggering 26% of our global greenhouse gas emissions. Roughly half of that amount is caused by the fish, meat and dairy industry (Ritchie & Roser, 2020).

Vegetarianism and veganism is on the rise as a result of the large impact of meat on the environment. In the Netherlands the amount of vegetarians have been increasing over the last decade (Vegetariërsbond [1], 2020) to an amount of 850,000 people, which equates to roughly 5 percent of the population. (Vegetariërsbond [2], 2020) Not only individuals see their responsibility in this area. Also institutions, like the TU Delft, are taking initiative to bring about change in order to decrease their footprint. The goal of the university is to achieve a state of carbon neutrality by the year 2030 (TU Delft, 2021). In

order to achieve this goal they need to drastically cut down on the footprint of their food and drinks facilities, which are the second biggest polluter (with number 1 being 'natural gas' used to provide their facilities of heat and power).

The ambitious goal of the university to become carbon neutral in combination with an increasing demand for more sustainable food options by its customers instigated the university's caterer, Cirfood, to open up their very first completely vegetarian restaurant at the Faculty of Architecture at the TU Delft.

## 1.1.1 project assignment

The goal of this project is to develop a new concept for Cirfood's new meat-free restaurant at the faculty of Architecture at the TU Delft. Key aspects of the concept are centred around the topics of vegetarian restaurant meaning, ideal product range, restaurant appearance, product presentation and communication towards the customers. The nature of these topics are very diverse and broad in nature. Therefore the project will be focused on creating a customer experience that carries and communicates new added value that is needed for its customers to lead the environmentally friendly and healthy life that they desire to live.

## 1.1.2 Personal project goals

My motivation for taking on this project was to be able to inspire and empower people to live a more sustainable and healthy lifestyle with regards to their nutrition. As a designer we

need to take on our responsibility to see the environment as the primordial stakeholder in everything we do. The planet needs it now more than ever before. My mission for this project is to make sure that a new positive influence of Cirfoods vegetarian restaurant is created and is extended beyond the four walls of their restaurant in order to maximise their positive impact. Creating a positive impact starts with oneself. It is something that needs

to be stirred within, and this project is the perfect platform to create that stir with regards to a more healthy and sustainable diet. In accordance with the mission of the Food and Eating Design Lab my goal is to provide a design that improves upon the three pillars of the triple bottom line: improved human health, a lower impact on the environment and a business concept that is profitable, and adds a new impulse for the business.

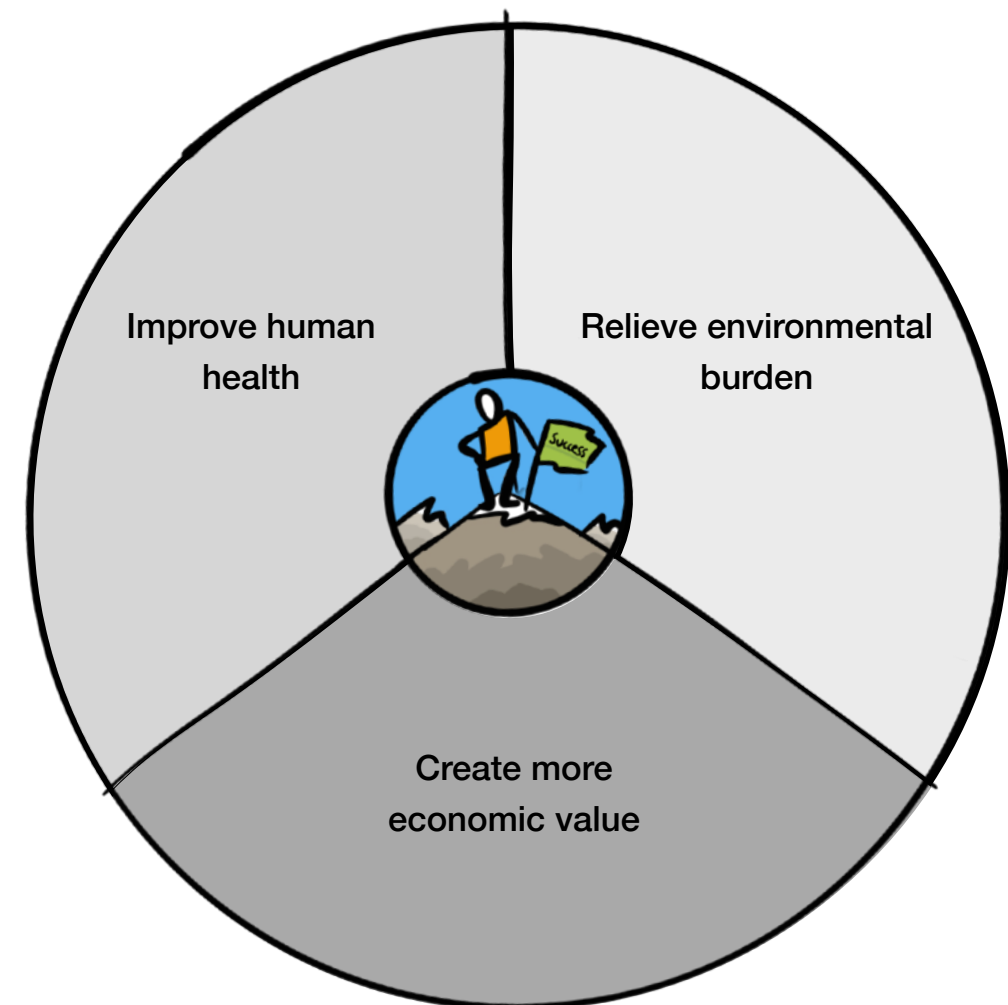


Figure 1: The three pillars of my ambitions for this project

## 1.2 Project approach

The approach that was chosen for this project is that of the double diamond design model as conceived by Bela H. Banathy and further developed by the British Design Council. (Design Council, 2019) This is a process that consists of four stages, being: discover, define, develop, and deliver. The four stages are subdivided into two 'diamonds', which both contain a divergent and a convergent phase.

The first diamond is all about exploring the project context and narrowing down what is relevant for the chosen project scope. This diamond forms the research phase of the project (phase 1). The second diamond covers the ideation and development of new concepts. This diamond covers the design phase of the project.

Figure 2 portrays the double diamond model as used in this project. Notice the arrows going back and forth between the stages of the diamonds. These underline the iterative nature of the design process, because sometimes it was necessary to jump back and forth in order to implement new insights into the design process that lead to the creation of the end product.

### Discover

The 'discover' stage of the double diamond process is dedicated to discovery of the project context. The discovery stage has a divergent nature that broadens the scope through extensive research in order to find design opportunities. The discovery of the project context will be done by means of the literature research, qualitative research (interviews), and quantitative research (questionnaire). The way in which the research

was set-up was through the lens of three leading themes, being: vegetarianism, eating habits and decisions, and university restaurant experiences and expectations. The findings in this stage will act as the foundation for the project.

### Define

The 'define' stage is the converging part of the research process. In this stage clear design objectives will be uncovered that will be used to design the new vegetarian restaurant concept. This stage inevitably brings about new insights that were previously unknown in the creation of the initial project brief. The form that these new insights will take is that of a 'design brief', a brief that will contain the design opportunities, goals and deliverables.

### Develop

The 'develop' stage is where the design of the new restaurant starts. Here we seek to find solutions to the problems and design opportunities stated in the design brief. The process starts off with the ideation process, which for this project consisted of 'How might we's...' and the designing of possible design interventions.

### Deliver

The 'deliver' stage is about the presentation of the final concept, with the underlying rationale for the design choices. This section of the report will also cover the recommendations for the implementation of the new restaurant concept.

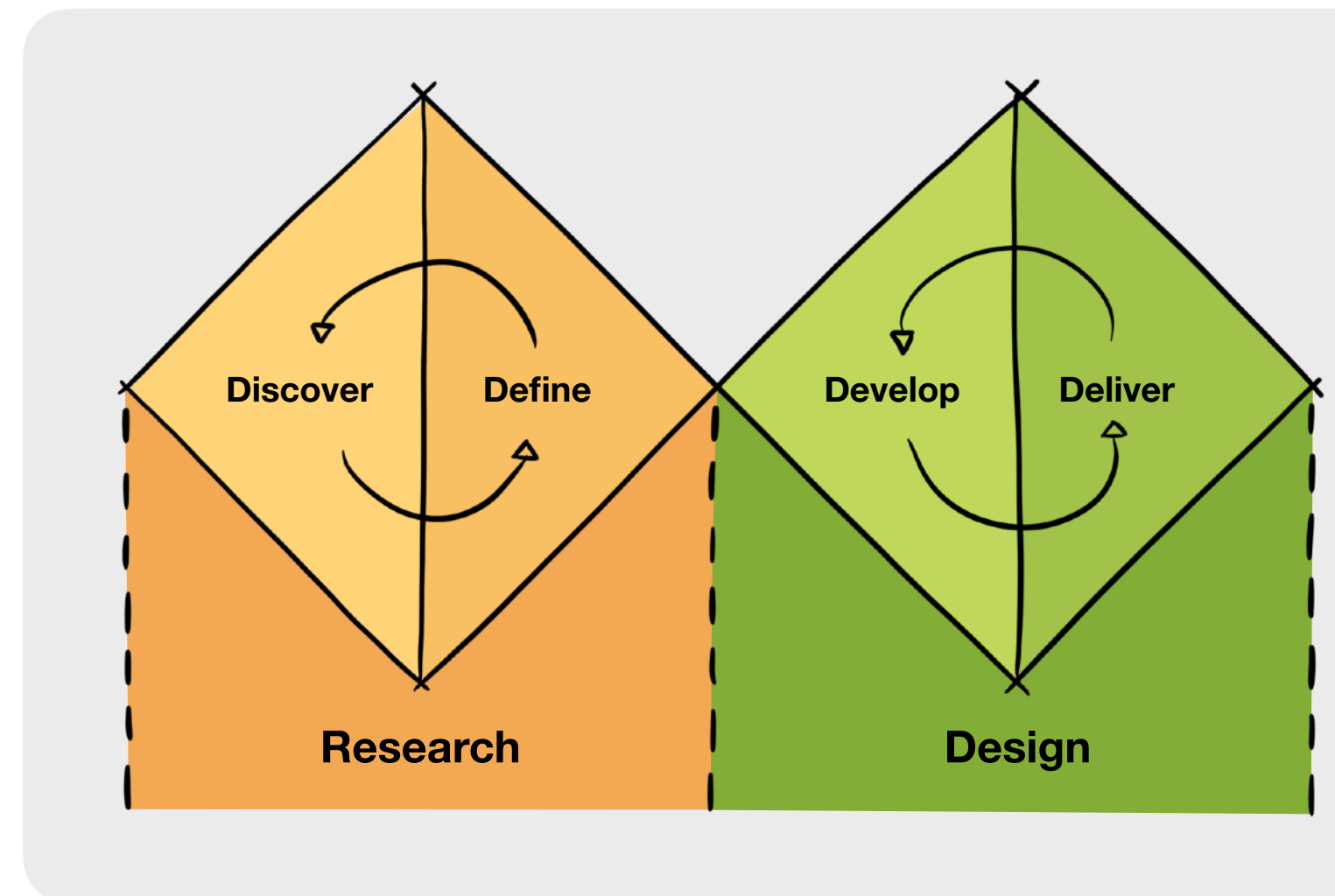


Figure 2: The double diamond approach taken during the project

### 1.2.1 The Customer Journey Map

An additional design tool that was used to guide the project was that of the 'Customer Journey Map' (CJM). The CJM is a 'map visualises the experience of a person over time. For example, a customer journey map can visualise the overall experience a customer has with a service, a physical or digital product, or a brand.' (Stickdorn et al., 2018) The Customer Journey Map is used in this project in order to make sure that the newly designed customer experience is covered throughout

each step of the customer journey. Doing this is essential to make sure that the customer experience remains consistent from start to finish. Additionally, the customer journey maps helps to find gaps and inconsistencies in the current customer journey, which will indicate design opportunities that can be exploited in the new design of the restaurant. Furthermore, it also indicates what touchpoints need to be created by Cirfood in order to ensure that the new desired customer experience is being conveyed to their customers.



# Chapter 2

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## Understanding the context

This chapter covers the literature and field research that was conducted during this project. It is all about understanding the project context.

## 2.1 Understanding the context

The very first step that was taken in order to understand the project context was to uncover the leading themes in the project. There were three key themes that were deemed important to explore on a deep level. These themes are: vegetarianism, the Ketelhuis restaurant and eating habits. All three themes were explored in all the different phases of the research. During the research into these themes it was kept in mind that it was important to not see these three themes as independent, but rather as interdependent. In the research the theme of vegetarianism was seen as the overarching theme, since this was the theme that is most important and most novel for both the consumers and for Cirfood. Additionally, this is the theme that can lead to the biggest positive impact on human health, environmental and animal wellbeing.

The theme of the 'Ketelhuis restaurant' is the next big theme in the research. This was mostly unraveled in the interviews with students and staff of the faculty of architecture. This theme displays some overlap with that of 'Eating behaviour'. That is because this the theme of eating behaviour was both explored within the Ketelhuis as well as on a broader level, targeting elements like eating behaviour outside of the Ketelhuis restaurant and broader goals that the greater population wishes to achieve with their nutrition.

Figure 3 portrays the leading research themes and the way in which these are related to each other.

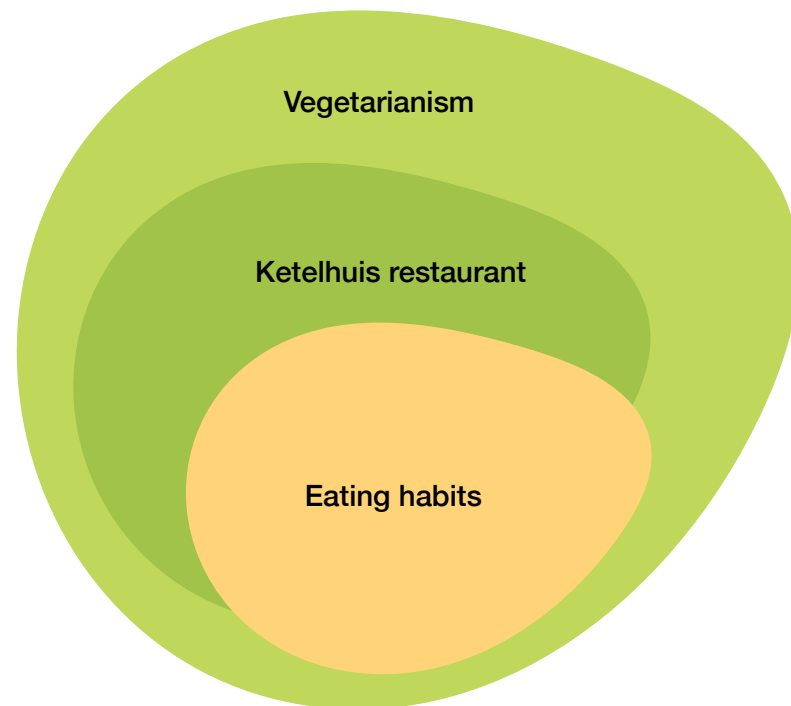


Figure 3: The three main themes of the 'discover' stage

## 2.2 Literature review

### 2.2.1 About customer experience

#### Defining 'Customer Experience'

The definition of 'Customer experience' (CX) is described by Lemon & Verhoef (2016) as 'a multidimensional construct focussing on a customers cognitive, emotional, behavioural, sensorial and social response to a firms offerings during the customers entire purchase journey'. The customer experience is a holistic experience across the entire customer journey encompassing every single touch point. Customer Experience and the customer journey are two tightly interlinked phenomena. The customer journey is mostly about what a customer is doing and going through in a (re-)purchasing process, whilst the customer experience is about how this whole process is experienced by the customer. Therefore, in order to design a new customer experience also a new customer journey needs to be designed.

A critical element in the creation of a customer experience is the 'brand owned touchpoint'. This kind of touchpoint is defined as 'customer contact points (e.g., advertising, websites, loyalty programs, etc.) which are designed and managed by retailers only and thus are under their control.' (Zimmermann & Auinger, 2020) These are in contrast with non-brand owned touchpoints, like multivendor loyalty programmes (with Food and More) or customer word of mouth. When creating a new customer experience it is especially important to make an inventory of the existing and new brand-owned touch-points in order to get a good overview of the existing brand image and customer experience that is conveyed to the

customers (Zimmermann & Auinger, 2020). Only after this is done, can a new consistent customer experience be created.

### 2.2.2 Research on vegetarianism

#### A brief overview on the history of vegetarianism

When designing a new vegetarian restaurant concept it is important to understand the history of vegetarianism. It uncovers what the driving forces are for people to adopt a vegetarian diet and it also shows how these drivers have changed over time. It helps to understand why vegetarianism has been on the rise over the last few decades in the western world. These insights are very valuable in creating a new and relevant concept.

Vegetarianism has been on the rise in the western world over the last few decades. However, this does not mean that vegetarianism is a new concept. Vegetarianism has been around for thousands of years already. The difference between vegetarianism now and historically speaking is found in the drivers that caused people to adopt a vegetarian lifestyle. Historically speaking, the main drivers for a plant based diet mainly were driven by religious beliefs and animal wellbeing. Only later improved human health and environmental reasons came into play.

It is believed that vegetarianism found its origin in the east, in India around the first millennium BC. Spiritual leaders in the Jainists, Buddhists and Hindu's refrained from eating meat for spiritual cleansing and due to belief of re-



incarnation, which caused them to take on a respectful and non-harmful stance towards any forms of life (Figus, 2014; Britannica, 2021). Many people in India still share those same beliefs, which is why around 23% to 37% of the population is still believed to be vegetarian (Ramesan, 2021).

In the west vegetarianism caught on a bit later with influential thinkers like Socrates, Seneca, Pythagoras and Da Vinci all believing that eating animals was morally unacceptable. (Morgan, 2010) However, during this time the idea of vegetarianism remained the idea of a small groups of individuals. Only much later, during the 19th century did larger vegetarian movements come into existence, with the creation of the Vegetarian Society in the United Kingdom (1847), the American Vegetarian Association in the United States (1850), and the Société des Animaux Protétrice (1843) in France (Figus, 2014). Again, the basis for the creation of these societies were partially lying in religious beliefs and partially in moral beliefs.

Only in the last couple of decades did human health and the environment start to become decision drivers becoming vegetarian. Ever since the start of the Anthropocene (the human dominant era, roughly at the start of the industrial revolution) did the effects of climate change become visible. Additionally, improved technologies and new research made the positive health effects of vegetarianism more clear (Figus, 2014).

### Vegetarianism and meat-consumption in the Netherlands

In the Netherlands there are roughly 850,000 vegetarians. This is roughly 5% of the Dutch population. Important to note is that vegetarians in this context are defined as someone

who doesn't eat meat or eats meat very rarely (Vegetariërsbond [2], 2020). Throughout the last two decades there has been a slow, but consistent increase in the amount of vegetarians in the Netherlands with an average growth range from 0,04 to 0,83 percent per year, based on three different research reports (De Waart, 2020). Next to the growth in vegetarians there has also been a growth in the amount of flexitarians. A study from Wageningen University and Research has concluded that the amount of flexitarians have grown from 14% in the population in 2011 to 43% in 2019. Important to note here is that there was not a preconceived definition of 'flexitarian' in this review and therefore the fact whether a participant was a flexitarian was left to their own judgement (i.e. did the research participant see themselves as a flexitarian). Furthermore, it was also concluded that from 2011 to 2019 flexitarians started to eat meat more often, with an average of 2,9 days per week in 2011 and 3,7 days per week in 2019 (De Waart, 2020). Therefore, getting meaningful conclusions on the growth of flexitarianism remains difficult.

Even though a growth of vegetarians (and self declared flexitarians) is evident, there has not been a significant change in the amount of meat that has been consumed over the last 16 years. The only year that has seen a significant decrease in meat consumption is the year 2020. This can be attributed to the closing of restaurants due to the COVID-19 pandemic (Van Kampen, 2021). The amount of meat consumed between 2005 and 2020 has been ranging up and down between the values of 75,9kg and 79,1kg of carcass weight per person per year (Dagevos et al., 2020).

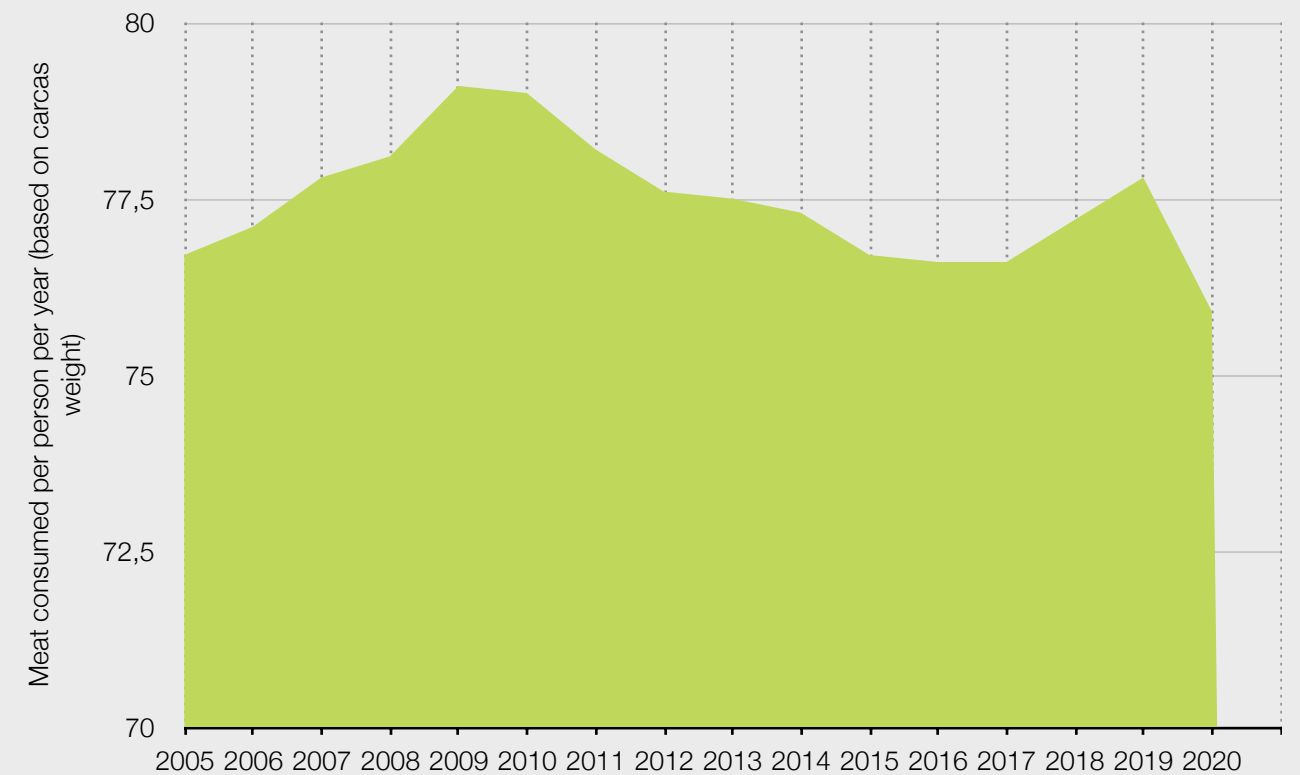


Figure 4: Meat consumption in the Netherlands per person per year from 2005-2020 (Dagevos et al. 2020)

### Reaching peak meat

In March 2021 the Boston Consulting Group (BCG) and Blue Horizon published a research report that found that Europe and the United States are likely to reach 'peak meat' by the year 2025 (Carrington, 2021). Peak meat is the tipping point at which the consumption of meat will decline and the alternative sources of protein will take over. According to the BCG the rise of alternative protein will happen in three waves, with the rise of plant based protein leading the movement. By the year 2030 microorganism based sources of protein (e.g. algae or yeasts) will also appear on the

market. By the year 2035 the third wave of alternative protein sources will enter the market in the form of animal cell based protein (i.e. cultured meat). Through the development of new technologies and further investments the alternative protein market is expected to grow from just 2% of the animal protein market in 2020, to an expected 11% by the year 2035 (Morach et al., 2021).

Whereas the BCG report puts a date when conventional animal meat will start its decline, Kearney (a consultancy of American origins) puts forward a year for when alternative protein sources will achieve a greater market share

## 'Do non-vegetarians really care so much for eating meat?'

### Case study

The matter of fact is that most people are not opposed to vegetarian meals. However, any bit of extra effort that is required in order to get a vegetarian meal is seen as too much. A study done by the Avro Tros in 2020 supports this claim (Radar Avrotros, 2020). In a study they sent a fictitious invitation to 23,000 participants for a staff party. The test was set up in such a way that the participants would receive an email with an invitation for a dinner party. Half of the participants received an email in which the meal with meat was the standard option (and the vegetarian meal was the alternative option), whilst the other half of the contestants

than animal meat. By the year 2040 Kearney predicts only 40% of the market share will be made up of regular animal meat, whilst the other 60% of the 'meat' market be captured by cultured meat (35%) and novel vegan meat replacements (25%) (Gerhardt et al., 2020).

With small differences in the estimated years it will take for alternative sources of protein to take over, one thing is clear: the protein shift is happening. The decision of Cirfood to open up a meat-free restaurant is a good one based on the forecasts. Therefore, it is of utmost importance that Cirfood uses this time to not only start one vegetarian restaurant, but expands its foothold in the market while the alternative protein market is still in its early phase.

got the vegetarian meal as the standard option (and the meal with meat as the alternative option). The results showed that when the carnivorous meal was the standard option, 21% of the participants chose to opt for the alternative vegetarian meal. When the standard meal option was set to be the vegetarian meal, 48% opted for the alternative carnivorous meal. The conclusion that can be drawn is that the standard meal was always the most chosen meal, regardless of the meal composition. And also, if the vegetarian meal is the 'standard' meal instead of the 'alternative' meal, it is 30% more likely to be chosen (52% of the participants would eat vegetarian if this is the 'standard' offered meal). Therefore, to make the planet more environmentally friendly it is important to make the vegetarian meal the norm!

### Desire to eat less meat

In the Netherlands there is a rising desire to eat less meat. In 2020 'Vegamonitor' conducted research on the topic of meat consumption which showed that 34% of the people in the Netherlands wish to eat less meat (Vegamonitor, 2021). Another research report, from the market research firm 'Blauw Research' (conducted in 2021) indicates that 44% of the Dutch population wants to eat less meat (Boerdam, 2021). Therefore, depending on the research report, roughly 40% of the Dutch population wants to eat less meat. However, roughly 70% of the Dutch population thinks that 'we should' eat less meat (Den Hollander, 2021). Interesting to note here is

that many people desire to eat less meat, and even more think that we should eat less meat. Therefore there are roughly 3 in 10 people that say that we should eat less meat, but are not necessarily indicating that they are willing to do it themselves. Additionally, the meat consumption levels over the last 16 years in the Netherlands have remained roughly the same (even increasing over the last 4 years, with the exception of 2020), even though approximately 40% of the country has indicated that they want to eat less meat. The desire to eat less meat is there, but the actions do not match the wishes. This is known as an intention-behaviour gap (Sniehotta et al., 2007).

### Perceived hurdles in becoming vegetarian

To effectively design a new vegetarian restaurant concept that has a lasting positive impact on the nutritional lifestyle of its customers, it is important to understand the causes behind the intention-behaviour gap with regards to eating less meat. In conducting this desk research it was deemed important to base the argument on recent research papers (i.e. preferably not older than 5 years) and preferably also on research reports that originate from the Netherlands. This mitigates any arguments that are simply outdated (e.g. 'a lack of meat alternatives', not relevant anno 2021) or are only applicable to different cultures (e.g. Masculine BBQ culture in the USA) (Jennings, 2019).

One of the largest hurdles in eating more vegetarian is the perceived lack of skills and knowledge to make a vegetarian meal. Within this hurdle there are more related sub-hurdles. A research report by 'Kien onderzoek' in collaboration with the Albert Heijn looked into the reasons why people find it difficult to cook more vegetarian meals. The five most named

reasons were: people possess a larger array of meat recipes than vegetarian recipes (72%), they are convinced that the occasional consumption of meat is healthy (72%), their favourite meal contains meat (63%), they like the taste of meat containing meals better than that of vegetarian meals (54%), and finally, they find it easier to prepare a tasty meal with meat than a tasty vegetarian meal (48%) (Zaanstad Nieuws, 2020).

Next to lacking knowledge and skills there are several other large barriers that meat eaters experience in their transition towards vegetarianism. A study conducted in 2015 found that social contexts also play a large role in hindering or stimulating people to eat vegetarian. When other people in a household are opposed to eating vegetarian then the transitioning vegetarian finds it more difficult to make a stance for their food choices. In order to avoid social tensions and to appease others they often conform and consume a meat-containing meal (Gallimore, 2015).

The last big hurdle comes with eating out. Many participants found it difficult to either find a vegetarian option on the menu or to choose for the vegetarian option (due to the tempting meat containing options). Traditionally many restaurant meals have been composed with meat in the spotlight. With more and more vegetarian restaurants both problems are likely to decrease.

### The advantages of a vegetarian diet

In order to be able to 'sell' the new vegetarian restaurant concept it is important to understand the benefits of having a vegetarian diet. Not every customer may be aware of these advantages and therefore it is important for Cirfood to know these advantages and to



communicate them appropriately with their clientele.

The advantages of a vegetarian diet are various, but they can be summarised in the following three: vegetarian diets are better for the environment, better for human health, and better for animal welfare. With regards to the health benefits of a meat-free diet there are several benefits. According to Prof. Dr. Clause Leitzmann a wholesome vegetarian diet benefits over a meat included meal because one has *'lower intakes of saturated fat, cholesterol and animal protein as well as higher intakes of complex carbohydrates, dietary fibre, magnesium, folic acid, vitamin C and E, carotenoids and other phytochemicals.'*

(Leitzmann, 2005) The benefits usually include a lower risk of cardiovascular diseases, diabetes type 2, hypertension (high blood pressure), cancer, osteoporosis (weakened bones), kidney failure, and even dementia (Leitzmann, 2005). Important to note is that the vegetarian diet needs to be wholesome and well balanced. Without mindful handling of a diet vegetarians may struggle in getting enough intake of protein, zinc, iron, calcium, and vitamin B12 (Edgar, 2020). The latter three are especially important for vegans, since sufficient amounts of natural vitamin B12 are almost exclusionary found in animal products (Obeid et al. 2019).

One concern that often rises (especially for athletes and active people) when talking about a vegetarian diet is the issue of protein intake. In a regular meat containing diet the bulk of the protein will come from the consumed meat. However, in a vegetarian diets there are plenty of alternatives that also contain a lot of protein, like nuts, seeds, beans or lentils. Whats more important is that not all protein are created equal. One way in which plant protein differ from meat protein is that they contain more

protein into fewer calories. Additionally, plant based protein contain fibres, something which meat protein lack all together (Chodosh, 2021). Dietary fibres are important for the body for several reasons: they help the digestive system digest foods better, they help regulate blood sugar levels and cholesterol and even can help prevent serious diseases (Szalay, 2015).

Another large advantage of following a vegetarian diet is that it has a much smaller carbon footprint. Food production is responsible for an estimated 26% of our total global greenhouse gas emissions. The meat and dairy industry is responsible for 14,5% of the human induced emissions (Gerber et al., 2013). Additionally, livestock is also responsible for a large amount of water and land usage, which are increasingly becoming scarcer as the world population grows. Roughly 35% of the total land on our planet is used for food production. That is 50% of the habitable land (Ritchie & Roser, 2019). Three quarters of this land is used for cattle and the other quarter is used for the growth of crops. 36% of the land used for crop production is used to feed cattle. Therefore, in total roughly 80-85% of our food production land gets used by the meat and dairy industry (Porcelijn, 2016). What is interesting to note is that while the majority of food production land is used for livestock, only 18% of the global calorie supply and 37% of the protein supply come from meat and dairy. The the rest is made up of plant based calories and protein.

The last main benefit of adopting a vegetarian diet is that it is better for animal welfare. This is most likely the least tangible of the three main benefits of a vegetarian diet, but that does not make it less important. The average Dutchman eats between one and two thousand animals in its lifetime, the exact number depends on

the research report. The 'Vegetarierbond' calculated in 2018 that the amount of animals consumed by the average Dutchman in his lifetime is about 1199 animals (excluding fish and invertebrates) (Vegetarierbond [3], 2020). Another institution, 'Proveg International', concluded that the average Dutchman is responsible for 1924 animal deaths per year (including fish, excluding invertebrates) due to meat consumption (Van der Werff & Moleman, 2017). The combined results in vary between 15-25 animals per person per year.

### 2.2.3 Research on eating behaviour

#### How do we decide what we eat?

Every day we make about 200 food related decisions (Wansink & Sobal, 2007). Most of these food choices are made subconsciously and impulsively without a well-defined rationale. This is due to the vast amount of decision moments. The fact that the decision process happens mostly subconsciously does not mean that it is a simple process. There are many internal and external factors that influence the decisions that, unfortunately, often lead to unhealthy food choices. Key factors that influence what we eat are, among others, are: our food habits, the level of ones self control, the stimulations from the physical environment, the amount and variability of food that is available, and the type of food that is available (Vanderspikken, 2020).

The reasons why we are often drawn to unhealthy foods are multiple. First of all, foods that are high in fat and sugar will give an immediate boost in energy to the body. This is most tempting when we are feeling weak (Vanderspikken, 2020). This is coincidentally also the moment when we have a lower level of self control. Additionally, every individual is

prone to a concept known as 'reward sensitivity', which is a personality trait that determines how much satisfaction or rewards someone experiences when they get into contact with pleasant stimuli, like foods (Vervoort, 2016). Individuals with a high reward sensitivity are more likely to choose for discretionary (fast) foods, which have an adverse effect on their general health and wellbeing (Nansel et al., 2016). Lastly, an excessive amount of food offerings will also lead to more purchases, and more unhealthy purchases. One effect of excessive amount of food offerings is that it leads to overeating. The origin of this kind of behaviour can be lead back to primal instincts that tell us to stock up food when there is plenty. A study performed in 2007 with 192 participants found that 31% of the participants overate by over serving themselves as a result of exaggerated external influence like, for example, oversized bowls and spoons (Wansink & Sobal, 2007). Another effect of too many food offerings is that there is also likely information and sensory overload, which weakens our ability to make rational decisions and increases our decision making by impulse.

In more practical terms there are several other factors that influence what we eat and why we eat that certain type of food. Apart from the reasons mentioned before there are four other main factors that influence our food decisions. The most important factor is the taste of food. If we like the taste of a certain food we are likely to eat it. Another sensory reason is the appearance of food. If the food looks good we are more likely to eat it. The third factor that influences our food choices have to do with costs and convenience. Cheaper foods that are easy to prepare are more likely to be chosen than expensive meals. The fourth and final factor that influences what we eat is our

social context. Whether we eat alone or together greatly influences what we eat and how much we eat (Zelman, 2005).

### **Influencing food decision behaviour**

Understanding the means of getting people to eat healthier is important when creating a new restaurant concept that aims at reducing its footprint and increasing the health of its customers. Many food choices get made subconsciously and therefore trying to educate people on the spot on the matter of healthier food choices is only of limited use (Kroese et al., 2015). One of the methods that has proved to work effectively is that of 'nudging'. A nudge is *'any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives.'* (Thaler & Sunstein, 2008) Nudges are never mandatory. They simply act as a mere push in the right direction. Examples of nudges in the context of a healthy university restaurant can be, for example, putting the most healthy foods at the very start of the aisle, putting the foods with the least footprint at eye-level, or making the better meal just that bit easier to reach. A study performed in 2012 investigated the effectiveness of nudging in a high school cafeteria. The setup of the experiment tested an altered canteen against the current unaltered canteen, with the altered canteen only putting the healthy options on display. The results were that the sales of the healthier foods increased by 18% (Hanks et al., 2012).

Another way to influence people to go for the environmentally friendly choice is by using carbon labels for the foods that are sold at the restaurant. A study performed at the Chalmers University of Technology (Sweden) in 2016 concluded that simply showing food carbon labels at the university restaurant lowered the

restaurants greenhouse gas emissions by 25% (Svensson, 2016). Showing simple eco labels makes it easier for students and university staff to make the green choice. Another advantage of using eco labels is that it could help institutions, like Cirfood, to measure their own impact on the environment. It could help them to optimise their offerings to minimise their impact on the environment, because what gets measured gets managed.



# Chapter 3

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## Getting to know the customers

This chapter covers the literature and field research that was conducted during this project. It is all about understanding the project context.

## 3.1 Getting to know the customers

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When designing it is important to understand both the context that you are designing in and the users that you are designing for. The desk research has helped to understand the context that we are designing in. To better understand the users that we are designing for empirical research was done. First, a questionnaire (quantitative research) was conducted in order to get a better understanding of the broader user demographic. The questionnaire gave insights into the stances of students towards vegetarianism and the current Ketelhuis restaurant. After the questionnaire was conducted and the desk research was done, interview guides were made in preparation for interviews with students and staff of the faculty. These interviews were done in order to get a deeper understanding of their view on vegetarianism, their behaviour with regards to food choices, and their needs and desires for a student restaurant. The research setups and the conclusions will be explained in this chapter of the report.

### 3.2 Quantitative research

In order to get a better insight into the demographics of the target audience a questionnaire was distributed among the students of the Faculty of Architecture at the TU Delft. In order to reach the students of the faculty 200 paper invitations to the questionnaire were handed out at the faculty. In total 63 of the students filled out the questionnaire. The questionnaire was devised in order to understand the students of the Faculty of Architecture on a broader level. The main purpose of this questionnaire was to find out how many vegetarians there are at the

faculty, how much meat the non-vegetarian students eat, and to find out how many of the students want to reduce their meat intake. Furthermore, the questionnaire also asked for the students motivation on why they want to reduce their meat intake. The most important results of the questionnaire are showed on the next page in figure 5. The full results and raw data can be found in appendix C.

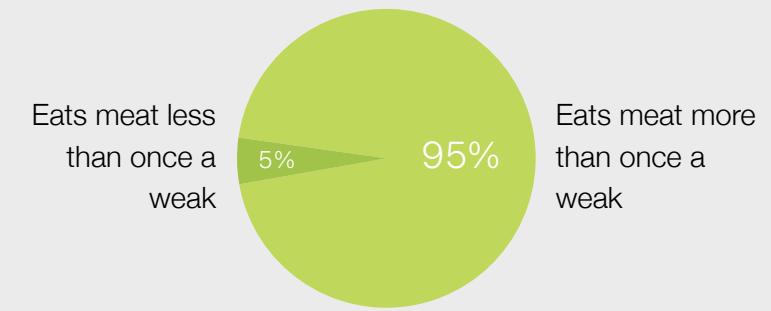
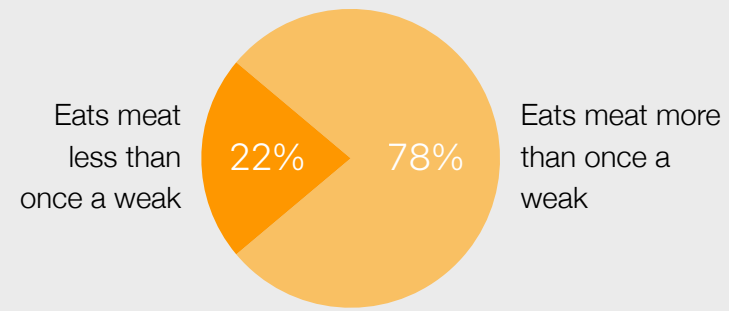
One of the most important findings of the questionnaire is that there are a relative high amount of vegetarians at the faculty. In this context vegetarians have been defined as eating meat less than once a week. On a national level this lies at around 4-6% of the population, including vegans. (Multiscope, 2020) The results from the questionnaire indicated that this level equated to 22% of the respondents that ate meat less than once per week. That is roughly 4 times as high as the national level. It is important to note that these results may be skewed, due to the limited amount of questionnaire respondents (63 respondents on 2921 students).

An even more interesting finding is the amount of non-vegetarians that want to reduce their meat intake. It was found that 65% of the non-vegetarians at the faculty want to reduce their meat intake. Again this proves to be a lot high number when you compare it to the national average, in which 34% of the households wants to reduce their meat intake. Thus, the faculty average is almost twice as high as the national average. There is a lot of potential for Cirfood to help these people in reducing their meat intake, however, as the desk research has indicated, there are some hurdles that

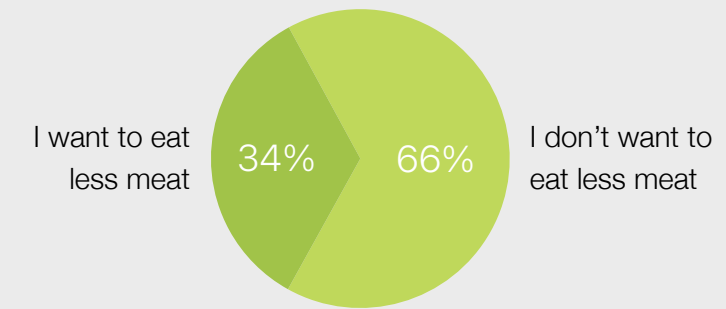
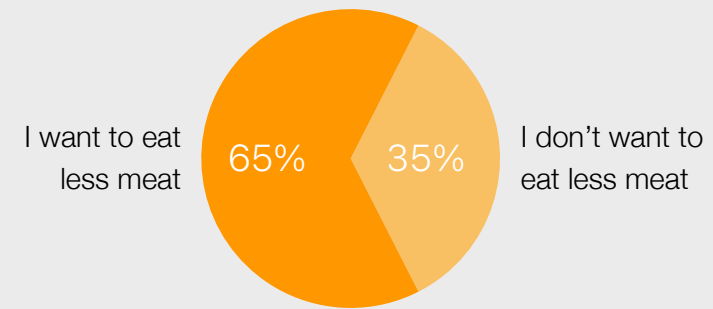
need to be overcome in order for these people to actually achieve their goals in this area.

The final important insight from the questionnaire is the motivation behind the desire to eat less meat. The most important driver for this is the impact on the environment with 52% of the votes. Next to that comes their own health with 34% of the votes. The last motivator is animal welfare with only 14% of the votes. This is an important insight, because it indicates that it is important for the new restaurant concept to explicitly underline how eating meat-free is good for the environment and for the customers own health. Explicitly communicating how eating meat free is good for animal welfare is less important for the new restaurant concept.

### How many times per week do you consume meat?



### Do you want to reduce your meat consumption?



### What is your motivation to reduce your meat intake?

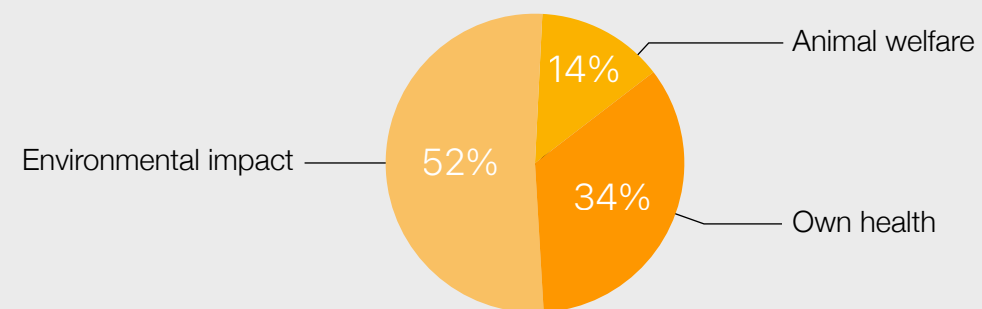


Figure 5: The most important results from the questionnaire



# 3.3 User interviews

## 3.3.1 Understanding the target audience

When a company is designing a new product or service it is of essence that they know and understand their target audience well. Whereas the questionnaire gave insights into statistics of the faculty in general it is also important to dive into the the needs, desires and behaviours of the target audience. Additionally, in order to understand where in the customer journey Cirfood can add more value it is important to get a deeper understanding of when and how customers make food related decisions. To understand these elements it was decided to also perform interviews with the target audience.

There were various goals to achieve with the interviews. There was a need to understand the target audience with regards to the three key themes in this project: vegetarianism, eating habits and behaviours, and university restaurant experiences and expectations. In order to successfully obtain insights into the perspectives on these themes several research questions had been set-up prior to the development of the interview guides. The research questions per theme are shown in figure 6.

## Methodology 3.3.2

To ensure that all the research questions were answered interview guides were created. A semi-structured format was chosen for the interview guide. This was done in order to make sure that all the research questions were covered while simultaneously giving the interviewee the room to tell their story and add in the details that the found important to express their perspective.

Based on the main thematic research questions from figure 6 additional interview questions were made. In the end each interview guide contained between 28 and 39 questions depending on whether the interview guide was created for vegetarians or non-vegetarians. The aim was to keep the interviews relatively short (between 25-40 minutes), because some of the interviewees had indicated on before-hand that they had a busy schedule on the day of the interview. Most of the interviews were conducted face-to-face at the faculty during regular week days. Only one of the interviews was conducted online through Zoom.

The interviews were recorded with the consent of all the interviewees. This was done for two reasons. The first reason is that this allows for the interviewer to be able to better concentrate on what the interviewee is saying and to consequently ask the right questions that may deviate a bit from the pre-planned questions. The second reason that this was done was in

order to be able to transcribe the interviews during the analysis stage in a later phase of the project.

## 3.3.3 Interviewee sampling

At the outset of the project two different target groups were identified, being: students and employees. It was deemed important to interview people from both target groups, since both of them represent a large group of potential customers and both target groups have different characteristics.

The first step in the sampling process was to create an overview of the demographics of the faculty of Architecture. Figure 7 portrays this overview. The goal of this overview was to see how many students and employees there are at the faculty, and also to see how large of a target group they form in comparison to each other. The findings were that there are more students than employees at the faculty with 2921 students and 1025 employees. Based on this information it was decided to interview more students than employees.

Another important ratio was the gender ratio. The ratio of males and females were also balanced to come close to that of the gender ratio of the faculty. Another reason to have a good balance between male and female interviews is that they tend to have different perspectives on and different struggles with vegetarianism. (Gallimore, 2015)

### Research questions per theme

#### Vegetarianism

- Why do (or don't) people become a vegetarian?
- What are the biggest hurdles in becoming a vegetarian?
- Why do people fail in their vegetarian lifestyle?

#### Eating habits & behaviours

- What are the considerations and motivators in food buying decisions?
- How do people decide what they want to have for lunch?

#### University restaurant experiences & expectations

- Why do people go to the university restaurant?
- What makes something a good or bad university restaurant?
- How can a university restaurant support their customers in their vegetarian lifestyle?

Figure 6: The leading theme research questions that formed the basis for the interview guides

Total population: 3946 people

2921 students

1025 employees

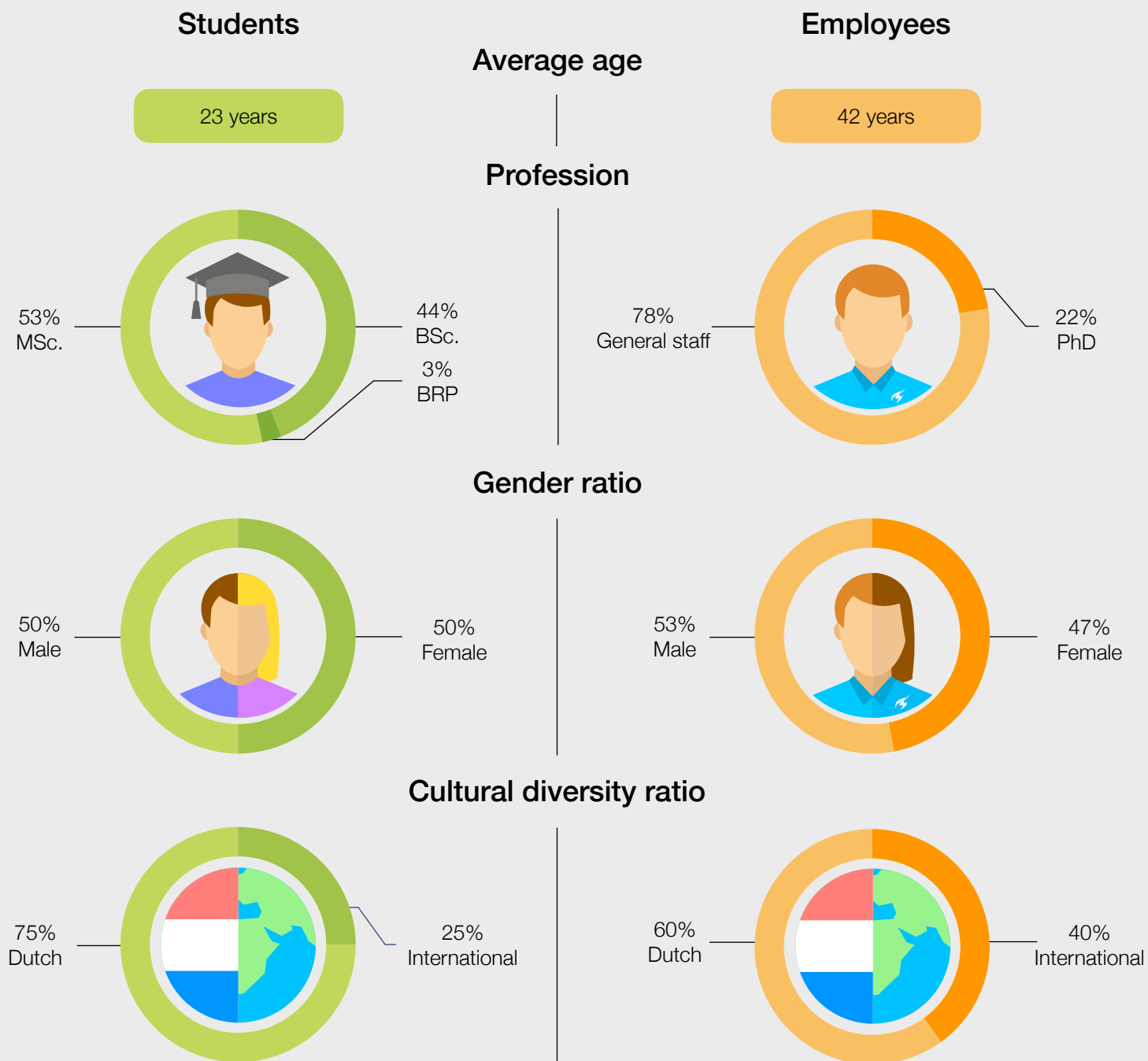


Figure 7: An overview of the demographics of the Faculty of Architecture at the TU Delft

### 3.3.4 Interviewee recruitment

The interviews were recruited through three different methods. The first method was to contact people from my personal contacts, since these were easy to access. Additionally, students who filled in the questionnaire were asked whether they were interested to further partake in the research by giving an interview. Thirdly, employees were approached at the Ketelhuis restaurant to ask whether they were interested in partaking in the study

In the end, 5 students and 3 employees partook in the study. The ages of the students

varied between 21 and 24 years, with an average age of 22.8 years old. The ages of the employees ranged from 43 to 51 years old, with an average age of 46.6 years old. In total 5 males and 3 females were interviewed. It was deemed important to interview both vegetarians and non-vegetarians in order to understand both perspectives. In the end 3 vegetarians, 3 non-vegetarians and 2 people who were not vegetarians anymore were interviewed. This was done in order to understand the motives of the full spectrum of potential customers.

Interviewee ID	Diet	Age	Sex	Occupation
1	Vegetarian	23	Male	Student
2	Vegetarian	23	Male	Student
3	Vegetarian	24	Male	Student
4	Non-vegetarian	23	Female	Student
5	Former vegetarian	21	Male	Student
6	Non vegetarian	46	Female	Teacher
7	Non-vegetarian	43	Male	Teacher
8	Former vegetarian	51	Female	Staff

### 3.3.5 Stakeholder and expert interviews

Next to the interviews with the target audience also other interviews were conducted with some of the stakeholders and experts in the field of healthy eating and the protein transition. These interviews were more explorative in nature and did not follow a structured interview guide with set themes.

### 3.3.6 Analysis of the user interviews

In order to analyse the interviews all the interviews were transcribed. The analysis of the interviews was done along the lines of Grounded Theory Method (GTM) coding, but did not follow this methodology all the way through to the end since the goal of these interviews was simply to lead to a well defined problem statement instead of leading to the creation of a new theory.

The first step in the analysis of the interviews was to read the interviews thoroughly in order to get well acquainted with all the interviews. After this step the interviews were annotated with a form of open coding in order to expose the motives that were discussed in each individual interview. After this step was completed for each interview the codes were clustered (within each to the three leading themes) to gain valuable insights that can be used in the design of the new restaurant concept. After the insights were compiled they were back checked with the interviews to see whether the insights were still true to the sentiment of each interviewee. This was done by linking direct quotes (instead of codes this time) to the key insights. During this process a few key insights were slightly altered again to more

closely resemble the words of the interviewees. The final step of the process was to combine the key insights into key problems that will be leading in the design of the new vegetarian restaurant concept. The Key insights and key problems will be discussed in more depth in the coming section, but the general overview of the interviews with its conclusions can be found in figure 8.

## 3.4 Explanation of the key insights from the user interviews

### 3.4.1 Missing knowledge and skills

Three of the interviewees mentioned explicitly that they found it difficult to become vegetarian due to lack of knowledge and skills on vegetarianism. One of the vegetarians, interviewee 2, stated it like this: *“Yes, in the beginning it was difficult. I was looking for meat substitutes, because I didn't know many (vegetarian) recipes myself. I used to make the exact same meals as before, but then without meat and with meat replacements. Only later I learned that you can make a lot of tasty meals without meat.”* He indicates that he started by making the same meals that he used to make as a non-vegetarian, but with meat replacements instead of meat. In this sense the current market, with the amount of meat replacements that are offered, a lot more inviting for new vegetarians than it was many years ago, since they offer an easy entrance into the vegetarian world. However, leaning on meat replacements too much is not always a good idea as the taste of many meat replacements does not match up to the same tasty level as real meat does as indicated by interviewee 8, who's child does not prefer not to eat vegetarian due to the lacking taste of artificial minced meat in comparison to real minced meat. Therefore, it is important to teach new vegetarians about vegetarians beyond the use of meat replacements.

Interviewee 3 shared the same sentiment as interviewee 1, but fell into the trap of not using meat replacements at all in his recipes: *“There was always meat in all the dishes I knew how to cook. You can also cook most of them without meat, but then it is a lot less tasty.”* He also indicated that he had to do a lot of research into the required nutrients that he needed for his body: *“Initially, I had to do a lot of research on that. It's suddenly a completely different habit pattern that you have to set up. So I just had to teach myself a lot, and also about which nutrients I should take, so that took some extra time.”* This interviewee indicated that he personally didn't mind doing the research, because he likes to do deep dives like this. However, this is not something that suits everyone and therefore the new restaurant could help facilitate this learning of new knowledge and skills in order to make the transition towards a meat-free diet easier for its customers.

### 3.4.2 The self-reinforcing influence of the social context

A topic that 7 out of the 8 interviewees mentioned in relation to vegetarianism was their social context i.e. friends, family and other members of the household. What was found is that in many cases the social context was seen as a barrier to reduce meat intake or to become vegetarian all together. For all three interviewed employees



of the faculty it was their children that made it difficult for them to switch to a vegetarian diet. The reasons for this were various. For interviewee 8 it was that one of their children doesn't like the taste of meat replacements: *"We often eat vegetarian minced meat and I hide it in the lasagna, but then I have one child, who is really Burgundian, and he says: Yes mom, I can really taste that there is different minced meat in the food."* For interviewee 6 the situation was very similar: one of her children wanted to become a vegetarian, but the other one was decidedly unwilling. For interviewee 7 the situation was different. He was afraid that his children would not get the essential nutrients that they required if he would not serve them meat: *"Yes, other family members who might like that too [speaking about eating meat]. Young children who may need those kinds of building blocks, which are a bit more complicated to replace for them. It is also easier from a practical point of view to fry a piece of meat or a sausage. Then you at least know that that child is still getting something in, because that [meat] will be eaten."* Interviewee 6 shared the concern about sufficient nutrient intake for her children. Additionally she mentioned that she felt she was not well equipped to replace those nutrients in a vegetarian way: *"And also that they [speaking about her children] get all kinds of healthy nutrients. And get all of them. If I'm not cooking this [meat], I'll have to expand my skills on other fronts. I can do all that, but then you really have to do that, you know?"*

On the theme if this topic it was interesting to notice that this also worked the other way. When a household would reach a certain population of vegetarians, the rest of the household would switch to a vegetarian diet as well. Interviewee 3 said: *"And at that moment when I became a vegetarian again, several people in my house also became*

*completely vegetarian and it became easier for them to go along with it. Because in the first instance I was the only one who forced us to eat vegetarian at home and now we are at 5 out of 9 people who are vegetarian."* In his household now all his housemates usually eat vegetarian due to the fact that there are so many vegetarians in that social context.

Therefore, for the new vegetarian restaurant concept, it would be very good if it could help in creating a favourable social context. This is very difficult to achieve, but there are things that could be done to lead to this. For example, equip its customers to make meals that are and vegetarian and very delicious in order to convince their household members or maybe create enticing recipes that are easy to share with household members in order to easily introduce them to the world of vegetarianism.

### **3.4.3 The wrong example of the potatoes-vegetables-meat (AVG) culture**

The Dutch culinary culture is very much centred around the trinity of potatoes, vegetables and meat (Dutch: aardappels, groente en vlees, AGV). This is what the typical Dutch dinner looked like over a century ago, but which is still very popular nowadays (NU, 2015). This engrained cultural habit has been noticed by five of the interviewees as a barrier in being able to lessen their meat intake or to become a vegetarian all together. Interviewee 1 stated: *"For me, every meal used to be a piece of meat, vegetables and something like mashed potatoes. So I think the reason that we all grew up with the ideology of meat and fish everyday just makes it difficult for people to realise: Oh, I have to cook without meat? Then what do I cook?"* Interviewee 2 shared the same sentiment and said: *"Because you have*

*eaten meat for a long period of time, you know a number of dishes with that. And when meat suddenly disappears, you suddenly think: ok, what am I going to eat now? But that is actually a kind of psychological barrier, because there is a lot to eat."* Interviewee 2 hits the nail on the head by saying that there is actually a lot of meals that they could be eating. This key insight interlinks very closely with the first key insight, they are just missing right knowledge and skills. Their deep-seated cooking habits, which are rooted in their cultural background, need to be changed. The design of a new vegetarian restaurant concept presents a great opportunity to set this new example of what 'could be'.

### **3.4.4 'I want to eat healthy, but not necessarily here...'**

Key insight 4 has to do with the desire of people to eat healthy, but won't necessarily do it when buying food at the Ketelhuis restaurant. This is a prime example of an intention-behaviour gap as described in chapter 2. Many of the interviewees have said that they want to choose healthy and environmentally friendly foods and also that they will do that to a certain extent when going to the supermarket, however, when going to the Ketelhuis they won't think very consciously about it. Interviewee 6 said: *"I am aware that I eat healthy and cook with a lot of nutrients, and that I feel good about that. I am more aware of that at home than here [at the Ketelhuis restaurant]."* When asking to explain this behaviour she said: *"That is because when I am at home I cook myself. It [lunch] is much more of a functional nature here [at the Ketelhuis restaurant]."* This could indicate that it is maybe even too easy to just grab a meal at the Ketelhuis now. It does not encourage people to think

about their meal at all, even though that is what they desire and also what is needed when we want people to shift to a healthier and a more environmentally friendly diet. Interviewee 5 underlines this thought by saying how simple it is to just go for the tempting unhealthy option instead of the healthy option: *"But when I went to the Ketelhuis (before Corona) I quickly went for a tasty sandwich with meat while I could also have gotten something healthy."* At the end of the second interview interviewee 2 said: *"I've never really thought about my food choices at the canteen so much actually..."* He was astounded by how differently he wanted his diet (and diet choices) to be and how the choices he made at the university restaurant.

A takeaway from this is that the process to get lunch should maybe be a bit less smooth and thoughtless. People should be challenged more to think about the meal they are going to have, in order to satisfy their wishes to eat healthier and more environmentally friendly.

### **3.4.5 Ad-hoc lunch choices**

Key insight 5 is closely related to key insight 4. This key insight is about the thoughtlessness of food choices that the interviewees make when getting lunch at the Ketelhuis restaurant. Many of the interviewees have indicated that their lunch choices are often based on thoughtless and impulsive behaviour. Interviewee 6 said: *"I look around to see what I feel like eating. Yes, a consideration of what is there and what I feel like having. It's not like I'm going to plan ahead of time what I'm going to eat."* Interviewee 8 takes the same stance: *"I just see if it's even convenient to go there and then I'll see what they have to offer."* The

attitude of the interviewees is very passive with regards to their lunch choices, even though their lunch choices can have a great impact on their health or on the environment. Maybe it could be that they don't see many differentiating factors between the offerings other than price and the personal preference on what they like. Maybe the customers need help with choosing what they really want to have. Inspiring the customers with the new restaurant concept could help in achieving this.

### 3.4.6 Convenience and laziness as motivators

Five out of the eight interviewees have indicated that convenience and laziness are the motivators for them to go to the university restaurant. Interviewee 8 was most upfront and aware about this: *"Convenience, yes. 100% convenience (Dutch: gemak)."* The drivers for interviewee 3 and 6 are both rooted in laziness, with interviewee 3 stating: *"In the morning I have the habit of being lazy.. When I'm at uni, I often just go to the canteen and get something there"* And interviewee 6 saying: *"Because I don't feel like doing it [making lunch at home]...then I have to prepare something at home or make my sandwiches."*

The fact that so many people are driven by laziness and convenience to go to the restaurant is rather undesirable when you own a restaurant. The fact that these customers are not driven by the tasty food of the restaurant or the fact that it helps them in achieving their desired healthy lifestyle is a missed opportunity, because that is essentially what the new vegetarian restaurant has to offer. The new vegetarian restaurant concept should communicate this added value more towards its customers.

### 3.4.7 Concluding remarks

The key insights are diverse in nature, but also clearly interconnected. When looking at the 6 key insights 2 overarching key problems arise. The first one is that there are still a lot of perceived barriers towards eating more vegetarian meals even when the willingness of the students of the faculty to do so is there.

The second overarching problem that appears is that there is a lack of perceived added value of the restaurant. Even though the restaurant made a good move by becoming completely vegetarian, people do not necessarily seem to notice that this is helping them in achieving their goals of eating more healthy and environmentally friendly. It seems like the attitude of the customers towards the restaurant is rather passive and indifferent. When trying to get the customers to adopt a healthier lifestyle this is very undesirable, because this will not get customers to think about the impact of their food choices. Therefore, the customers experience needs to be altered in two ways: it needs to help customers in overcoming their barriers towards eating more vegetarian meals and it needs to stir the customers in order for them to see the added value of the new vegetarian restaurant concept.

# 3.5 Summary of the research findings

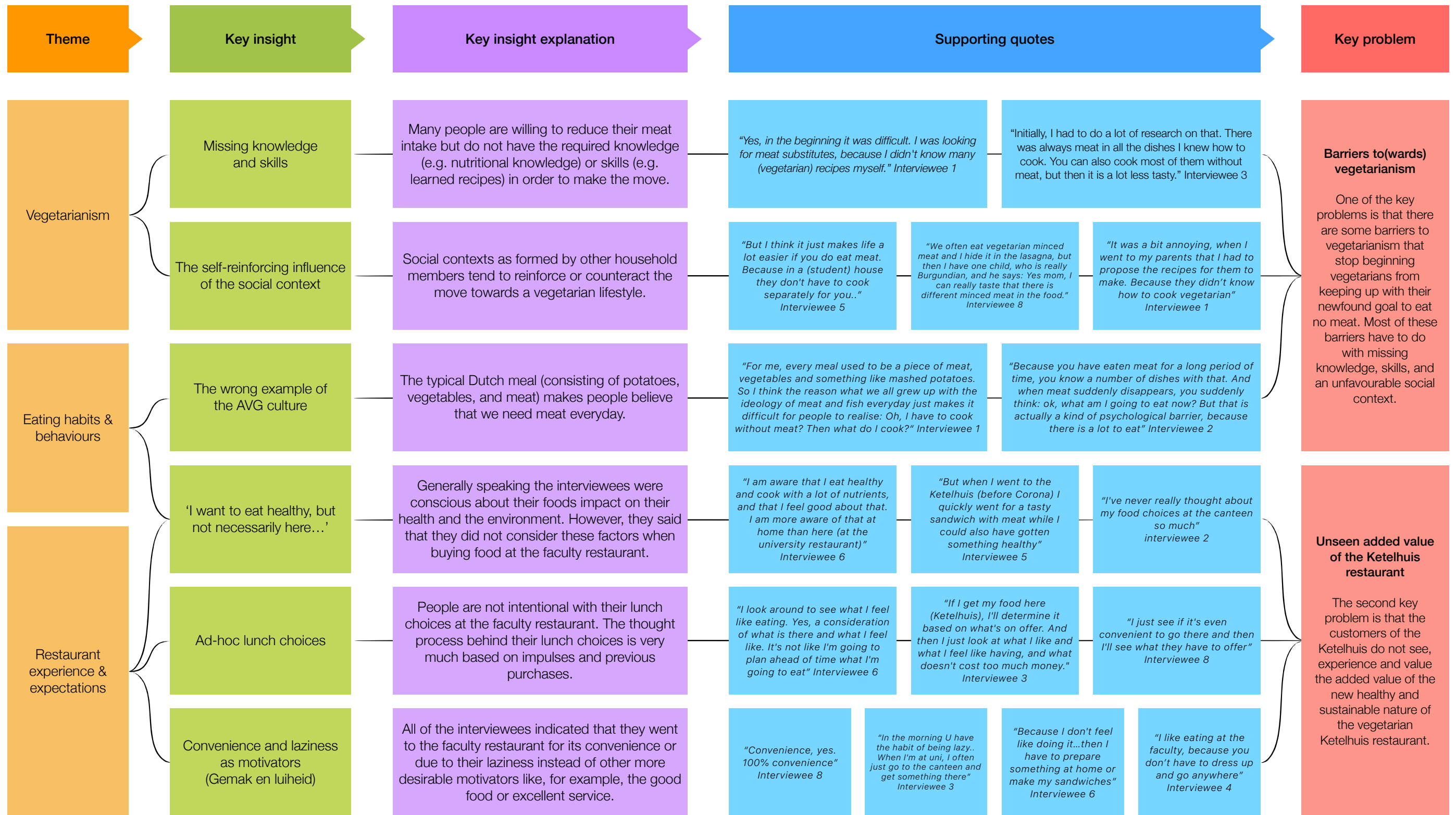


Figure 8: a general overview of the conclusions from the user interviews



# Chapter 4

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## Design brief

This chapter covers the design goal and the design drivers that are used as guides and motivators for the ideation and conceptualisation phases of the project.

## 4.1 Design brief

Before starting the ideation process it is important to set a clear goal on what needs to be achieved. Based on the six key insights, two key problems were formed. This chapter will turn these findings into a design statement and explain which design drivers were chosen to guide the design of the new vegetarian restaurant experience.

### 4.1.1 Design statement

Based on the found key insights and key problems a design goal was formulated: *“My goal is to ensure that Cirfood, with their restaurant in the Ketelhuis, will be able to meet the needs of their customers **to live a healthier and greener lifestyle**. I want people to **see the added value of the restaurant** and to **change their apathetic stance into one of inspiration**”*

### 4.1.2 Design drivers

In order to achieve the project design statement it is important to have a clear set design drivers. These will help in staying focussed on the right aspects of the design of the customer experience (CX), which in itself is a very broad term. The key problems that we are dealing with in this project are twofold. They have to do with overcoming barriers towards vegetarianism and with a lack of observed added value of the restaurant. The barriers towards vegetarianism are varied in nature and also in the ease in which they can be addressed. For example, the missing knowledge and skills is probably the easiest to address, since it is a personal issue that can be fixed with

educative measures. However, the issue of the influence of the social context is much harder to address, since it requires a change of perspective from a group of people. In either cases the aspiring vegetarian needs to start by simply taking the first step, and that requires knowledge and skills. Next to that, it also requires a strong conviction of why adopting a vegetarian lifestyle is important. Therefore, the design driver that was chosen to use for this key problem is that of ‘engagement’. The aspiring vegetarian needs to be empowered in both skills and knowledge on vegetarianism.

The second key problem, the lack of perceived added value of the Ketelhuis restaurant, also needs to be addressed. This problem is very much about apathy and indifference. It is about being stagnant even though the interviewees want change for the better. They do want to eat healthier and with a smaller footprint, however they are not necessarily willing to put in the effort at the Ketelhuis. This is behaviour was fairly predictable based on the fact that people make around 200 food related decisions per day and due to the vast amount of choices most of these get made without a proper rationale. However, there is still an intention-behaviour gap present here. To address this intention gap we need to look at the five factors that make up behaviour change. These are (1) the motivation, (2) the trigger, (3) the response, (4) the capacity and (5) the response (Faries, 2016). The new vegetarian restaurant concept needs to set this process into motion. Therefore, in order to start the ‘motivator’ and the ‘trigger’ the restaurant concept needs to stir a passion within its customers. The design driver that was chosen to address key problem 2 is ‘inspiration’.

“

*My goal is to ensure that Cirfood, with their restaurant in the Ketelhuis, will be able to meet the needs of their customers **to live a healthier and greener lifestyle**. I want people to **see the added value of the restaurant** and to **change their apathetic stance into one of inspiration***

”

# Chapter 5

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## Conceptualisation

This chapter covers the ideation phase of the project. It outlines the scouting of opportunity areas within the old customer journey and designs new interventions that will be implemented in the final concept of the new Ketelhuis restaurant.



# 5.1 Identifying opportunity areas

Based on the desk research, the user interviews and the current customer journey opportunity areas were identified for the creation of the new desired customer experience and the new desired customer journey. The opportunity areas have been divided into three basic categories: pre-restaurant, at restaurant, and post-restaurant. The ideation phase and the concepting phases will dive into these opportunity areas in order to find good design solutions.

Pre restaurant: In the pre-restaurant phase there are a couple of major improvement points. The main problem is that there are barely any company controlled touchpoints that lead customers to the Ketelhuis restaurant. The only brand owned touchpoints that are currently out there are the paper signs outside of the restaurant.

At restaurant: Inside of the restaurant itself there need to be improvements that will help consumers to become more conscious about their food choices and will help them to lead a sustainable vegetarian lifestyle. The restaurant will need to help inspire and engage people in order to help them achieve this.

Post restaurant: People need to start seeing the new added value of the restaurant in order to become advocates of the restaurant and in order to make a regular return. This will be beneficial for both the Ketelhuis restaurant and its customers.

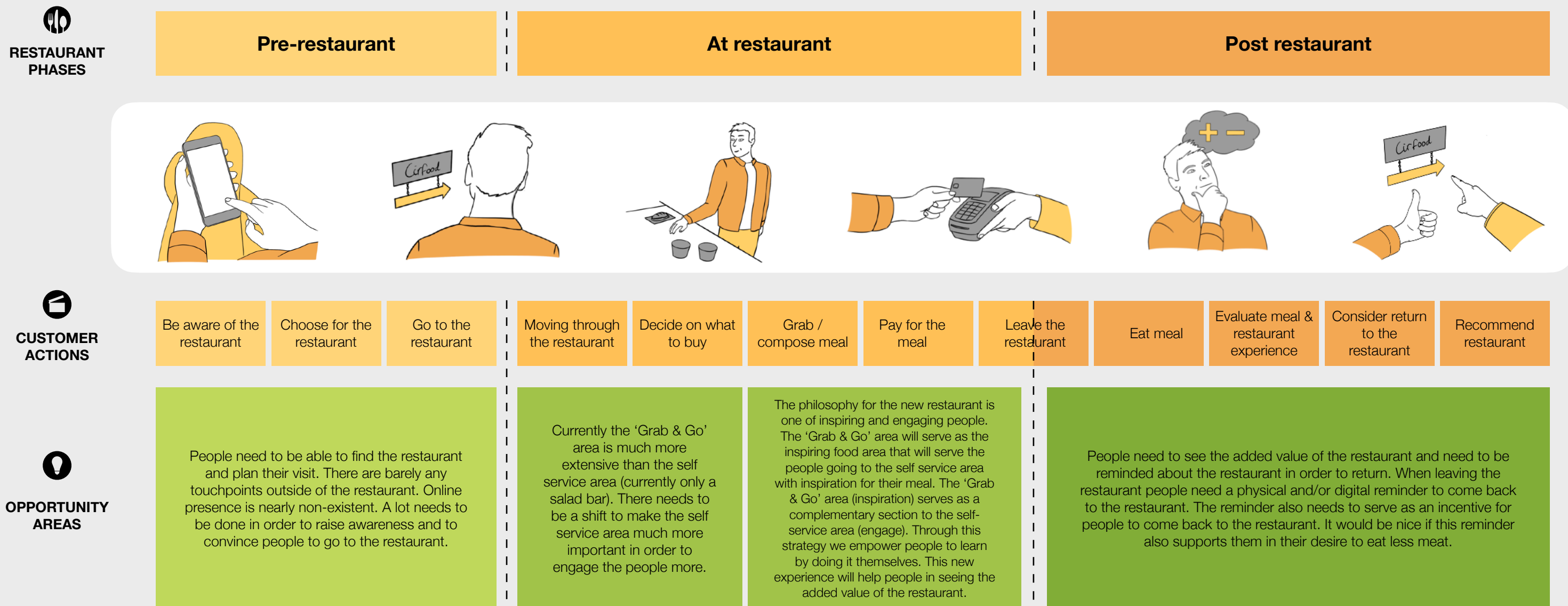


Figure 9: Opportunity areas spotted based on the current customer journey

## 5.2 Design drivers: “How might we...”

On the basis of the two design drivers two ‘how might we...’ questions were created. ‘How might we...’ questions are an ideation process that leads to new design solutions that may help to solve the question at hand. The ‘how might we...’ questions that were created for this ideation process were: ‘How might we inspire people in a restaurant’ an ‘How might we engage people in a restaurant’ The results of the HMW sessions can be found on the next three pages.

### 5.2.1 ‘How might we...inspire people in a restaurant’

The results from the HMW suggest that we can mainly inspire people on the topic of food by triggering their senses. It is important to engage your customers senses to create the inspiring restaurant experience that is needed for the new restaurant concept.

Seeing: people need to see inspiring meals. They need to see the ingredients being shaped into a meal right in front of their eyes. From raw ingredients to complete meal. That is why it is important that the new restaurant concept moves towards a more open kitchen layout. Then customers can experience the authenticity of the meals that are created at the Ketelhuis restaurant.

Another aspect of ‘seeing’ is the presentation of the meals. The meals that are prepared should be presented in the best way possible. Take some example meals and present them on nice looking plates or display large photos of the meals.

Smelling: people need to smell inspiring meals. By creating a more open concept the restaurant will be able to release more smell towards its customers. One way in which this can be done is by making the soups outside of the enclosed kitchen and serving more warm meals. Seduce people to buy a meal by releasing an irresistible smell in the atmosphere.

Hearing: the sound of knives on a chopping board, the sound of a sizzling pan or even the way employees describe their meals to customers with questions. All of these sounds will shape an experience of authenticity that makes people enjoy their food more and make them more conscious about what they are eating.

Tasting: Put some tasters at the beginning of the restaurant to let people experience something new. A ‘no strings attached’ experience that will invite people to try something that they have never had before. This creates a safe environment in which people can try out something, without having the risk of spending their money on something they might not like.

### 5.2.2 ‘How might we...engage people in a restaurant’

The results of the HMW suggest that we can engage people in a restaurant by involving them in the creation of their meals. Learning by doing is the most effective way of teaching people new knowledge and skills. The restaurant should offer people a safe environment in which Cirfood is a blue to pull

its customers slightly out of their comfort zone. The customers should be able to experiment with making new vegetarian meals. It should be a guided process that teaches people how to make a complete vegetarian meal. The emphasis in this process should be on the meat replacements, or to put it better, on a plant based source of protein. This is the most important to put the emphasis on, because it is the area that people are least familiar with. Therefore, show customers the ingredients, let them use and compose the ingredients themselves and inform them about the ingredients in order to let them experience what it means to make a vegetarian meal. Then people will discover how simple it actually is to cook vegetarian meals.

### 5.2.3 ‘How might we...engage and inspire people beyond the restaurant’

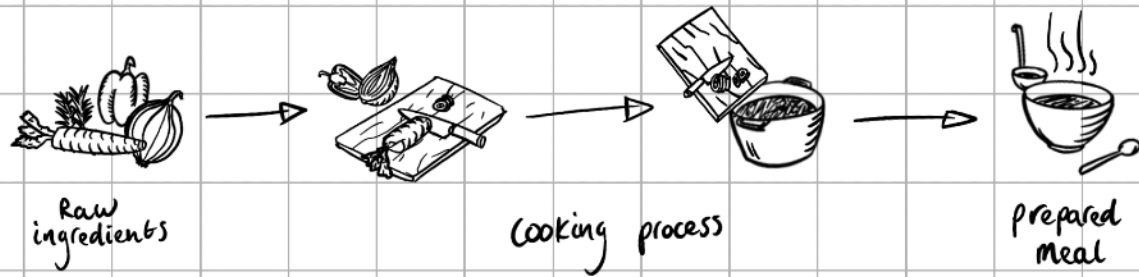
Scattered throughout the previous HWM questions a new HWM appeared. ‘How might we...engage and inspire people beyond the restaurant’. Ways that appeared in this were to give customers something that they can use or interact with outside of the restaurant. A big one for this could be take-home recipes. Recipes that students and employees can take to the supermarket at the end of the day to buy ingredients for their dinner. Or supply them with simple feedback cards in order to engage them in improving the menu. These feedback cards will also have the effect that they will be more conscious in evaluating their meal. Or maybe even take it online. Create a social media

page specifically for the Ketelhuis restaurant only on which you can post the soup of the day, new recipes, or fun promotions. Anything to get customers to think positively about the restaurant in order to make them come back to the restaurant.

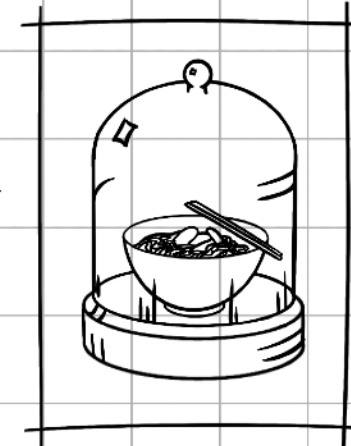
# HOW MIGHT WE

# INSPIRE PEOPLE IN A RESTAURANT

Het hele proces laten zien van ingrediënt tot maaltijd



De meest bijzondere maaltijden mooi presenteren



Moving the inspiration from the physical restaurant environment into the digital space that people can access from home.

'Show, don't tell' (the online edition). Links to cooking videos people can watch at home.

Open keuken



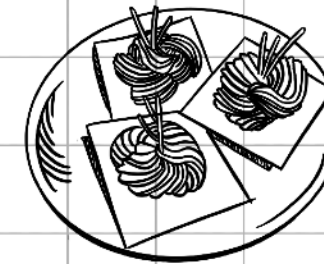
Transparantie in de keuken geeft ook meer een ambachtelijke feel.

Zorgen voor maaltijden die lekker ruiken (meestal warme maaltijden)



Portemonnee formaat Kaartjes die je makkelijk kan meenemen naar de supermarkt.

proevertjes



Organic vibe for the restaurant in order to give a 'healthy' and a 'good for environment' feel.



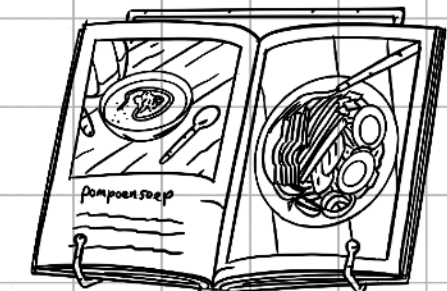
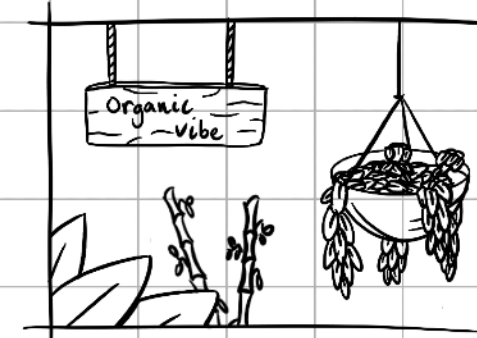
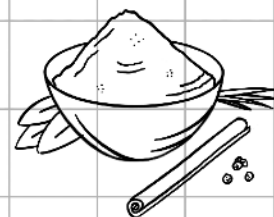
QR code with link to Youtube or Instagram



Have a lot of visual images of aesthetically pleasing vegetarian meals (e.g. from a cooking book)

Ingrediënten van de maaltijd op een kaartje zetten om mensen bekend te maken met nieuwe ingrediënten.

Zelfde verhaal voor de kruiden



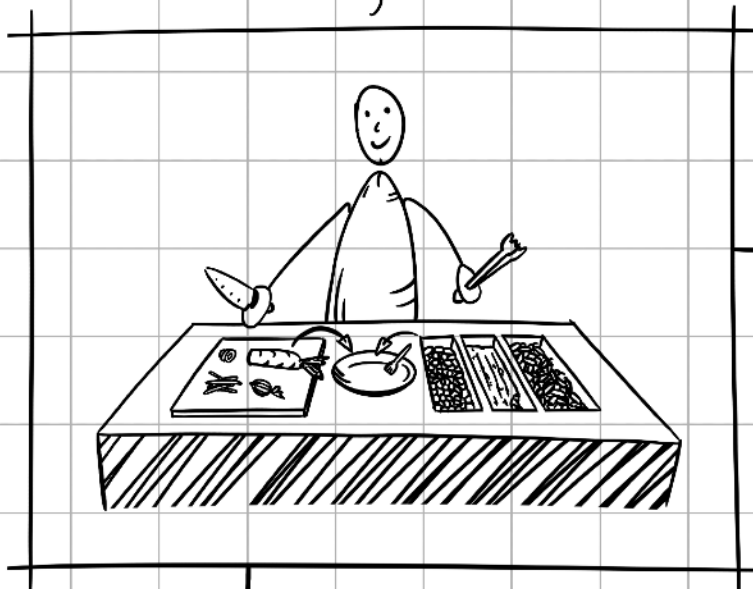
- Pompoensoep**
- \* Flespompoen
  - \* Ui
  - \* Knoflook
  - \* Winterpeen
  - \* Crème fraîche
  - \* Laurier
  - \* Komijn
  - \* Groente bouillon

Figure 10: The results of HMW session one "How might we...inspire people in a restaurant"



# HOW MIGHT WE ENGAGE PEOPLE IN A RESTAURANT

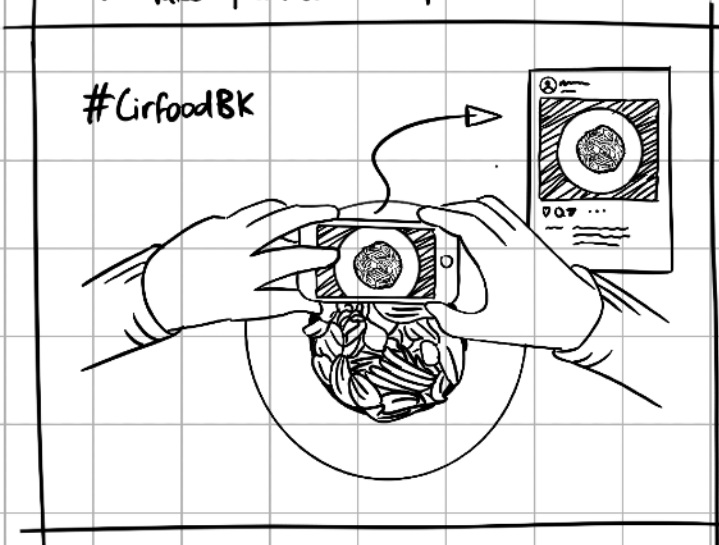
Laat klanten zelf de maaltijd koken / samenstellen om ze meer te betrekken en ze bewuster met hun voedselkeuzes om ze laten gaan.



Engage your customers beyond the 4 walls of the restaurant!

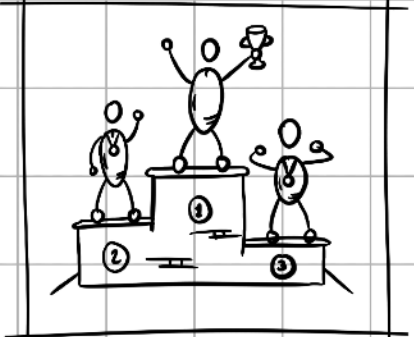


Let the customer engagement go online by encouraging customers to take pictures and post online



Also highlight their efforts to make them feel appreciated and to keep the engagement going

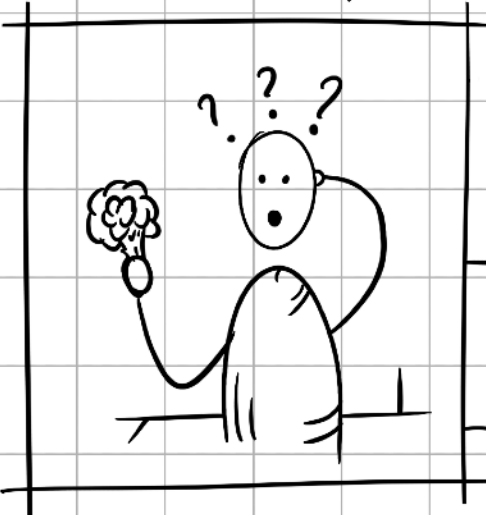
Organise a meal photo or best recipe competition



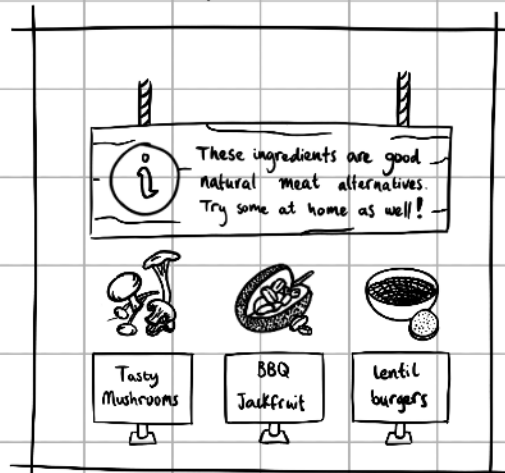
"The more people know, the better they can do their job."

Also serves as a great reminder for people to return to the restaurant.

Mensen bekend maken met groenten die ze nog niet kennen (incentivise exploration)



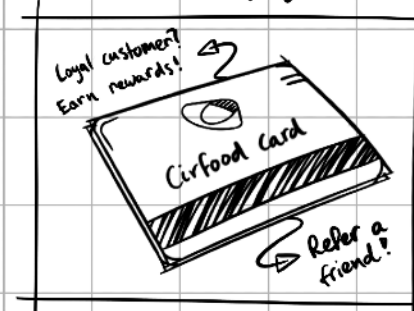
Inform people about good meat replacements.



Take meal suggestions & feedback



Create a loyalty or a referral programs

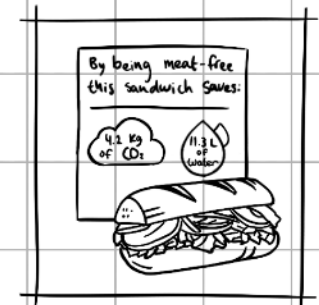


Show people that their efforts are meaningful and have a positive impact.

As a collective:



As an individual:



Get people out of their comfort zone in order to make them think about their food choices more.

Change up the menu every once in a while



Create curiosity through creating a dynamic environment through e.g. moving screens



Figure 11: The results of HMW session two "How might we...engage people in a restaurant"



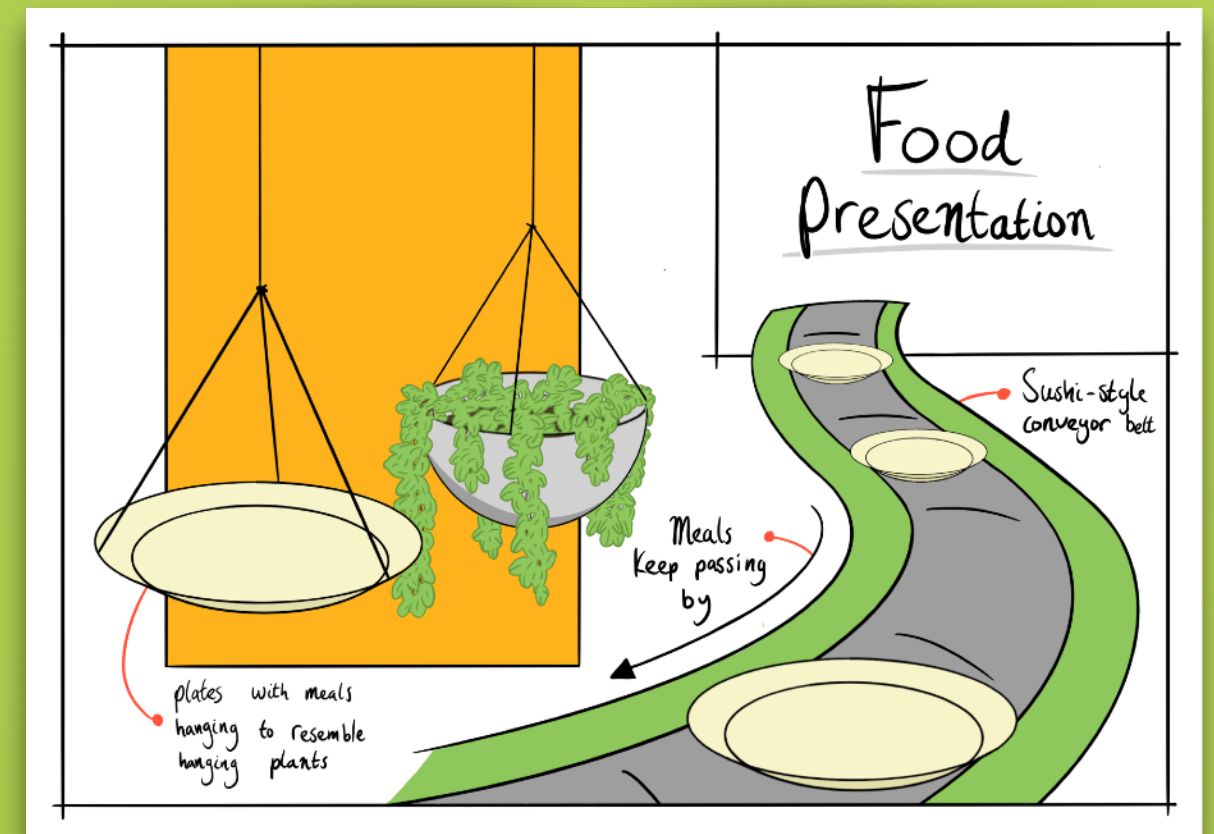
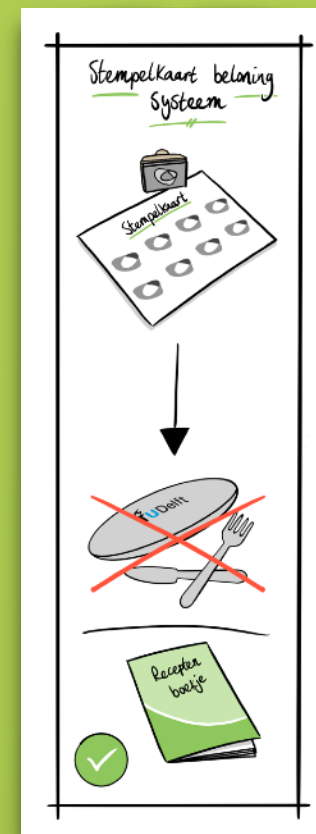
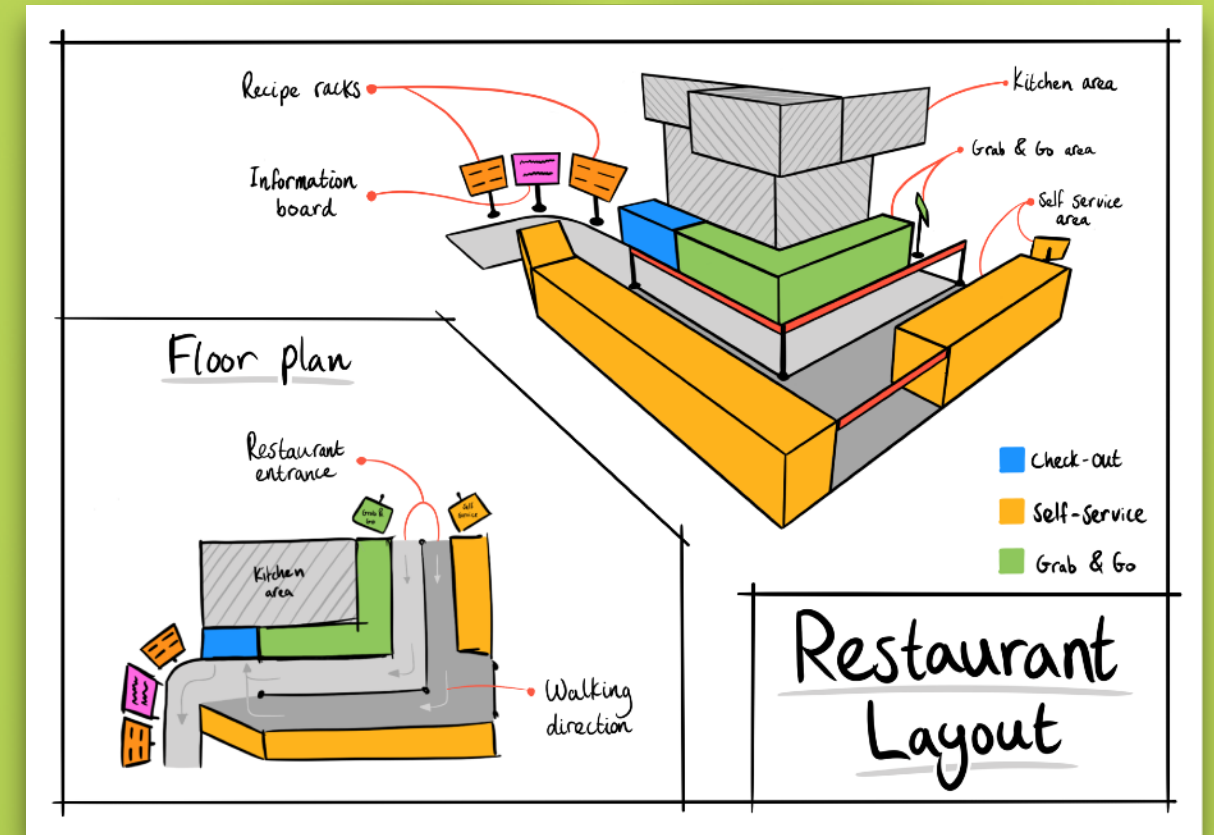
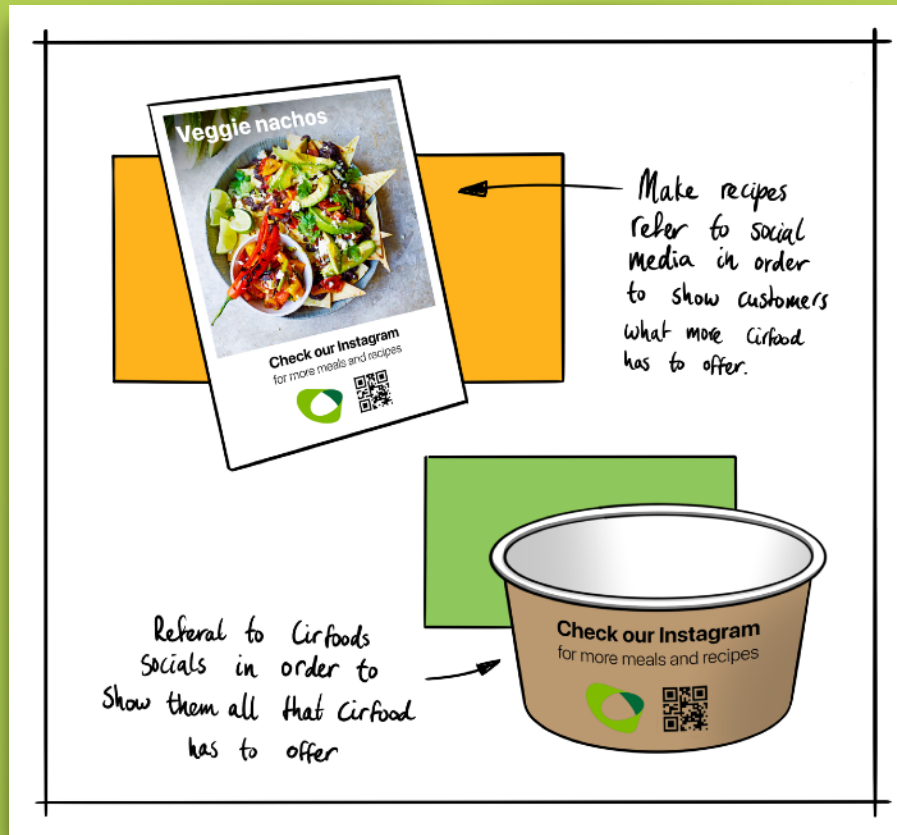


Figure 12: Further developed ideas from the HMW sessions

## 5.3 The journey through the restaurant

The customer journey through the restaurant will be different for the grab and go area as for the self service area. The 'Grab & Go' area of the restaurant will act as an area of inspiration. This area is made to inspire the customers of the restaurant. Therefore, the first thing they will encounter is the view of example meals, the meals that Cirfood is most proud to show. After that they move on to the open kitchen area where they will smell the food that is being prepared in the kitchen. Afterwards they will move on to choose their meal and pay for it.

In the self service area (which has now been renamed to be the 'Make & Enjoy' area) the journey will also start with the seeing of Cirfood's best meal. This will form the inspiration for the meal that they are going to make themselves. After that the meal creation journey will start. They will start of with the 'base' section where they get to choose whether they are going to make a sandwich, a salad or a warm meal. In the 'veggies' section they will add vegetables to their meal. In the next section they will add protein to their meal. This is the section that requires the most attention and the most explanatory information. This is because this is where the interviewees felt that they were missing the most knowledge and skills. This section will be accompanied by informative banners that explain what type of plant protein are available and what the characteristics of each one is. The last stage in the meal creation is the topping. This incorporates spices, sauces, dressings and toppings like, for example, grated cheese.

The final combined stage for both the 'Grab & Go' area and the 'Make & Enjoy' area is the buy stage. After this the customers will leave the restaurant past the recipe board.

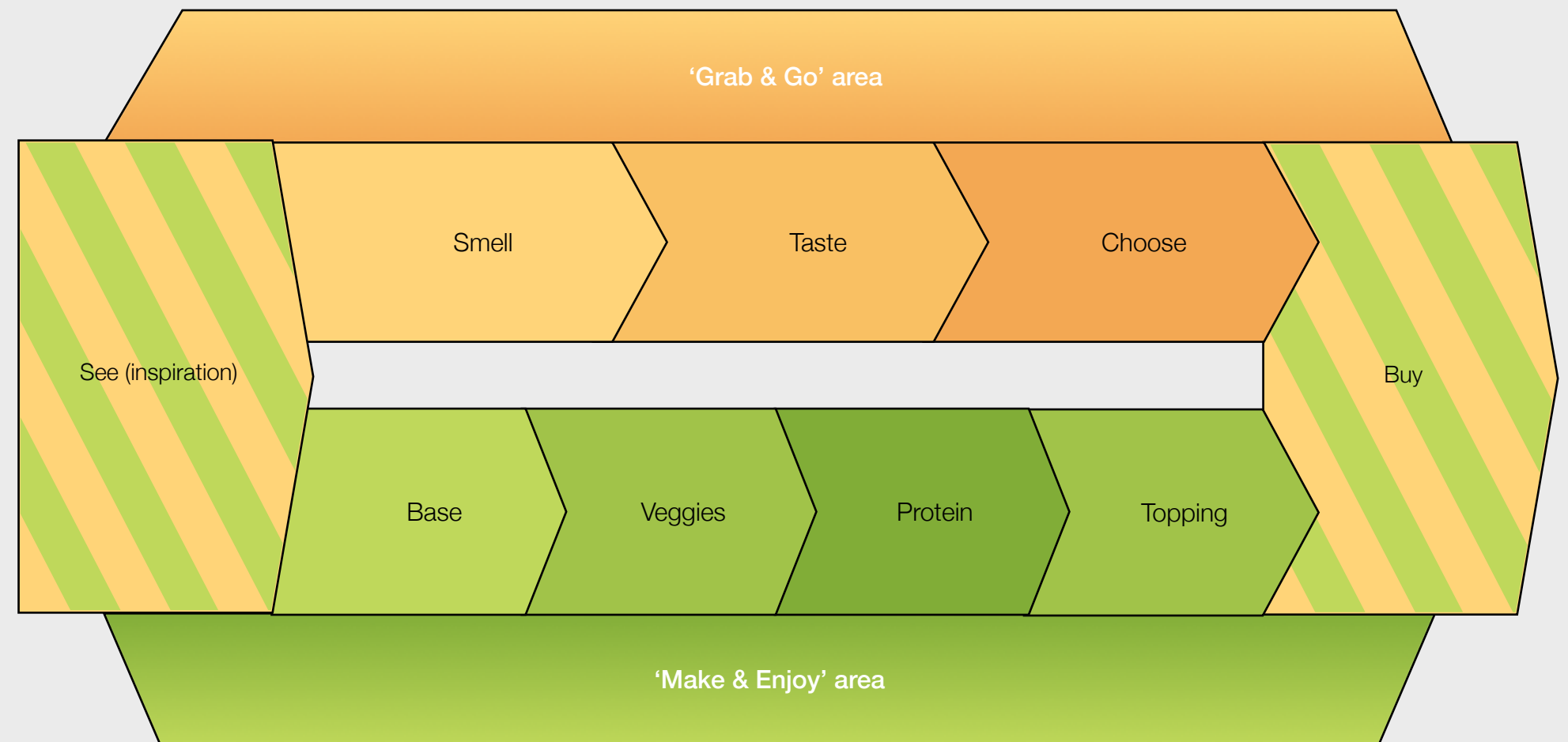


Figure 13: An overview of the new customer journey through the restaurant

# 5.4 Customer Journey Map

A new customer journey map was created to give Cirfood a better understanding of the choices that were made for the design of the new restaurant. The way in which the map was created was by first mapping out all of the steps that the customer would go through in its purchase journey. The journey starts all the way at the awareness phase. At this stage customers need to become aware of the existence of the restaurant and after that the user needs to choose for the restaurant. The process ends at the advocacy part, where users have already decided to return to the restaurant and now want to tell friends and colleagues about the restaurant.

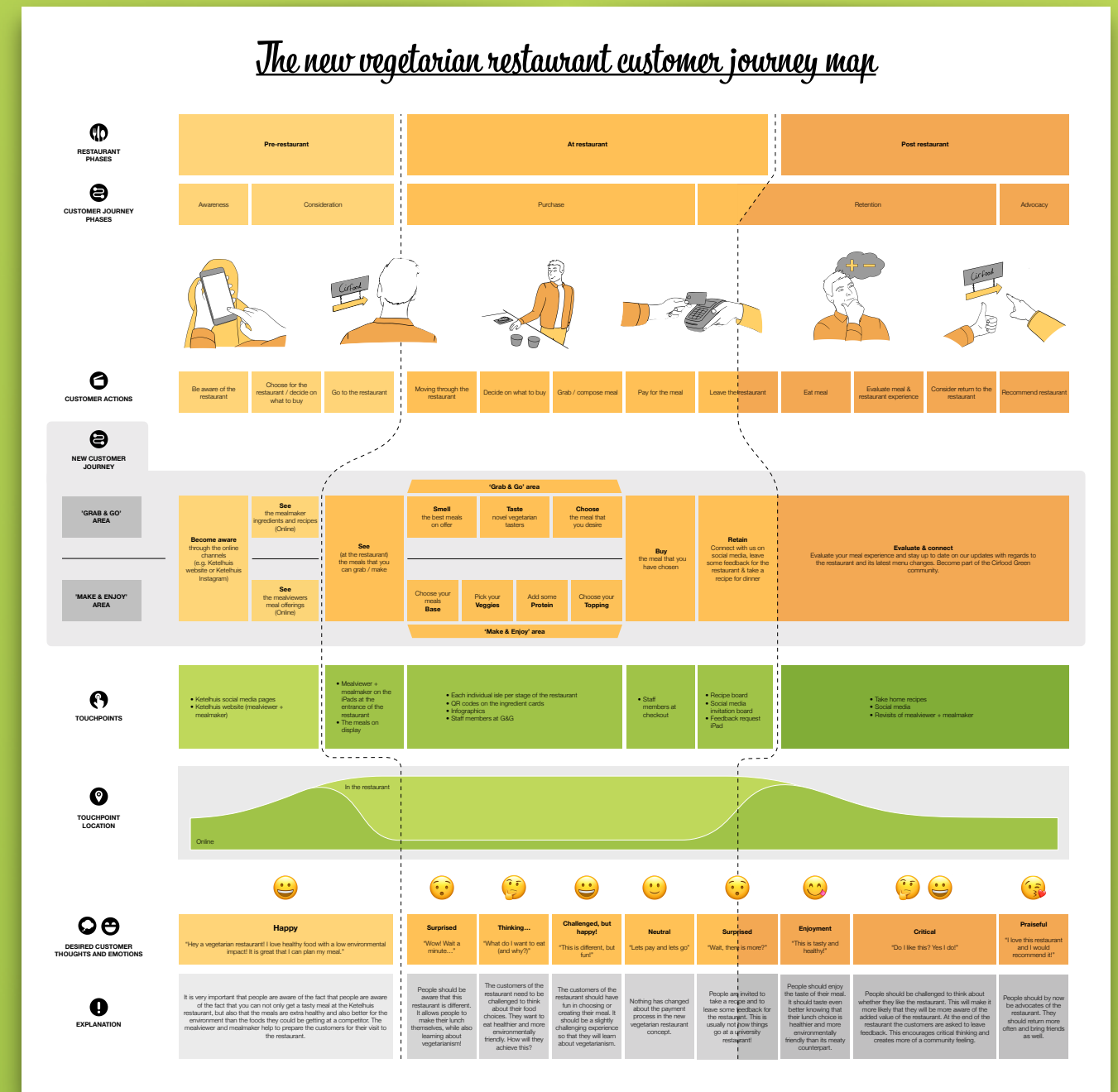
Along the whole journey opportunity areas were found for improvements for the new vegetarian restaurant concept. The most focus was put on the phases in the restaurant itself, since this was the main focus of the project. However, it is important for Cirfood to remember that the customer experience of the restaurant needs to be consistent across the whole customer journey in order to be as successful as possible. Throughout every step of the customer journey the customers need to know what the new main selling points of the restaurant are and how they are going to add to their goals of eating healthier and lowering their nutritional footprints.

One of the most important elements of this customer journey map is the customer thoughts and emotions row at the bottom. This explains how the customers should feel throughout the customer journey. The most important takeaway from this section is that the journey should not be as smooth as

possible, contrary to what many pieces of literature on CJMs and CXs are saying. The goal of the new restaurant is different. With this concept we are not trying to promote thoughtlessness within the customer, because this will not solve the key problem of the indifference of the customer with regards to the restaurant. A completely smooth experience would also not encourage people to think about their food choices within the university restaurant. It is important to have some slight bumps or hiccups within the customer journey in order to shake up the customers a little and act as a thought provoking point.

It was deemed important to surprise and challenge the customers within the restaurant. Especially in the 'Make & Enjoy' area customers are challenged to really think about what they are going to eat and why. All the while they are learning by doing. Even in the 'Grab & Go' area people will be challenged to think more about their food choices. Whereas first they had to think about what they like, now they will also be challenged to think about the footprint of their meal, through newly introduced carbon labels with every meal.

The last point where the customers are challenged is near the end of the restaurant where people are asked to give feedback on the restaurant and on their meal. The advantage of this is that it encourages people to think more critically about what they have been eating and about the restaurant itself. This will cause them to get more involved and will also create more of a community feeling.





# The new vegetarian restaurant customer journey map

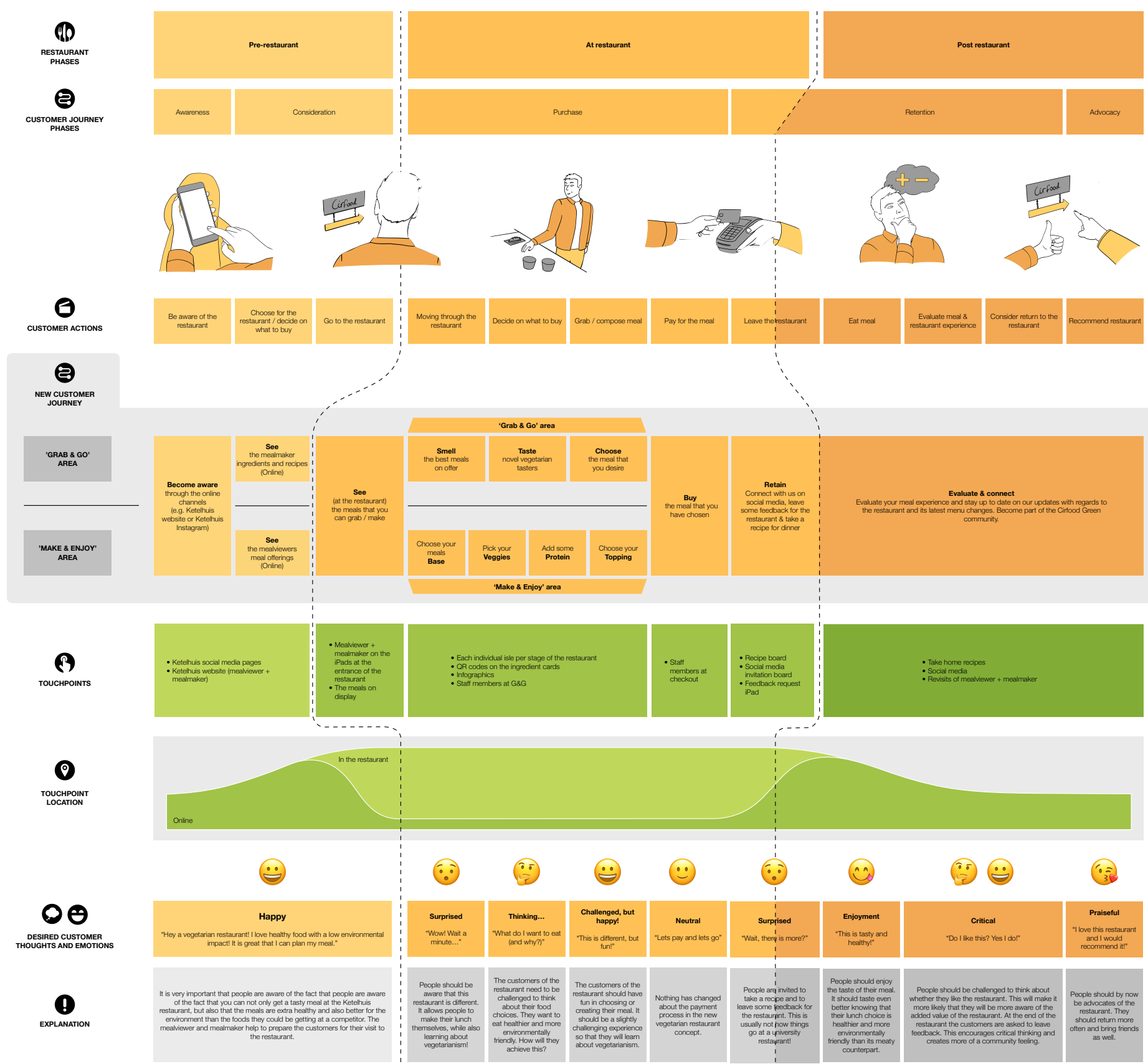


Figure 14: The complete customer journey map for the new Ketelhuis restaurant concept



# Chapter 6

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## Implementation

This chapter presents the new concept of the Ketelhuis restaurant. It explains all the different stages throughout the restaurant and shows the new design interventions that add more value for customers to achieve their greater goals.



## 6.1 Restaurant design

This chapter introduces the design of the new Ketelhuis restaurant concept. The design of the restaurant has been made up of two different sections: the 'Grab & Go' area and the 'Make & Enjoy' area. The design of the Grab & Go area is based on the desk layout that they already have in the Ketelhuis restaurant currently. The restaurant has been expanded by having counters for the 'Make & Enjoy' area. The restaurant now has a lot more emphasis on the customers creating their own meals in order to empower them in their journey towards vegetarianism.

### Styling of the restaurant

The styling of the restaurant has been designed in such a way that it contains several

nature-like elements in order to give off an organic feel. This gives of the impression that the meals presented there are both good for the environment and also good for ones health. Organic elements that have been included are, amongst others, the two toned green flooring to mimic grass. The abundance of palm plants throughout the restaurant. The bamboo textured counters. And artificial vegetation near some of the isles.

The organic feel of the restaurant has been combined with some angular and robust structures in order to give an urban jungle feel. The countertops have a concrete look to them. On top of the countertops there are some display structures which each form their own isle in order to distinguish each stage of the

'Grab & Go' area and the 'Make & Enjoy' area. The urban jungle has become the leading design theme as a consequence of the organic style of the restaurant mixing with the concrete design style of the faculty. After all, this design is made for the Faculty of Architecture.

### Creating an authentic feel

Some attention has also been paid to creating more of an authentic feel for the restaurant. Creating a feeling of authenticity is key in creating a good customer experience. (Isidoro, 2018) The first element thing that was done to create a more authentic experience is that the kitchen was partially moved towards the counters of the 'Grab & Go' area in order to make the cooking process more visible. This

gives the impression of the food being fresher and more healthy.

The second element that was introduced was that the ingredient boxes were surrounded by a crate-like enclosure to give the feeling like the ingredients were just brought in from the market.





## The new restaurant entrance

The current Ketelhuis restaurant does not have a clear entrance to it. This was added in the new restaurant concept for several reasons. First of all, this creates a border between the university and the restaurant, which sets the restaurant more apart from the faculty. In this way, the 'university experience' does not gradually bleed into the 'restaurant experience'. The new entrance separates the two, creating a new separate world within the restaurant that is clearly different from the university.

The second reason why a clear restaurant entrance was designed was for communication purposes. The new restaurant entrance has a large green sign that clearly indicates that this now is a healthy vegetarian restaurant. This is lacking in the current restaurant, but it is certainly a strong differentiator that needs to be shown. Furthermore, the restaurant entrance now proudly represents the new Cirfood Green sub-brand, an element that underlines the healthy and sustainable nature of the new restaurant.

Another communicative element that has been added to the restaurant entrance is the signs distinguishing the 'Make & Enjoy' area and the 'Grab & Go' area. This clearly communicates that there are two different areas to the restaurant, which clears up potential confusions that might occur due to the fact that the new restaurant concept is unique in nature.





## 6.2 Mealviewer + Mealmaker

A new element that has been added to the restaurant concept is that of the 'Mealviewer' and the 'Mealmaker'. The 'Mealviewer' and 'Mealmaker' are online tools that help the customers of the Ketelhuis to plan what they are going to buy. This was introduced to, on the one hand, help the customers to get the right meal that they desire and, on the other hand, to achieve a larger throughput for the restaurant. Additionally, the 'Mealviewer' and the 'Mealmaker' have been added to be the online inspiration part of the restaurant. In the first iteration of the the restaurant the inspiration part was purely physical in the restaurant, by showing inspiring meals. In the second restaurant iteration the inspiration isle has been reduced in size to create more space for the other stages of the 'Make & Enjoy' and 'Grab & Go' area.

The 'Mealviewer' and the 'Mealmaker' tools give people plenty of time to make their lunch decisions without feeling any time pressure from being in the heat of the moment (quickly choosing at the restaurant). It helps people to make a more conscious choice about what they want to eat, something which is crucial if they want to make healthier and more sustainable choices. Additionally, when the customers come to the restaurant prepared they will move through the restaurant quicker, which is beneficial for the traffic flow in the restaurant.

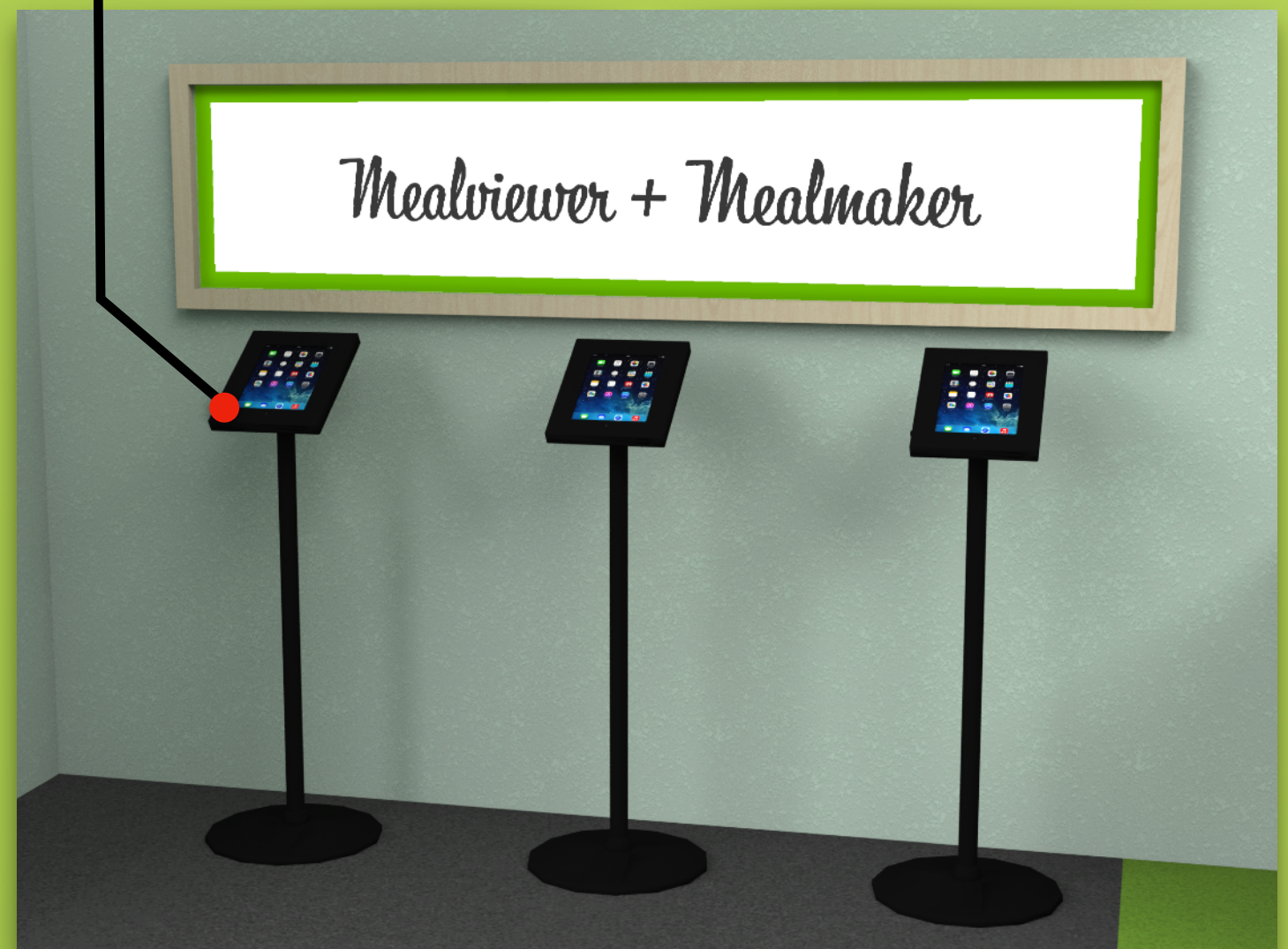
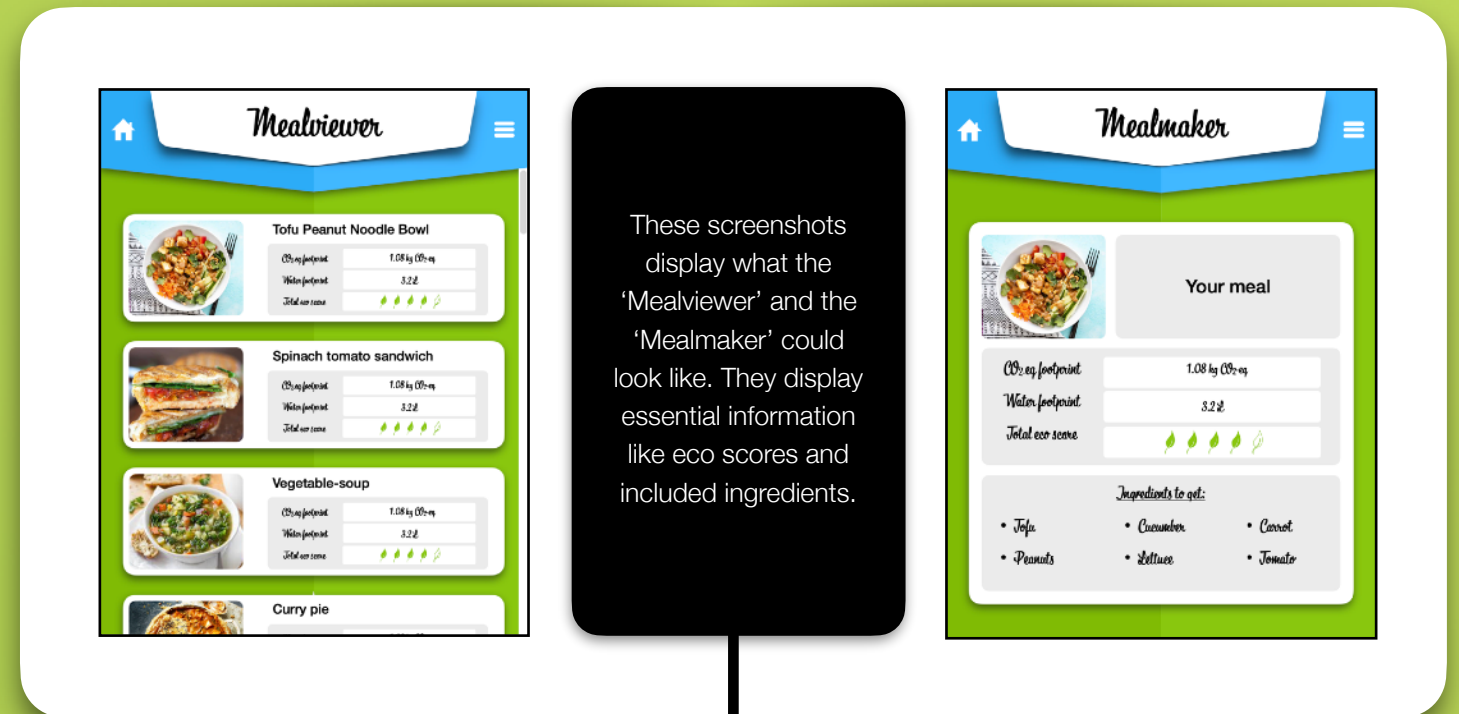
The 'Mealviewer' and the 'Mealmaker' can both be accessed online on a webpage or in the restaurant. In order to be able these tools in the restaurant three tablets have been placed at the entrance of the restaurant.

### The 'Mealviewer'

The 'Mealviewer' is an online tool designed for the 'Grab & Go' area. It is a tool that displays the current food items that the Ketelhuis has to offer for that specific day or week. The information that is shown in the 'Mealviewer' is the food item, its price, and its eco score (Carbon footprint and water footprint included). Having a tool like the 'Mealviewer' also allows for new possibilities with regards to supply side logistics. For example, people can use these tools to order or request meals for the coming days or weeks, which is beneficial for Cirfood's food procurement planning. However, this aspect falls outside of the scope for this project and is therefore not further explored in this project.

### The 'Mealmaker'

The 'Mealmaker' is an online tool designed for the 'Make & Enjoy' area. It is a tool that help the Ketelhuis customers to see what ingredients are available at the restaurant and what meals they could be making with those ingredients. It displays the nutritional values of the ingredients and how they add up in the meals that the customers have created. Additionally the total environmental footprint of the meal as a whole is displayed. This helps people to better achieve their goals to eat healthy and sustainably.





## 6.3 The new restaurant layout

The layout of the Ketelhuis restaurant has been adjusted in order to accommodate for the newly designed 'Grab & Go' and 'Make & Enjoy' areas of the restaurant. Figure 15, displayed on the right of this page, shows the new layout of the restaurant. The area indicated in blue is the 'Grab & Go' area of the restaurant. The counter placement of the 'Grab & Go' area of the restaurant has remained the same in comparison to the old restaurant. However, the function of the counters has changed significantly. Chapter 6.4 will dive more into the explanation of this. The greatest change in layout of the restaurant comes from the 'Make & Enjoy' area. This is an entirely new section to the restaurant. This area is indicated on the floor plan as the yellow area. In the old restaurant this was non-existent, but in order to engage and educate the customers more this was deemed essential to include in the new restaurant design.

Other changes to the restaurant layout include the addition of a new checkout area (added to the 'Make & Enjoy' area). Furthermore, the kitchen area has been expanded towards the counters of the 'Grab & Go' area. The old kitchen used to be hidden behind walls, which made it difficult for customers to see. The idea behind the new expanded kitchen was to increase the authentic feel of the restaurant by giving the customers a better glimpse of the food creation process.

One more addition to the restaurant was the introduction of the 'retention' isle. At this stage of the restaurant customers are invited to leave some feedback for the restaurant. Furthermore, they are encouraged to follow the social media pages of the Ketelhuis restaurant

and the customers are also free to take a paper with them which they can use for their dinner.

One final point to touch upon with regards to the layout of the restaurant is the new flow of the restaurant. The old restaurant layout had 4 potential entrances/exits. With the creation of the new intentional customer journey this has been narrowed down to only one restaurant entrance and one restaurant exit. The new flow of customers has been indicated on the floor map with a red arrow. Creating this flow was essential to ensure that the customer would go through the different stages of the restaurant in the right order. This flow has been explained in chapter 5.3.

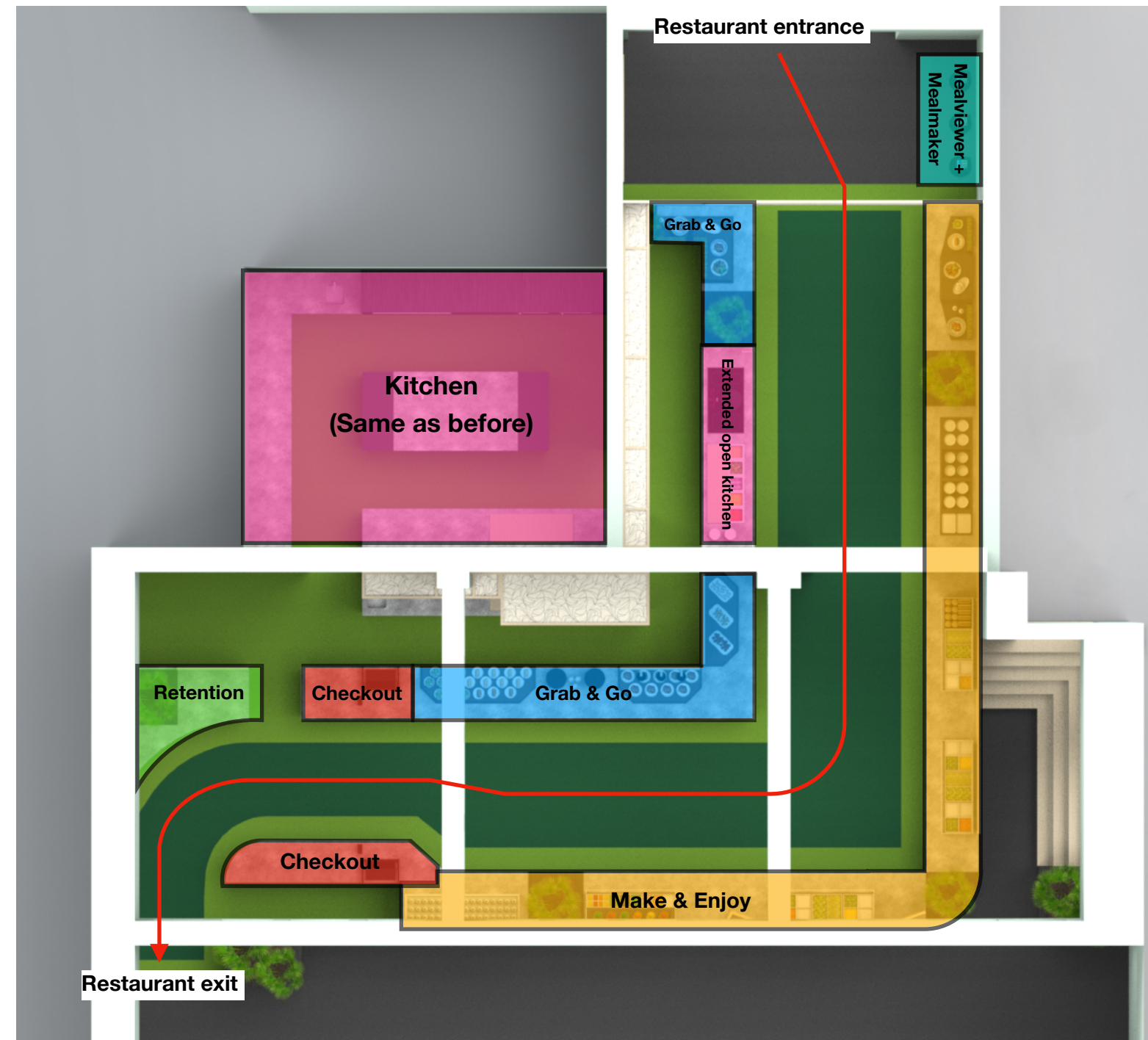


Figure 15: The new Ketelhuis restaurant layout



## 6.4 The 'Grab & Go' area

The new restaurant concept was designed to inspire and engage its customers. The 'Grab & Go' area of the restaurant has mainly been designed to inspire the customers of the restaurant and the 'Make & Enjoy' area of the restaurant has been designed to engage the customers more. In order to inspire the customers of the restaurant a customer journey has been designed that triggers the senses of the Ketelhuis customers (see chapter 5.3). The stages in 'Grab & Go' customer journey are as follows:

- 1) **See** the best meal offerings
- 2) **Taste** novel vegetarian tasters
- 3) **Smell** the delicious meals being prepared
- 4) **Choose** the meal that you desire
- 5) **Buy** the meal that you have chosen

A lot of the counter space has been dedicated to inspiring most of the human senses. In the old restaurant much of the counter space was dedicated to showing fresh ingredients next to the meals. This is great to give people the impression that the meals at the Ketelhuis are healthy and fresh. However, it did not inspire people to become excited about the foods that they were about to eat. By triggering all the senses a new passion is stirred within the customers.

What was also considered to be important for the new Ketelhuis restaurant is the speed of throughput at the restaurant. A lot of customers will show up at the restaurant in a span of a couple of hours. Therefore the 'Grab & Go' area was designed in such a way that it encourages people to stop only for very short periods of time only.



### Phase 1: See

This phase is all about the customers seeing the best meals that the restaurant has to offer. Here customers can already decide on what they want to eat. This phase is partly also completed online for the people who check out the Ketelhuis 'Mealviewer'.

### Phase 2: Taste

This phase is all about getting people to try out the new vegetarian meals that the restaurant has to offer. It is a free tryout that lets customers try new foods without having the risk of spending their money on something that they potentially may not like in the end.



### Phase 3: Smell

In this phase people are walking past the open kitchen. The open kitchen is used to prepare some of the meals. It will disperse delicious smells throughout the restaurant that will create an inspiring atmosphere that will leave a lasting impression on the Ketelhuis customers.

### Phase 4 & 5: Choose and buy

In this phase the customers get to choose the meal that they desire. All the meals are presented categorically so that people will be able to make their decision quickly. The meals are presented with an ingredient list and a carbon label to make an informed decision. After they have chosen their meal they can head towards the checkout in order to pay for their meal.





## 6.5 The 'Make & Enjoy' area

The newly added 'Make & Enjoy' area is the biggest change in the new concept in comparison to the current Ketelhuis restaurant. The 'Make & Enjoy' area of the restaurant is designed to engage the customers of the restaurant and to empower them with the knowledge and skills to make their own vegetarian meals, which can help them greatly in adopting a more healthy and sustainable lifestyle. The idea behind the 'Make & Enjoy' area is that the customers compose their own meals in order to learn more about vegetarian meal making. In order to do this the 'Make & Enjoy' area has been designed in such a way that it breaks down the meal creation process in a few of simple steps. Every meal, regardless of the type of meal, consists out of a couple of basic ingredients. The first ingredient of the meal is the base, this ingredient is usually high in carbohydrates. For a sandwich this is bread, and for a meal or a salad this usually consists out of potatoes, rice, or pasta (among others). After that vegetables get added in order to add healthy nutrients and vitamins, then protein get added to the meal, and finally a topping gets added. These steps formed the base for the design of the 'Make & Enjoy' area. The full overview of stages is as follows.

- 1) **See** the meals that you could recreate
- 2) **Base** - Choose the base of your meal (Sandwich, salad, or a warm meal)
- 3) **Veggies** - Choose the vegetables for your meal
- 4) **Protein** - Choose the high protein content for your meal (and get educated about protein)
- 5) **Topping** - Choose your topping to finish of your meal
- 6) **Buy** - Pay for your meal

The 'Make & Enjoy' is of essential to the restaurant. This is the greatest contributor to the uniqueness of the restaurant. It is also the part of the restaurant that most helps people to overcome the barriers that they experience towards adapting a plant-based diet. Cirfood can really add value to this stage by taking on the expert role and educating people in the meal creation stage in order to guide their customers towards a more healthy lifestyle. Doing this is of great importance in changing the customers indifferent stance towards the restaurant. It makes them see the added value of the restaurant with regards to the current restaurant concept.



### Phase 1: See

The function of the see phase here is slightly different from that from the 'Grab & Go' area. Here the goal is more to enable people to recreate the meals that are on display. They act as an example for the people who have not used the 'Mealmaker' earlier on.

### Intermediary phase 1: Prepare

This is where the customers grab their tray and a bowl or a plate. There is also a small piece dedicated to explain how the 'Make & Enjoy' concept works and which steps the customers have to make in order to make a well-balanced meal.



### Phase 2: Base

In this phase the customers choose the base for their meal. This is usually the component in the meal that is high in carbohydrates. Customers can choose to make a sandwich, a salad or a warm meal. Ingredients that should be presented here are: sandwiches, pasta, rice, potatoes, etc.

### Phase 3: Veggies

In this phase the customers choose the veggies for their meal. A wide array of vegetables should be present in order to make sure that there is a fitting match for every kind of meal.







#### Phase 4: Protein

Phase 4, the protein phase, is the most important phase of the whole 'Make & Enjoy' area. Animal products have been the leading source of protein intake for most people. With the protein transition on the rise this is bound to shift more towards a plant based diet. The matter of fact is that this requires more effort, since plant based products generally contain less protein than plant based products. Therefore people need to be guided and educated on this topic. That is why the protein section in the 'Make & Enjoy' area deserves a bit more attention. Two information sheets have been made to accompany the ingredients displayed in this area. These sheets are presented in chapter 6.6. The goal of these information sheets is to educate the customers on the most important factors of protein consumption. Why is it needed? How much do you need? But also, which of these ingredients contain a lot of protein? And, what makes each ingredient unique? It helps people to gain the needed knowledge in order to shift to a plant based diet. It makes them feel more at ease in this change of diet.

#### Phase 5: Topping

Here people grab a topping to finalise their meal. This can be a dressing, a sauce or a topping like, for example, cheese or croutons.



#### Final phases: Grab a drink & Buy

The final phases of both the 'Make & Enjoy' phase and the 'Grab & Go' phase consist of the customers grabbing a drink and paying for their meal.



## 6.6 Educative elements

### Educating the customers

One of the key findings of this report is that Cirfood should take on the role of expert in order to help their customers in their journey to reduce their meat consumption and adopt a plant based diet. To do this two categories of infographics were made for in the restaurant. One focusses on the environmental advantages of adopting a plant based diet, and the other one focuses on the advantages of consuming plant based proteins.

One of the key problems that was found during the project is that people find it difficult to switch to a vegetarian diet. One of the contributors to this perceived barrier is lacking

knowledge with regards to vegetarian diets. To help people overcome this problem a two-fold information piece on plant protein was created. The first informative showpiece dives into the basics of protein: why is plant protein healthier than animal based protein? What nutrients do you need to watch when switching to a plant-based diet? And finally, how much protein do you need to consume per day? The second protein information sheet goes into the protein ingredients that are served at the restaurant. It gives a quick overview of the protein ingredients that are present at the restaurant at that moment and also what their unique characteristics are. Additionally, an eco score has been added to each ingredient.

The second element that was deemed important to educate people on is the lower environmental impact of a plant based diet. This was done in order to contribute to the goal of the interviewees to live more sustainably. This is more of an awareness piece that confirms to people that it was a good choice to come to the restaurant with regards to achieving their goal of eating environmentally friendly. Most people are aware that meat is more straining on the environment than plant based foods. However, they may not be aware of the extent to which it is more harmful to the environment.

The educative elements were kept relatively short and simple for two reasons. The first

reason is that people are not necessarily coming to the restaurant to get educated and therefore are not likely to read a very in depth research piece on vegetarianism. Also, heavy educative elements are only limited in their effectiveness (see section 2.2.2). Secondly, it is undesirable to have a traffic jam within the restaurant caused by people reading the infographics. Therefore, to each of the infographics protein infographics a QR code was added so that people can easily save the information sheets on their phone in case they want to save the information to review at a later time.



Figure 16: The informative posters on plant protein knowhow and characteristics



Figure 17: The infographic on the environmental benefits of a plant based diet



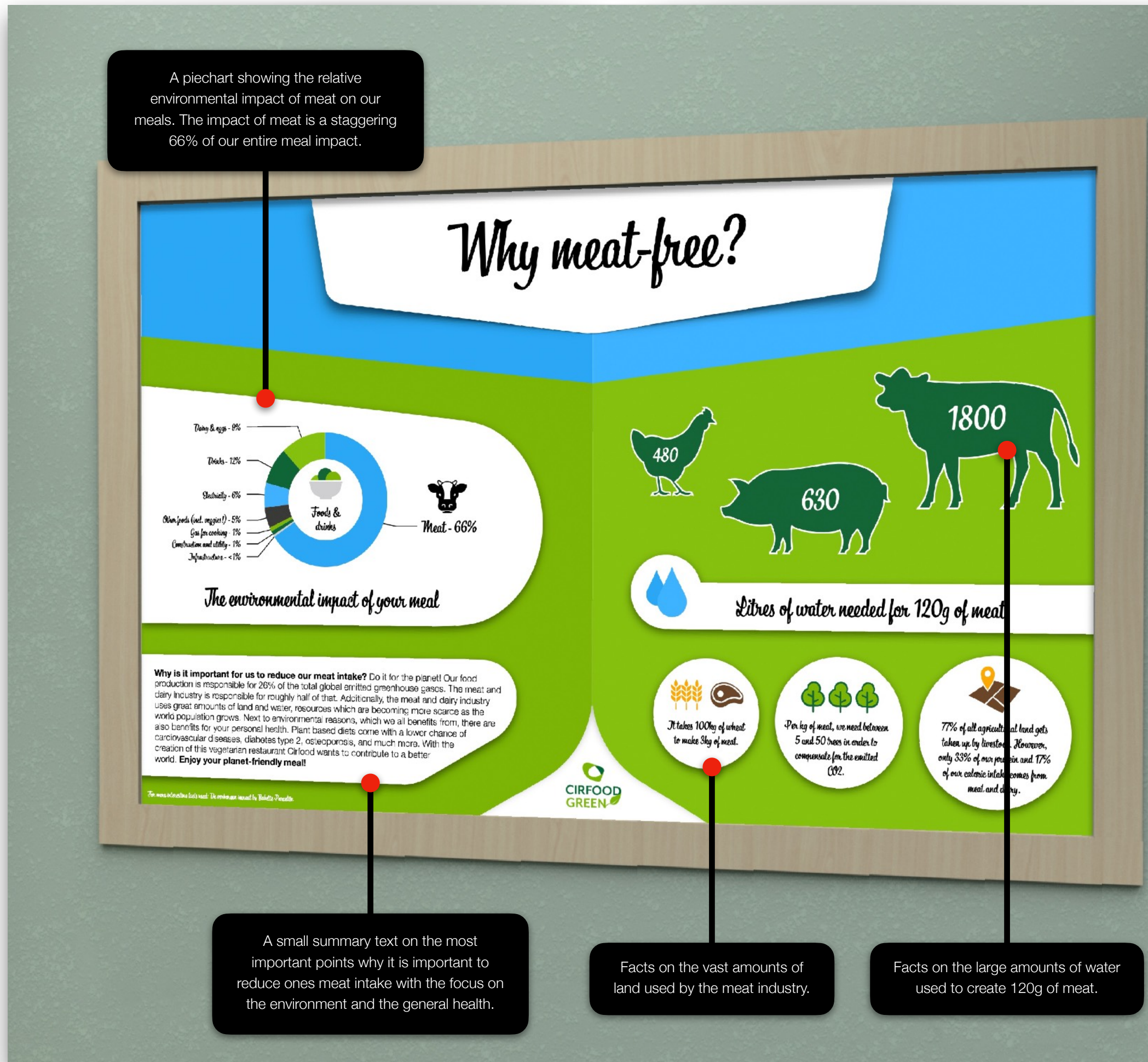
## The environmental infographic

Most people are aware that eating vegetarian is better for the environment, but not everyone. Furthermore, not everyone may be aware of the severity of meat impact on the environment. Therefore an infographic was made to present these facts to the customers of the Ketelhuis restaurant. The infographic presents several aspects of the environmental impact, but the focus goes out to the amount of land and water used by the meat industry on the right side of the poster, and the overall environmental impact of meat in relation to the rest of our diet on the left side of the poster. The facts and statistics from the poster have been taken from the book 'De verborgen impact', by Babette Porcelijn (2016). The is also referenced on the poster in case the customers want to discover more in depth findings behind these statistics.

### Text on the poster

A high quality version of this infographic can be found in appendix F. The summarising text on the poster says the following:

**“Why is it important for us to reduce our meat intake? Do it for the planet! Our food production is responsible for 26% of the total global emitted greenhouse gases. The meat and dairy industry is responsible for roughly half of that. Additionally, the meat and dairy industry uses great amounts of land and water, resources which are becoming more scarce as the world population grows. Next to environmental reasons, which we all benefits from, there are also benefits for your personal health. Plant based diets come with a lower chance of cardiovascular diseases, diabetes type 2, osteoporosis, and much more. With the creation of this vegetarian restaurant Cirfood wants to contribute to a better world. Enjoy your planet-friendly meal!”**





## Plant protein information sheets

At the protein section of the 'Make & Enjoy' section there are two information sheets informing the customers about the ins-and-outs of plant protein. The first information sheet displays general information about essential information on protein, discussing topics like: how much protein do you need? Why are plant proteins healthier? And, which nutrients to watch closely when switching to a meat free diet.

The second information sheet is more tailored towards the actual meal making process that customers go through in the 'Make & Enjoy' area. It dives into the ingredients that are present at the restaurants protein section at that moment. It educates the customers about the unique characteristics of each ingredient and the amount of protein that each ingredient contains. Furthermore, there is a section dedicated to the environmental impact of each ingredient, scoring the CO<sub>2</sub>eq footprint and the water footprint per kilogram of ingredient. These two scores are combined into an eco score all the way on the right column of the table. The eco score is represented by a leaf-score ranging from 1 to 5. The way in which the score was devised was by taking the average of the CO<sub>2</sub>eq and water impact scores and making that into a relative eco score. If Cirfood is to use this system the eco score system needs to be developed further.

The data for the ingredient impact scores have been taken from two leading sources. The data from a research report from Clune et al. (2016) has been used for the CO<sub>2</sub>eq impact figures and the data from Mekonnen and Hoekstra (2010) has been used to determine the water impact score. Not all footprint figures were able to be determined accurately. For example, for Chia seeds there is no accurate data available for the footprint impacts. In this case the impact has been estimated on the basis of comparable products.

High quality version of these information sheets can be found in appendix F.

### Why plant proteins are healthy

**Why plant protein are better**

**Why are plant protein considered to be so healthy?** It is because they reduce the risk of serious diseases in comparison to animal product proteins. When you consume plant based products instead of animal based products you consume lower amounts of cholesterol and saturated fats. Additionally, you consume greater amounts of complex carbohydrates, dietary fibre, magnesium, folic acid, vitamin C and E, carotenoids and other phytochemicals. The combined effect of these protein characteristics evoke a lower chance of serious diseases like of cardiovascular diseases, diabetes type 2, hypertension (high blood pressure), cancer, osteoporosis (weakened bones), kidney failure, and even dementia (Leitzmann, 2005)

**There are some things you need to take into account if you want to create a well-balanced diet.** Even though plant protein are very healthy, they are not perfect. When eliminating meat you need to make sure you still get enough intake of, zinc, iron, calcium, and vitamin B12. This is not difficult to achieve and a well balanced diet will certainly achieve this. (Edgar, 2020) Do you want to remove animal based products entirely by also removing eggs and dairy from your diet? Then you have to especially watch your vitamin B12 intake levels, since vitamin B12 is almost exclusionary found in animal based products. (Obeid et al. 2019)

**How much protein do you need?**

A good rule of thumb for the amount of protein that you need is 0.8 grams of protein per kilogram of bodyweight. If you live a very active lifestyle or hit the gym a lot you'll need to have a higher intake of protein. In this case aim for a figure between 1.2 to 2 grams of protein per kilogram of bodyweight per day.

**Want to have this overview on your phone? Scan this QR code!**

CIRFOOD GREEN

Informative sections on the ins-and-outs of plant protein: how much do you need? Why are they healthier than meat-based protein? And, what nutrients do you need to watch when switching to a plant based diet?

These QR codes are a quick link for the Ketelhuis customers to save these information sheets on their phone.

### Healthy plant proteins

Ingredient	Characteristics	Protein / 100g	Carbon footprint per kg	Water footprint per kg	Total eco score
Lentils	Cheap, easy to prepare and high in protein! Lentils are very filling and also improve your gut health.	26 grams	1.03 kg	5874 L	★★★★★
Tempeh	Comparable to tofu, but is more rich in taste. Has a more 'rusty' taste whereas tofu is generally a bit more bland.	19 grams	2.0 kg	2145+ L	★★★★★
Chickpeas	Chickpeas have a very distinguishable taste that can be recognised from hummus. Chickpeas are excellent in regulating blood sugars.	19 grams	0.77 kg	4177 L	★★★★★
Soybeans	The vegan protein all-rounder! is used in many different vegan products. Consuming soybeans unprocessed is even better for the environment.	36 grams	0.49 kg	2145 L	★★★★★
Tofu	A natural meat replacement that is easy to prepare and fits with almost anything.	13 grams	3.5 kg	2145+ L	★★★★★
Black beans	Popular in the South American cuisine, and for good reasons. Black beans help greatly in regulating blood sugar levels and is therefore great for preventing diabetes type 2.	21 grams	0.26 kg	2018 L	★★★★★
Chia seeds	Very versatile in its application due to its mild taste. From breakfast to dessert, chia seeds suit it all!	17 grams	1.2 kg	Ca. 7000 L	★★★★★
Quinoa	Very high in fibre when compared to other grains. Is high in antioxidants and is also gluten free.	14 grams	1.15 kg	Ca. 2000 L	★★★★★
Green peas	Green peas are one of the highest scoring vegetables when it comes to its protein content. Additionally they are very easy to prepare.	8 grams	0.38 kg	595 L	★★★★★
Spinach	Spinach has an extremely low impact on the environment while providing high levels of iron which are key components of red blood cells.	3 grams	0.54 kg	292 L	★★★★★

**Want to have this overview on your phone? Scan this QR code!**

**Meat figures for reference (Footprint per kg of meat)**

	Beef	Lamb	Pork	Chicken
Carbon footprint (CO <sub>2</sub> eq/kg)	26.61 kg	25.58 kg	6.77 kg	3.86 kg
Water footprint (litres/kg)	15,500 L	15,412 L	5,988 L	4,355 L

CIRFOOD GREEN

A list of the ingredients present at the protein section of the 'Make & Enjoy' area.

The environmental scores (eco labels) of the ingredients.

A comparison of the presented plant-based impact scores to those of meat.



## 6.7 Retention phase

The last phase in the restaurant is the retention isle. The retention isle is positioned after the checkout area of the restaurant. The goal of the retention area is to encourage the customers to stay in touch with the Ketelhuis restaurant. To do this, the retention isle has been made up of three different parts: a recipe board, a feedback tablet, and a sign with a QR code towards the Ketelhuis social media outlets.

### The recipe board

The purpose of the recipe board is to equip the Ketelhuis customers with a nice recipe that they can use for their dinner meal. It is a touchpoint that customers can take home. It will remind them about the Ketelhuis restaurant and it will leave them with a positive last impression of the restaurant. Also, it is one more point that adds more value to the restaurant for the customer, something which was missing in the current Ketelhuis restaurant (see key problem 2 in chapter 3.5). The recipe board is designed to be as attractive as possible by tailoring the recipes towards factors that students care about, like: low priced and quick to prepare.

### The feedback tablet

The purpose of the feedback tablet is to challenge the customers to think critically about their experience with the restaurant and the foods that they have bought there. The effect of the feedback board is that customers will feel more valued by the restaurant, since they have the chance to feel heard and leave their opinions. This is also a great way for

Cirfood to optimise their restaurant concept even further.

### The social media invitation

The purpose of the social media invitation board is to encourage the Ketelhuis customers to connect online with the restaurant in order to stay up to date with the latest updates and menu changes. This will serve as an online reminder for people to pay a visit to the Ketelhuis restaurant. Doing this also serves a great opportunity for Cirfood to create a community for their customers. This can be done by, for example, launching recipe contests or meal photo contests with hashtags like #CFGreenRecipes or #CFGreenMeals. Creating a tight community is beneficial for several reasons. People will feel more connected to the brand and people will feel the support of this community in their transition towards a meat free diet. As chapter 3 indicated, the social context is of great importance to the success of people in their journey towards meat-free.



# **Chapter 7**

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## **Conclusion**



# 7.1 Conclusion

The goal of this project was to design a new vegetarian restaurant concept, with the focus on a new customer experience and customer journey. The project goal was developed based on the found key insights and key problems that were found in the research phase. Six key insights were found from the interviews. These lead to two key problems: people still experience barriers towards vegetarianism and the Ketelhuis customers have an apathetic stance with regards to the restaurant. Both prove to be problematic and therefore these two problems played a big part in the design phase of the project. The outcome of this design journey has been presented in the form of a new restaurant render with new design elements placed within the new layout. This visual representation has been complemented with a new customer journey map that breaks down the customer journey in phases and explains the customer experience on different layers (phases, actions, thoughts and emotions).

## 7.1.1 Key takeaways

Zooming back out, there are a couple of key takeaways that Cirfood should keep in mind when developing their vegetarian restaurant concept further.

### Go for a bumpy customer journey

One of the key insights with regards to the customer journey is that it has been adjusted a lot. The old restaurant customer journey was all about getting the customers in and out of the restaurant as soon as possible in order to be able to cater to the needs of as many

people as possible, without creating a traffic jam inside of the restaurant. For a normal non-vegetarian restaurant this works fine, but for a vegetarian restaurant the needs of the customers are different. The problem with the old approach is that it did not invite the customers to think critically about their food choices, which caused them to take their lunch choices based sub-consciously without a proper rationale. The effect of this is that the customers were less likely to reach their goals of eating healthy and sustainably. The customer journey was very smooth and quick, without any hick-ups.

This approach does not work for a vegetarian restaurant. Making a shift to a vegetarian diet is not an easy one, as the research results showed. Changing to a vegetarian diet requires a conscious choice and critical thinking. Both of these were not provoked in the old smooth and quick customer journey. The new customer journey was designed for the customer to consciously think about what they are doing and what impact it has on their health and on the environment. Contrary to what most literature says on the customer journey, it is not essential or even desirable that the customer journey is as smooth as possible. Incorporate elements that surprise or challenge the customer. This will cause customers to reflect more on their experience.

### Be the expert

To increase the positive impact of the vegetarian restaurant it is important that Cirfood will take on the role of the expert in the field. Most food choices get made

subconsciously, especially when it concerns ready made food. In order to influence the choice of the consumers to go for a more healthy and sustainable meal it is important that Cirfood takes on the role of the expert in order to guide their customers towards a sustainable lifestyle. This will take some preparatory work on several aspects. People want to live environmentally friendly and healthily, but they cannot seem to find the time to invest into researching what is needed to achieve this. Therefore, to be of value to the customers, Cirfood needs to take on the role of expert to educate its customers on the essentials. For this project this was done in several ways. The first element that people encounter is the infographic at the entrance of the restaurant that educates people on the environmental advantages of eating meat free. The second element that was integrated, for making environmentally friendly choices, was the carbon labels on the meals in the restaurant itself. This helps the customers to choose in the moment and be more conscious about their food choices there and then. Thirdly, for health purposes, the protein section in the make-and-enjoy area has an educative element that informs people about the health advantages of eating plant based protein as opposed to meat based protein. Finally, the retention section at the end of the restaurant empowers the customers by giving them recipes that offer a step by step guide on how to cook vegetarian meals.

All of these stages require some work from Cirfood to set up. It requires Cirfood to become the expert. After they have done this

work they will truly add value to the customers on their journey towards a sustainable lifestyle.

### Go beyond 'good enough'

The restaurant concept as it stands now is 'good enough'. It supplies its customers with food, and with good food at that. However, the customers also expects this from the restaurant and therefore there is nothing special to the restaurant. This also explains the indifferent stance of the customers towards the restaurant. If Cirfood wants to create a memorable experience it is important that it differentiates itself by adding value beyond what they are doing now, which is just serving good food and not much more. Cirfood needs to challenge itself in order for them to also push themselves towards optimising their environmental performance. This is both of interest to their customers as it is for their clients, in this case the TU Delft.

## 7.2 Recommendations

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Towards the end of this report it is important to take a reflective stance on the concept in order to see how it can be improved, beyond the scope of this project.

### concept validation

One of the most important points is the validation of the concept. The customer journey and customer experience of the new restaurant concept have all been based on prior literature research and on interviews with customers and experts. However, the implementation of this concept could prove to be costly. Especially when it requires closing an already operative restaurant like that at the Faculty of Architecture. Therefore it would be advisable to first wether the intended purposes of the CJM and CX are actually achieved.

### Expanding online

A second recommendation has to do with the customer journey map. The focus of this project has mainly been on the restaurant itself. Only a small section of this report has focused on the customer journey before and after the restaurant. However, to go for a consistent customer experience it is important to carry a consistent message across all the touchpoints in the customer journey. What I would recommend to achieve this is to put more effort into online touchpoints, like social media. Currently Cirfood Netherlands does make use of social media outlets for each restaurant individually. However, they are only present on a national level. In order to be more effective it is advised to make this unique to every Cirfood restaurant. In this way, it is possible to prepare

the customers on what is coming in the restaurant for each week or month. Is there a special soup for the week? Introducing a new sandwich? Or maybe even a competition, contest or a giveaway? These kinds of announcements cannot be made on a national level. They can only be made on a restaurant level.

There are multiple advantages of creating an online atmosphere on a restaurant level. First of all, it is great in order to create awareness and to convince people to come to the restaurant in the 'pre-restaurant phase'. Additionally, it can also help to convince people to make a return visit during the retention stage of the 'post-restaurant phase.' The second advantage of doing this is that it presents an opportunity to create more value for the customers in their journey to reduce their meat consumption. For example, the social media outlets could be used to spread tip-and-tricks on vegetarian cooking, share meat-free recipes, or simply in inspiring people to eat less meat. The third advantage of this is that it can help in creating a community feeling for the customer base. For example, the social media page can be used to create a contest with the theme 'The week without meat' in which customers are challenged to eat one week without meat completely and to share their own meals and recipes. The customer with the best meal photos or recipes can win a prize. Something like this would help greatly in creating a favourable social context for the spread of more meat-free consumption, which presented as one of the major hurdles in the research.

### A consistent sub-brand

With consistent touchpoints comes the need for consistent branding. This was only touched upon very slightly with the creation of a new logo for the here devised sub-brand 'Cirfood Green', the creation of a new infographic style, and the consistent use of the new colours. It is important to put more energy into creating and marketing this new eco-friendly sub-brand, especially nowadays, when more companies and universities are concerned with reducing their footprint. It would be better for Cirfood to make this move sooner than later, since the longer they wait, the more competitors will appear. Additionally, Cirfood now has the advantage that they are still fresh in the minds of people due to the received widespread media coverage with the opening of the first version of the vegetarian restaurant in the Ketelhuis.

### Further footprint reductions

With the goal of the TU Delft and of Cirfood to reduce their footprint even more it is important to also look at other elements that were not touched upon in this project. There are many elements of the concept that can still be fine-tuned in order to improve the concept. Things that can be considered here are only serving locally grown and produced foods or only serving foods of that specific season. Or with regards to cutlery, investigate whether it is worth it to move to re-usable dishes and cutlery instead of one time use items. Again, these elements are important to consider, since they are all part of the consistent customer experience that Cirfood should strive

to achieve with the implementation of the new concept.

### Food safety

One final remark needs to be made with regards to food safety. In the design of the restaurant it was checked whether the designed set-up of the 'Make & Enjoy' area would suffice with regards to food hygiene. Mark Voorhaar, the assigned project mentor from Cirfood, indicated that this design would be possible if shielded off correctly and also kept up to temperature, which is especially important for cooled foods. These needs have been satisfied in the design of the new concept. However, it is advisable to check this over once again with a team of experts in order to see whether the designed food safety interventions are up to scratch.



## 7.3 Reflection

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With the end of the project nearing it is time to look back and reflect on the journey of the last few months. This section of the report is dedicated to looking back at my personal learnings and to see whether I have achieved my goals.

### Reflecting on my goals

When I set out on this design journey I was looking for a project in which I could make a positive impact on our society. I am happy to say that I believe that I truly did deliver a concept achieves that positive impact. At the start of the project I set out three personal project goals called: “The three pillars of my ambitions for this project” (see figure 1).

My first goal was ‘to improve human health’. In the research phase of this project I have learned a lot about the impact of meat on our health. A lot of it was information that was previously unknown to me and I felt the need to share this with the customers of the Ketelhuis restaurant.

My second goal was to relieve environmental burden. I incorporated elements into the design that help to do this like the carbon labels or the educative infographic at the start of the restaurant. But it is also intrinsically incorporated in the newly designed customer journey, which encourages people to think more about the impact of their food choices on the environment and on their health. Therefore, I feel like I definitely achieved these goals.

My third goal was to create more economic value. I feel like I have definitely created a more

appealing concept, since I have always kept it close to the needs and desires of the customers that became apparent from the research. However, I have to be honest in reflecting on this goal and say that I do not know whether this goal has truly been achieved. To be able to do this I would have to test this concept thoroughly with the customer base and also make calculations on whether the gains outweigh the costs. But then again, looking at it realistically, this lies beyond the project of the scope and it would also not fit in the timeframe of the project. Therefore, to conclude on this matter, I am satisfied with the results of the project in the light of the goals that I set for myself at the start of the project.

### Process improvements

Even though I am satisfied with the results, it does not mean that the project went perfectly. There are a couple of things that I would change in my design process.

The first thing that I would do differently next time is that I would start earlier with the ideation process. Creating a new customer experience is not an easy feat, since it requires a lot of experimentation. My personal designing style is that I like to work systematically and prepare my theoretical foundation thoroughly before I make design propositions. The effect of this is that I naturally start quite late with the ideation process. If I were to do this project again I would adopt more of a ‘research through design’ approach in order to start the development of the customer experience earlier on in the process. This approach would also help me to take on

more of an iterative design process, which always helps in coming up with novel and innovative ideas.

The second thing that I would change is that I would make more use of my coaching sessions. Especially right after the mid-term I felt like I fell into a dip. Design is a team-sport that requires bright minds to sharpen each other and to build upon one another. Therefore, doing this project alone was tough at times. In order to mitigate this issue I should have made more use of the coaching moments that were available.

### Growing as a designer

The final point I would like to discuss in this reflection is probably also the most important point. This project has helped me to better understand who I am as a designer. This is more important to me now than ever before as I will be looking for a job after this project.

The most important thing that I have learned is that I am naturally more an adaptor than an innovator. This means that I will not come up with the most craziest ideas for the year 2050, but I am likely to come up with a well founded ideas that are effective at reaching its target. Also I have discovered that I get a lot of energy from doing hands on work, especially in the ideation and conceptualisation phase. When I started to sketch the idea started to become much more tangible for me. That is another reason why I would want to try a more ‘research through design’ approach for my next project.

Finally, I have realised that working on a project for the greater good, a project that is focused on creating a positive impact for our society, is very rewarding. This is definitely something that I will keep in mind when I will be looking for a job, because designers need to lead to way for positive change.

# **Chapter 8**

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## **References & appendices**



## 8.1 References

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# Appendices

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# Appendix A: User interview guides

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## Graduation Project

### Semi structured interview guide - Target audience (Vegetarians)

#### Main Research Question:

How can we make the meat-free university restaurant as attractive as possible for students and university staff?

#### Checklist for start

- Interview guide
- Phone for recording
- Consent form

#### Introductory script

Thank you for making time for this interview! Together with the caterer Cirfood and the Facilities Management department of the Delft University of Technology, I am researching the best implementation for the completely meat-free university restaurant at the Faculty of Architecture. In order to achieve the best possible result, I want to talk to as many of the involved parties as possible, including the students and staff of this faculty.

The interview will mainly focus on food choices and expectations regarding university restaurants. If you are not comfortable with certain questions, do not hesitate to indicate this. Then we can skip that question or segment. Before we start: do you have any questions? Do you mind if I record this interview? Then I don't have to type along so quickly and we can have a better conversation.

#### Sub-research question to answer:

- Vegetarianism: Why do people become (or not become) a vegetarian or a vegan?
- Lunch habits: What are people's lunch habits like?
- Restaurant expectations: What do people expect from a good university restaurant? (And, what is the underlying reason that people go to the university restaurant?)

#### Before starting: Interviewee demographics

- Gender:
- Age:
- Major / occupation:
- Vegetarian: Yes / no
- Socio-cultural background:

#### Theme 1: Vegetarianism

- Are you a vegetarian?
- For how long have you been a vegetarian?
  
- Why did you become a vegetarian?
- Was it difficult for you to become a vegetarian?
- What was the biggest hurdle for you to become a vegetarian?
- What specific event was the last drop that made you decide to become a vegetarian?
- Are people in your surroundings or household vegetarians?
  - Did they influence your decision to become a vegetarian?
  -
- For you, what are the advantages of following a vegetarian diet?
- And what are the disadvantages of following a vegetarian diet?
- Do you ever struggle to maintain your vegetarian diet?
- What would help you to make your vegetarian lifestyle easier to follow? (When you just began)
- If you had to convince me to become a vegetarian, how would you do it?

#### Theme 2: Eating habits

##### A: About lunch

- What did you usually have for lunch (when you went/go to uni)?
- Do you always have the same lunch or does it differ?
- Do you bring your own lunch or do you buy your lunch?
  - If buying: At the faculty or elsewhere?
  - In both cases: Where do you buy? Why?
- How do you decide what you have for lunch?
- How much do you usually spend on lunch?
- Do you ever buy food at the university restaurant?
  - If yes: How often do you buy food at the university restaurant?

- In both cases: Why do you / don't you buy food at the university restaurant?
- Do you eat it alone or do you eat it together with friends?
  - Where do you usually eat your lunch (and where would they like to eat their lunch?)
  - Do you ever eat your lunch at the university restaurant?
    - Why or why not?

#### **B: Zooming out**

- Do you think about the health impact when you are buying your food?
- Do you think about the environmental impact when you buy your food?
- Do you think that health and environmental impacts should be considered more when people buy their food?
- Do you ever take the time to reflect on your food consumption patterns (over a longer period of time?)
- Do you feel an obligation to be more conscious about your food choices?

### **Theme 3: University restaurant expectations and greater goals**

- What makes something a good university restaurant in your opinion? (outside of food)
  - If only food related things are listed: Any factors other than good food?
- What makes something a bad university restaurant in your opinion?
- Are there things that you are missing at your university restaurant, something you wish was there? (e.g. something that used to be there or maybe something that you have seen at a different restaurant)
- What are the biggest annoyances when you buy lunch at the faculty?
- Do you ever go to the university restaurant with a goal other than getting a tasty lunch? (E.g. need to go for a walk, need to take a break, need for distraction, etc.)
- Do you think that a meat free restaurant could help you in supporting your vegetarian lifestyle?

#### **Checklist for closure**

- Give a summary of the points discussed in the interview.
- Asked whether the interviewee would like to add something that he/she feels you have missed to touch upon.
- Thank the interviewee for their time.
- Listen extra carefully during the last few minutes of the interview, since this is often when the most valuable information gets shared ('hand on the door' phenomenon)

## **Graduation Project**

### **Semi structured interview guide - Target audience (Non-vegetarians)**

#### **Main Research Question:**

**How can we make the meat-free university restaurant as attractive as possible for students and university staff?**

#### **Checklist for start**

- Interview guide
- Phone for recording
- Consent form

#### **Introductory script**

Thank you for making time for this interview! Together with the caterer Cirfood and the Facilities Management department of the Delft University of Technology, I am researching the best implementation for the completely meat-free university restaurant at the Faculty of Architecture. In order to achieve the best possible result, I want to talk to as many of the involved parties as possible, including the students and staff of this faculty.

The interview will mainly focus on food choices and expectations regarding university restaurants. If you are not comfortable with certain questions, do not hesitate to indicate this. Then we can skip that question or segment. Before we start: do you have any questions? Do you mind if I record this interview? Then I don't have to type along so quickly and we can have a better conversation.

#### **Sub-research question to answer:**

- Vegetarianism: Why do people become (or not become) a vegetarian or a vegan?
- Lunch habits: What are people's lunch habits like?
- Restaurant expectations: What do people expect from a good university restaurant? (And, what is the underlying reason that people go to the university restaurant?)



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## Before starting: Interviewee demographics

- Gender:
  - Age:
  - Major / occupation:
  - Vegetarian: Yes / no
  - Socio-cultural background:
- 

## Theme 1: Vegetarianism

- How often do you eat meat?
  - When do you eat meat?
  - Have you ever thought about reducing your meat intake?
  - Have you ever considered becoming a vegetarian?
    - If yes, why didn't you follow through?
  - What would it take for you to eat less meat?
  - Do you ever pick up some lunch at the Ketelhuis here at BK?
    - Did you know it's a meat free restaurant?
    - What do you think of the restaurant?
- 

## Theme 2: Eating habits

### A: About lunch

- What do you usually have for lunch?
- Do you always have the same lunch or does it differ?
- Do you bring your own lunch or do you buy your lunch?
  - If buying: At the faculty or elsewhere?
  - In both cases: Where do you buy? Why?
- How do you decide what you have for lunch?
- How much do you usually spend on lunch?
- Do you ever buy food at the university restaurant?
  - If yes: How often do you buy food at the university restaurant?
  - In both cases: Why do you / don't you buy food at the university restaurant?
- Do you eat it alone or do you eat it together with friends?
  - Where do you usually eat your lunch (and where would they like to eat their lunch?)
  - Do you ever eat your lunch at the university restaurant?
    - Why or why not?

### B: Zooming out

- Do you think about the health impact when you are buying your food?
  - Do you think about the environmental impact when you buy your food?
  - Do you think that health and environmental impacts should be considered more when people buy their food?
  - Do you ever take the time to reflect on your food consumption patterns (over a longer period of time?)
  - Do you feel an obligation to be more conscious about your food choices?
- 

## Theme 3: University restaurant expectations and greater goals

- What makes something a good or a bad university restaurant in your opinion?
  - Are there things that you miss about your university restaurant? (e.g. something that used to be there or maybe something that you have seen at a different restaurant)
  - What are the biggest annoyances when buying lunch at the faculty?
  - What do you expect from a good university restaurant? (Any factors other than good food?)
  - Do you ever go to the university restaurant with a goal other than getting a tasty lunch? (E.g. need to go for a walk, need to take a break, need for distraction, etc.)
  - What are the things that you miss when they are buying lunch at the faculty?
  - What are you looking for in a good meat-free university restaurant?
  - Do you think that a meat free restaurant could help you in supporting your vegetarian lifestyle?
- 

## Checklist for closure

- Give a summary of the points discussed in the interview.
  - Asked whether the interviewee would like to add something that he/she feels you have missed to touch upon.
  - Thank the interviewee for their time.
  - Listen extra carefully during the last few minutes of the interview, since this is often when the most valuable information gets shared ('hand on the door' phenomenon)
-

# Appendix B: Cirfood interview guide

## Graduation Project Semi structured interview guide - Cirfood

### Checklist for start

- Interview guide
- Phone for recording
- Consent form

### Thema 1: Over de huidige plannen...

- Wat zijn de plannen tot nu toe voor de kantine?
- Wat is de reden dat jullie hier gaan verbouwen? Is het niet goed zoals het is?
- Wat is de gedachtegang achter de specifiek genoemde veranderingen?
- Wanneer zal de verbouwing klaar zijn? Blijft de kantine dan dicht?
- Als het gaat om de inrichting en het ontwerp van het restaurant (zowel de balies als het zitgedeelte), is Cirfood of facilities management hier verantwoordelijk voor?
- Wie zijn er vanuit Cirfood allemaal betrokken bij dit project? (Bijv. interieur architecten, ontwerpers, business development team?)
- Hoe past mijn project binnen deze transformatie van de kantine? Is het realistisch om te zeggen dat het nog impact gaat hebben op deze kantine of zal het vooral van toepassing zijn op de volgende vegetarische kantine?

### Thema 2: Over Cirfood

- Wat is de missie van Cirfood?
- Wat onderscheid Cirfood van de competitie? (bijv. Sodexo)
- Cirfood is van Italiaanse origine, zien we dat nog terug in jullie manier van zaken doen? (Bijv. in iets concreets als jullie kantines of in jullie filosofie?)
- Is er een lange termijn visie over waar Cirfood naartoe wil met het bedrijf?
  - Speelt vlees-vrij daar een prominente rol in?
- Stel, jullie hebben een bedrijfskantine waar de vraag voor vleesvrij eten niet zo groot is, zie je daar dan op termijn wel veranderingen komen vanuit Cirfood in het aanbod met betrekking op het vleesvrije of blijft het dan gewoon business-as-usual?

- Wat is de motivatie achter het feit dat Cirfood een vegetarisch kantine gaat openen (op bouwkunde)?
  - Komt de vraag daarvoor vanuit de universiteit of vanuit de studenten?
- Wat maakt een kantine nou een succesvolle kantine?
  - Is dat puur een monetaire zaak? (Of kan het bijvoorbeeld ook liggen aan andere factoren zoals bijv. klantbetrokkenheid, of consistentie, voorspelbaarheid in afname, customer satisfaction, klantbehoud, klanttevredenheid, etc.)

### Thema 3: Project specifieke vragen

- Het is mij opgevallen dat jullie het altijd hebben over een vleesvrij restaurant en niet een vegetarisch restaurant. Zit daar een specifieke beweegreden achter?
- Als het gaat om het voedselaanbod, zetten jullie dan veel in op 'nep vlees' (A la vegetarische slager) of meer op natuurlijke vleesvervangers? (Bijv. Noten, champignons, jackfruit?)
- Stel, een samenwerking met iets als de Vegetarische Slager is mogelijk. Zouden jullie dat zien zitten en wat zouden eventuele voordelen daaraan zijn?
- Wat is voor jullie de grootste uitdaging in het openen van een vegetarische kantine of in het aanpassen van een huidige kantine naar een vegetarische kantine?
- Wat zou mijn project voor jou tot een succes maken? Wat zou er nou voor zorgen dat jij op het einde zegt: "Ja, dit project heeft echt geholpen om de vleesvrije kantine van Cirfood neer te zetten."

### Laatste check

- Geef een samenvatting van de punten die in het interview zijn besproken.
- Vraag of de geïnterviewde iets zou willen toevoegen over een onderwerp wat gemist is
- Bedank de geïnterviewde voor hun tijd.
- Luister extra goed tijdens de laatste minuten van het interview, omdat dan vaak de meest waardevolle informatie wordt gedeeld ('hand on the door' fenomeen)

# Appendix C: Student survey

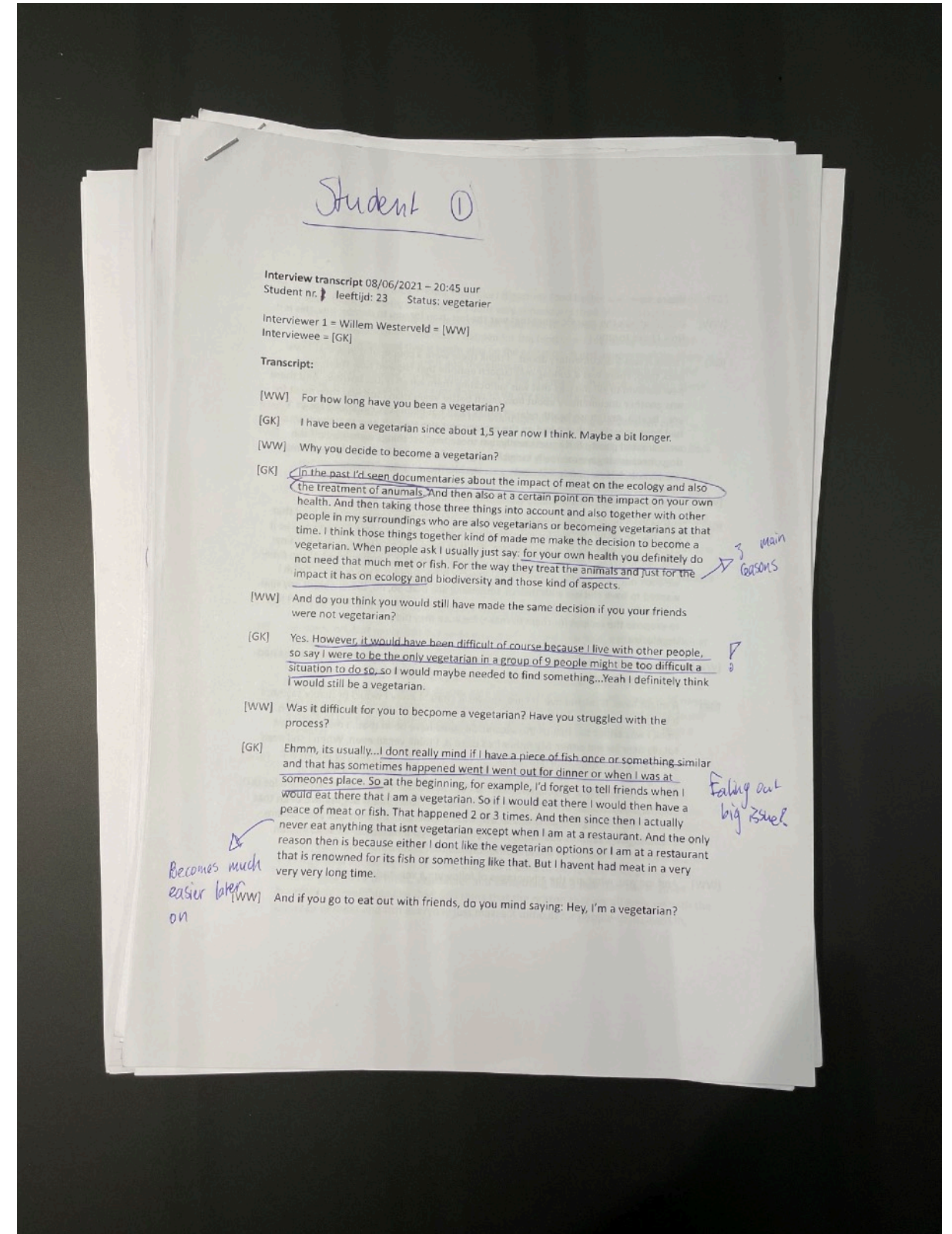
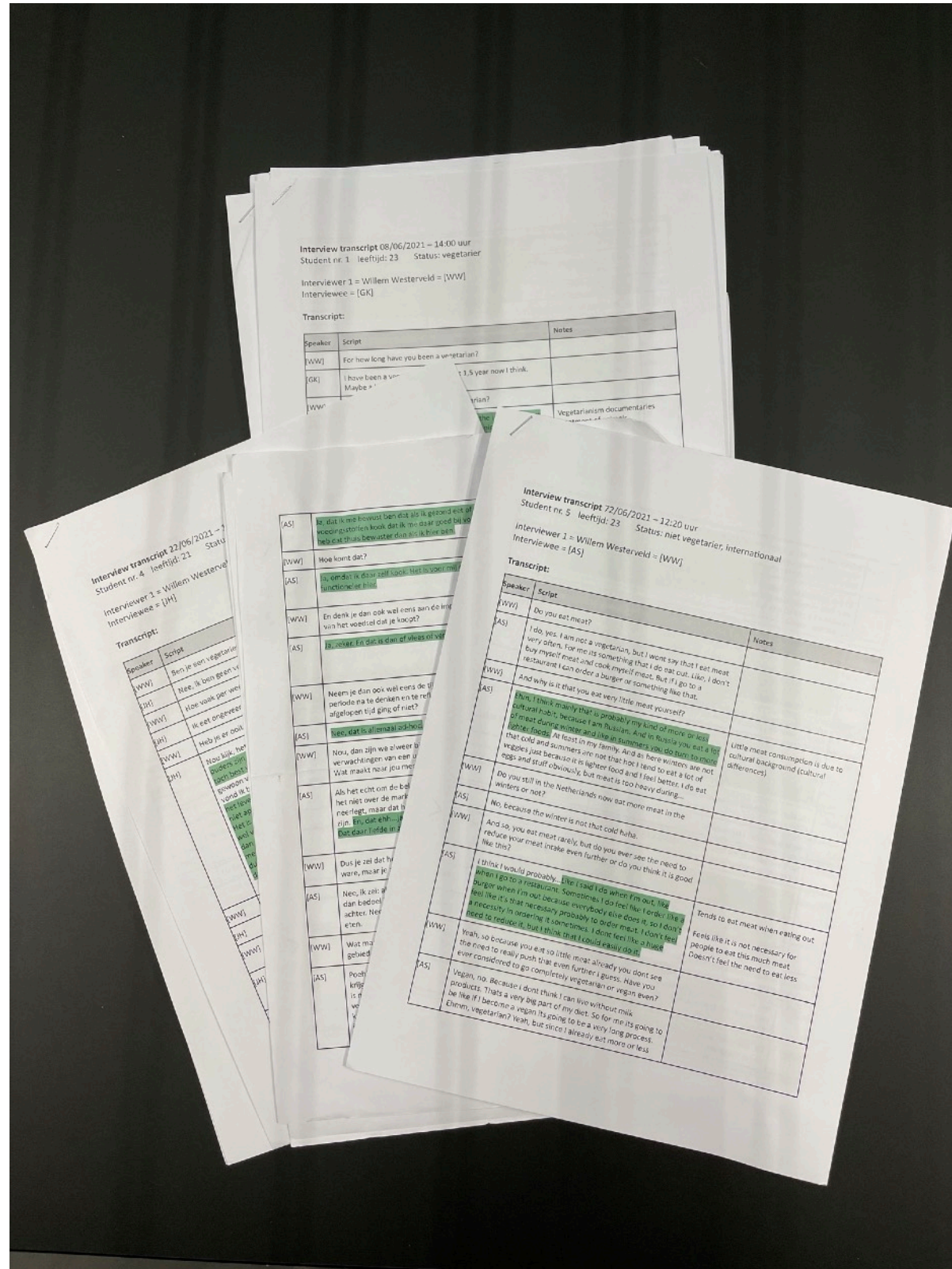
Appendix C contains the setup and the summarised results of the survey that was distributed among the students of the Faculty of Architecture at the TU Delft. The survey was distributed on the 17th of June and had a total of 64 respondents.

<b>Questionnaire software</b>	Qualtrics
<b>Date of survey distribution</b>	17 June 2021
<b>Amount of respondents</b>	64
<b>Type of respondents</b>	Bachelor and master students of the Faculty of Architecture at the TU Delft

	Questions	Answer options	Answer summary
	Consent form	<ul style="list-style-type: none"> <li>I do consent</li> <li>I do not consent</li> </ul>	<ul style="list-style-type: none"> <li>100% consent score</li> </ul>
Q1	What is your gender?	<ul style="list-style-type: none"> <li>Male</li> <li>Female</li> <li>Other</li> <li>Prefer not to say</li> </ul>	<ul style="list-style-type: none"> <li><b>Male:</b> 43.7% (28)</li> <li><b>Female:</b> 54.7% (35)</li> <li><b>Other:</b> 0% (0)</li> <li><b>Prefer not to say:</b> 1.6% (1)</li> </ul>
Q2	What is your age?	<ul style="list-style-type: none"> <li>Below 17</li> <li>17-18</li> <li>19-20</li> <li>21-22</li> <li>23-24</li> <li>25-26</li> <li>27+</li> </ul>	<ul style="list-style-type: none"> <li><b>Below 17:</b> 0% (0)</li> <li><b>17-18:</b> 1.6% (1)</li> <li><b>19-20:</b> 26.6% (17)</li> <li><b>21-22:</b> 25.0% (16)</li> <li><b>23-24:</b> 26.6% (17)</li> <li><b>25-26:</b> 12.5% (8)</li> <li><b>27+:</b> 7.7% (5)</li> </ul>
Q3	What study programme are you currently in?	<ul style="list-style-type: none"> <li>Bachelors degree</li> <li>Masters degree</li> <li>Bridging programme</li> </ul>	<ul style="list-style-type: none"> <li><b>Bachelors degree:</b> 46.9% (30)</li> <li><b>Masters degree:</b> 50.0% (32)</li> <li><b>Bridging programme:</b> 3.1% (2)</li> </ul>
Q4	How often do you eat meat?	<ul style="list-style-type: none"> <li>I only eat fish</li> <li>I never eat meat</li> <li>I almost never eat meat (Less than once per week)</li> <li>I rarely eat meat (1-2 days per week)</li> <li>I eat meat now and then (3-4 days per week)</li> <li>I eat meat almost every day (5-6 days per week)</li> <li>I eat meat every day (7 days per week)</li> </ul>	<ul style="list-style-type: none"> <li><b>I only eat fish:</b> 4.7% (3)</li> <li><b>I never eat meat:</b> 10.9% (7)</li> <li><b>I almost never eat meat (Less than once a week):</b> 6.3% (4)</li> <li><b>I rarely eat meat (1-2 days per week):</b> 26.6% (17)</li> <li><b>I eat meat now and then (3-4 days per week):</b> 26.6% (17)</li> <li><b>I eat meat almost every day (5-6 days per week):</b> 21.9% (14)</li> <li><b>I eat meat every day (7 days per week):</b> 3.1% (2)</li> </ul>
Q5	Which of the following statements applies to you?	<ul style="list-style-type: none"> <li>I am aiming to reduce my meat consumption</li> <li>I am not aiming to reduce my meat consumption</li> </ul>	<ul style="list-style-type: none"> <li><b>I am aiming to reduce my meat consumption:</b> 66.0% (35)</li> <li><b>I am not aiming to reduce my meat consumption:</b> 34.0% (18)</li> </ul>
Q6	Please explain your answer to the question above	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	<ul style="list-style-type: none"> <li><b>Environmental reasons:</b> 51.7% (15)</li> <li><b>Health reasons:</b> 34.5% (10)</li> <li><b>Animal wellbeing:</b> 13.8% (4)</li> </ul>
Q7	Did you know the BK Ketelhuis restaurant only sells vegetarian foods now?	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>	<ul style="list-style-type: none"> <li><b>Yes:</b> 85.5% (53)</li> <li><b>No:</b> 14.5% (9)</li> </ul>
Q8	Do you like that the university restaurant at BK is now completely vegetarian?	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> <li>Neutral</li> </ul>	<ul style="list-style-type: none"> <li><b>Yes:</b> 59.7% (37)</li> <li><b>No:</b> 19.3% (12)</li> <li><b>Neutral:</b> 21.0% (13)</li> </ul>
Q9	Have you had lunch at the BK Ketelhuis university restaurant after the 3rd of May 2021?	<ul style="list-style-type: none"> <li>Yes</li> <li>No</li> </ul>	<ul style="list-style-type: none"> <li><b>Yes:</b> 53.2% (33)</li> <li><b>No:</b> 46.8% (29)</li> </ul>
Q10	What are things you like about the BK Ketelhuis restaurant?	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	<ul style="list-style-type: none"> <li>Good food</li> <li>Variety of food</li> <li>Polite staff / good service</li> </ul>
Q11	What are things you don't like about the BK Ketelhuis restaurant?	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	<ul style="list-style-type: none"> <li>Expensive</li> <li>Long queues</li> <li>The good food is gone quickly</li> </ul>
Q12	What things would you like to see changed or improved at the BK Ketelhuis restaurant?	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	<ul style="list-style-type: none"> <li>Lower prices</li> <li>More hot food</li> </ul>
	If you are willing to be interviewed leave your email address here...	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	-
	Any other feedback you would like to leave about the Ketelhuis restaurant?	<ul style="list-style-type: none"> <li>Open answer text box</li> </ul>	-
	End of survey		



# Appendix D: Interview analysis





# Appendix E: Project Brief

Sustainable food consumption: designing a meat-free university restaurant \_\_\_\_\_ project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 23 - 04 - 2020 \_\_\_\_\_ 10 - 09 - 2021 \_\_\_\_\_ end date

## INTRODUCTION \*\*

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Every day we make about 200 food related decisions. (Wansink & Sobal, 2007) Most of these food choices are made subconsciously or impulsively. This means that most of these choices are not supported by a well-defined rationale. This is because this would simply take up too much time and energy to justify every food decision that has a relatively small impact. However, the accumulation of all of these thoughtless decisions have a profound impact on our nutritional habits and long term behaviour and that can lead to problematic consequences.

Our food choices matter. However, they are something that we rarely take the time to think about and that is a shame, because many of the large scale problems that this world faces are related to food. Climate change, for example, is largely contributed to by our food systems. In fact, it is estimated that about a quarter of our green-house gas emissions are caused by our food production systems. (Ritchie, 2019) Human health and well being is also largely affected by our food choices. Worldwide obesity has increased nearly threefold since 1975, leading to a greater amount of cardiovascular diseases (WHO, 2020). Finally, with regards to animal well being, there has been a sharp rise in the popularity of farm factories where animals are being treated more and more like inanimate objects rather than living beings. (Van der Zee, 2018)

Cirfood, a catering company of Italian origins, see their responsibility in this area. That is why they are intending to open a vegetarian restaurant in the faculty of architecture at the TU Delft. Through this vegetarian restaurant they are hoping to get students and university staff a delicious lunch, while also improving on their health and footprint. Cirfood are not specialised in selling vegetarian food offerings and are therefore looking to develop a vision for the meat-free restaurant in order to make the chances of success as large as possible.

This project presents a host of different opportunities to improve the health and wellbeing of the students and employees of the TU Delft. Furthermore, this presents an opportunity to integrate educational aspects on the impact of food choices. This creates awareness and makes consumers conscious of their impact in this area. Especially for young people like students this could create a lasting positive impact that will stay with them for the rest of their lives.

There are also some limitations that present themselves. Even though the amount of people that eat meat are slowly decreasing the majority of the people in the Netherlands are not vegetarian. In fact, only about 4-6 percent in the Netherlands are completely vegetarian (De Waart, 2020). In that sense, from a socio-cultural standpoint, this project may prove to be an uphill battle. On the other hand, this also present a great opportunity to bring a sustained positive impact.

Another limitation that presents itself is the limited possibility to test concepts and get access to prospect clients, due to the fact that the faculties are still closed. As a consequence of the unpredictable nature of the Covid-19 virus the future access to this is still uncertain and difficult to predict changes in this.

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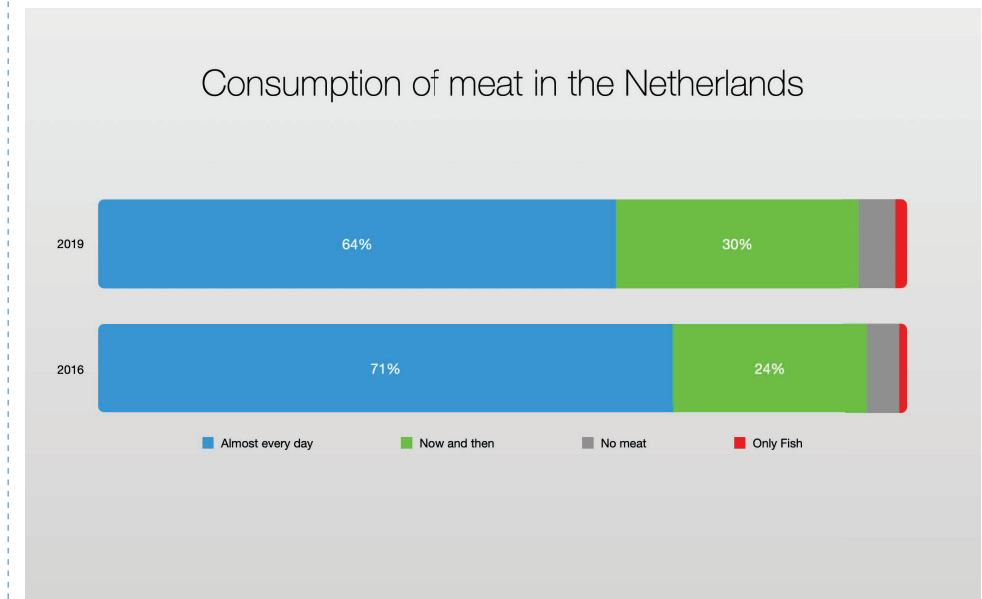


image / figure 1: Meat consumption in the Netherlands (2016 and 2019). (Multiscope, 2020)

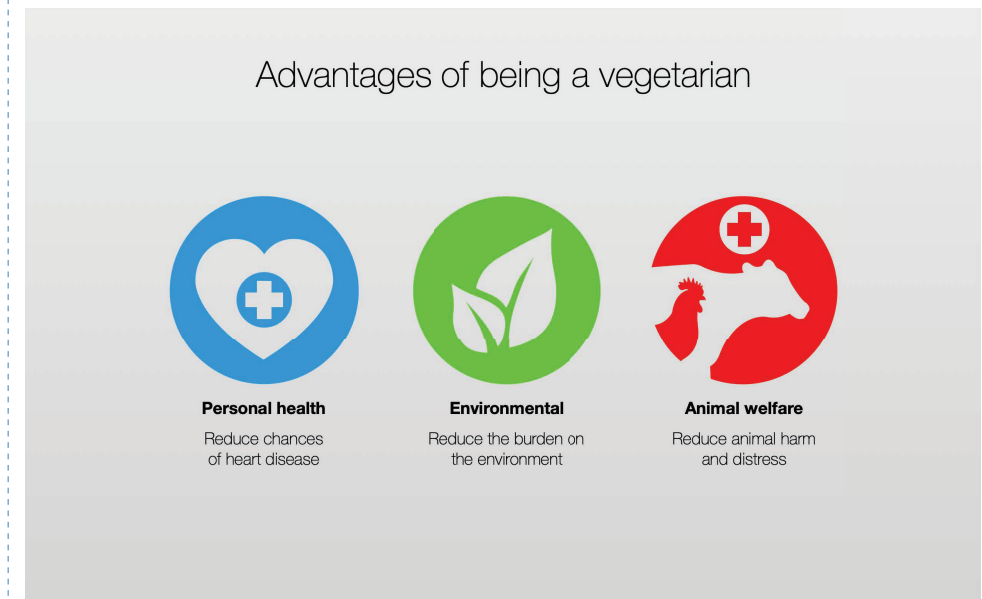


image / figure 2: The main advantages of maintaining a vegetarian diet

**PROBLEM DEFINITION \*\***

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Cirfood is a catering company that is looking to find its way in a market that is undergoing a shift in demand. Currently there is a rising trend in demand for more environmentally friendly foods and also for vegetarian restaurants. Due to this rise in demand for vegetarian food Cirfood is looking to shift their offerings to accommodate for this change. The problem here is that Cirfood has never had a completely meat-free restaurant before and therefore they are unsure on how to design their restaurant in such a way that they will properly fulfill the needs and desires of their clients.

For the design of a restaurant many different disciplines are involved. These mainly include architects and interior designers. These disciplines focus on the physical, on the dynamics of the building. However, this only covers part of the customer experience. As a strategic product designers I am able to look at it in a broader perspective and focus on the entire customer experience, including touchpoints at both ends of the customer journey that do not involve the physical design of the restaurant. That is also what forms the focus of this project.

**ASSIGNMENT \*\***

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... . In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

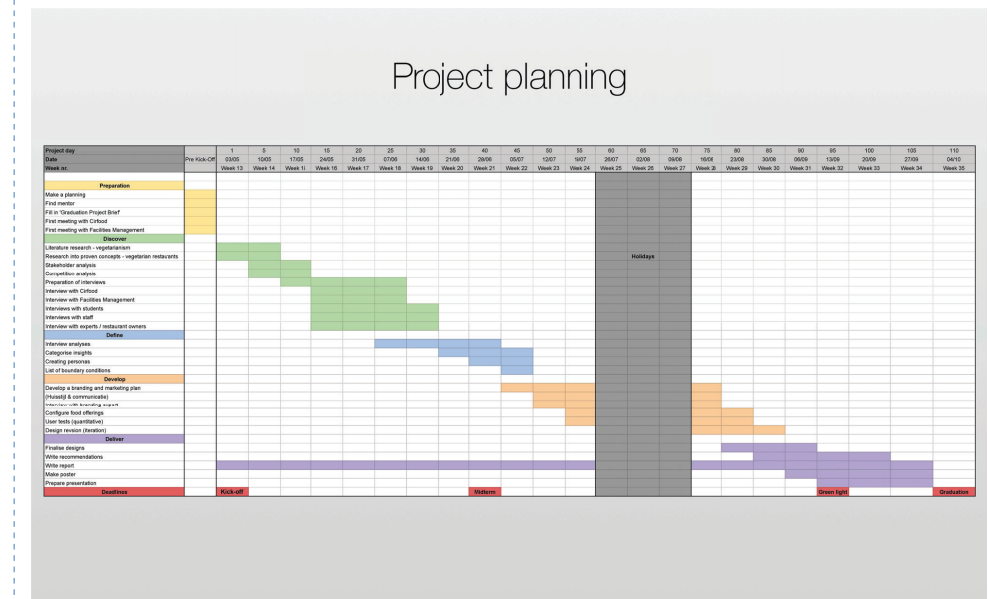
I will design a vision for a meat-free restaurant with the focus on the customer experience. I will do this on the basis of service design principles. On the basis of this vision I will create a customer journey with the corresponding touchpoints, a service blueprint, and a visual representation of the restaurant.

In order for me to help Cirfood create a successful meat-free restaurant I will create a vision for a meat-free restaurant with the focus on the customer experience. I will create this vision by conducting qualitative research, literature research and market research. The goal of the qualitative research is to uncover the needs and desires of the target group with regards to their choices regarding food consumption and lifestyle. On the basis of the research I will create the vision for the restaurant. Consequently, based on the vision, a service blueprint and a customer journey will be developed. This will help Cirfood understand what the best way is to act upon the needs and desires of its customers. Finally, a visual representation will be made to convey the customer experience that is best suited for the concept of the meat-free restaurant. The goal of all of this is for Cirfood to fully understand their customer throughout each step of the customer journey in order to cater to their needs in the best way possible.

**PLANNING AND APPROACH \*\***

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 23 - 4 - 2020 end date 10 - 9 - 2021



The above chart shows the planning for this project. It is divided into 5 different stages: preparation, discover, define, develop, and deliver. There are three weeks of summer holiday planned towards the end of the project. During this period I will not work on the project and therefore the amount of days that the project will take up are extended slightly beyond 100. However, with the holidays subtracted it still equates to 100 working days to complete the graduation project.



### MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... . Stick to no more than five ambitions.

For my graduation project I wanted to complete a project that has a lasting positive influence on either the environment or human well-being. This project addresses both. That is also the reason why I approached Rick Schifferstein (Lab Director of the Food & Eating Design Lab) when this opportunity came buy. It is a project that hits close to home, since this is a project that is aimed at helping students to improve their diets while also improving on their impact on the environment with their food consumption. I recognise myself in this profile and therefore I am excited to embark on this journey. I want to contribute to companies' efforts to aid consumers in adapting to a more environmentally friendly way of consuming. Through this I hope to contribute to make our society evolve into a greener version of itself.

In this project I will apply a lot of skills that I have learned during my masters programme. One of my favourite subjects was Brand Product Commercialisation. I am glad that I can apply a lot of the learned principles and theories again in this project. How I plan to extend these learnings is by testing the created concepts with future product users. In my experience this aspect was quite lacking in the BPC course and therefore I look forwards to deepen my skills here.

I will also use the skills that I have learned in the SPD Research course. I want to deepen my skills in really finding the underlying motives that drive people to enact certain behaviours. This is essential part of the research that I will conduct and a key skill that any designer should master. I have done this a couple of times before, but I want to become more fluent in this skill and process.

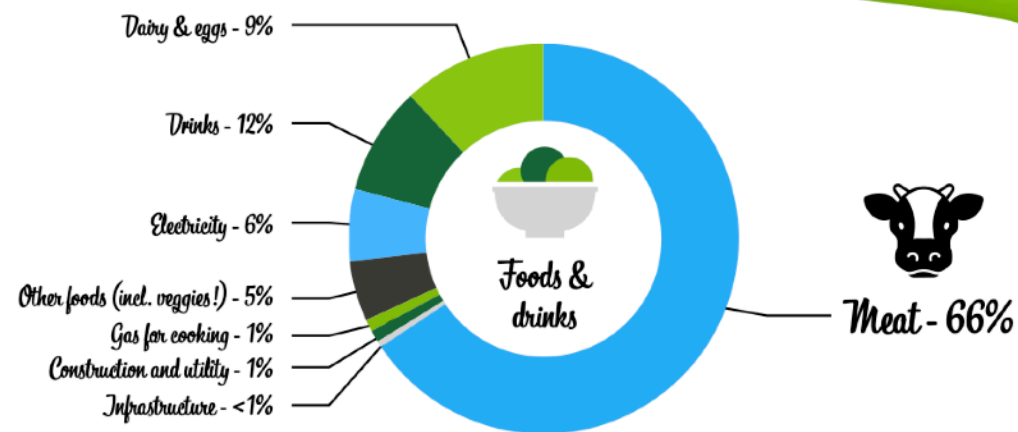
Finally, for personal reasons, I want to do a deep dive in the world of vegetarianism and sustainable food consumption. This is a topic that has intrigued me for a while now. This is the perfect opportunity to finally do something with this urge. I hope that this graduation project will also help me grow personally in this as well in order for me to be an example for others to follow.

### FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

# Appendix F: Infographics

## Why meat-free?



The environmental impact of your meal



Litres of water needed for 120g of meat

**Why is it important for us to reduce our meat intake?** Do it for the planet! Our food production is responsible for 26% of the total global emitted greenhouse gases. The meat and dairy industry is responsible for roughly half of that. Additionally, the meat and dairy industry uses great amounts of land and water, resources which are becoming more scarce as the world population grows. Next to environmental reasons, which we all benefit from, there are also benefits for your personal health. Plant based diets come with a lower chance of cardiovascular diseases, diabetes type 2, osteoporosis, and much more. With the creation of this vegetarian restaurant Cirfood wants to contribute to a better world. **Enjoy your planet-friendly meal!**



It takes 100kg of wheat to make 3kg of meat.



Per kg of meat, we need between 5 and 50 trees in order to compensate for the emitted CO2.



77% of all agricultural land gets taken up by livestock. However, only 33% of our protein and 17% of our caloric intake comes from meat and dairy.



# Appendix F: Infographics

## Healthy plant proteins

Ingredient	Characteristics	Protein / 100g	Carbon footprint per kg	Water footprint per kg	Total eco score
Lentils	Cheap, easy to prepare and high in protein! Lentils are very filling and also improves your gut health.	26 grams	1.03 kg	5874 L	★★★★★
Tempeh	Comparable to tofu, but is more rich in taste. Has a more "nutty" taste whereas tofu is generally a bit more bland.	19 grams	2.0 kg	2145+ L	★★★★★
Chickpeas	Chickpeas have a very distinguishable taste that can be recognised from humus. Chickpeas are excellent in regulating blood sugars.	19 grams	0.77 kg	4177 L	★★★★★
Soybeans	The vegan protein all-rounder! Is used in many different vegan products. Consuming soybeans unprocessed is even better for the environment.	36 grams	0.49 kg	2145 L	★★★★★
Tofu	A natural meal replacement that is easy to prepare and fits with almost anything.	13 grams	3.5 kg	2145+ L	★★★★★
Black beans	Popular in the South American cuisine, and for good reasons. Black beans help greatly in regulating blood sugar levels and is therefore great for preventing diabetes type 2.	21 grams	0.26 kg	2018 L	★★★★★
Chia seeds	Very versatile in its application due to its mild taste. From breakfast to dessert, chia seeds suit it all!	17 grams	1.2 kg	Ca. 7000 L	★★★★★
Quinoa	Very high in fibre when compared to other grains. Is high in antioxidants and is also gluten free.	14 grams	1.15 kg	Ca. 2000 L	★★★★★
Green peas	Green peas are one of the highest scoring vegetables when it comes to its protein content. Additionally they are very easy to prepare.	8 grams	0.38 kg	595 L	★★★★★
Spinach	Spinach has an extremely low impact on the environment while providing high levels of iron which are key components of red blood cells.	3 grams	0.54 kg	292 L	★★★★★

Want to have this overview on your phone? Scan this QR code!



	Beef	Lamb	Pork	Chicken
Carbon footprint (CO <sub>2</sub> e/kg)	26.61 kg	25.58 kg	5.77 kg	3.65 kg
Water footprint (Litres)	15,500 L	10,412 L	5,988 L	4,325 L



## Why plant proteins are healthy



Why plant protein are better

**Why are plant protein considered to be so healthy?** It is because they reduce the risk of serious diseases in comparison to animal product proteins. When you consume plant based products instead of animal based products you consume lower amounts of cholesterol and saturated fats. Additionally, you consume greater amounts of complex carbohydrates, dietary fibre, magnesium, folic acid, vitamin C and E, carotenoids and other phytochemicals. The combined effect of these protein characteristics evoke a lower chance of serious diseases like of cardiovascular diseases, diabetes type 2, hypertension (high blood pressure), cancer, osteoporosis (weakened bones), kidney failure, and even dementia (Leitzmann, 2005)

**There are some things you need to take into account if you want to create a well-balanced diet.** Even though plant protein are very healthy, they are not perfect. When eliminating meat you need to make sure you still get enough intake of, zinc, iron, calcium, and vitamin B12. This is not difficult to achieve and a well balanced diet will certainly achieve this. (Edgar, 2020) Do you want to remove animal based products entirely by also removing eggs and dairy from your diet? Then you have to especially watch your vitamin B12 intake levels, since vitamin B12 is almost exclusionary found in animal based products. (Obeid et al. 2019)



Creating a well-balanced diet



How much protein do you need?

A good rule of thumb for the amount of protein that you need is 0.8 grams of protein per kilogram of bodyweight. If you live a very active lifestyle or hit the gym a lot you'll need to have a higher intake of protein. In this case aim for at a figure between 1.2 to 2 grams of protein per kilogram of bodyweight per day.

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