



# ZERO WASTE

## DRIVING ENTREPRENEURS TO NEW WAYS OF INNOVATING

*An exploratory view on pioneering businesses  
in the gastronomy industry*

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Written by: Karlotta Rieve and Isabelle Broddén

Student numbers: 102101 and 102857

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## Abstract

A new *modus operandi* is on the horizon that can potentially help tackle the pressing climate issue of our generation - *zero waste*. Addressing the problem of waste in a holistic manner, this approach becomes a driving force for innovations on several levels of a business. Taking a deep dive into the gastronomy industry, the present thesis explores how entrepreneurs are pushed into new ways of innovating. Shedding light of waste management in this context, challenges many known assumptions about a currently extremely waste heavy industry.

The following case study research provides insights from pioneering zero waste restaurants in the industry and their innovation practices. It assesses the challenges and the opportunities that the notion of zero waste brings to these businesses. The resolute commitment to a more sustainable gastronomy revealed as the underlying drive to innovate for the entrepreneurs. As a lack of alternative solutions prevails, ultimately, the importance of a holistic approach to innovating manifests.

The novelty of this notion requires greater attention, considering the prevalent trend across several industries. With research presently falling short, this thesis aims to extend innovation literature by connecting sustainability theory and insights from the gastronomy industry.

*“Gastronomy is plagued with perfection. These delusions result in mountains of waste. The term ‘primary ingredients’ denominates ingredients as secondary or by-products, which suggests that product is less than perfect - and so the waste mounts”*

*- Douglas McMaster*

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# 1. Introduction

Due to increasing climate concern and sustainability movements from customers, businesses worldwide are expected to incorporate the planet health into their businesses.

Waste is one of the biggest issues that we are dealing with in the world today, in regard to climate concern, and some of the industries are in the spotlight of causing extensive amounts of waste. The gastronomy industry is no exception here, since it is known to accumulate tremendous piles of food waste and general waste. Recently a new wave of restaurants have emerged that want to prove that top-quality gastronomy does not have to compromise our planet's health. They aim for Zero Waste.

The term 'zero waste' has become a buzz word not only in the gastronomy industry in recent years, but across many global industries. It describes a set of principles that encompasses waste prevention, maximizes recycling levels, valuation of all resources, as well as reducing consumption. To minimize waste by maximizing utilization of resources forces gastronomic entrepreneurs to iterate from traditional approaches in both culinary and organizational practices. Innovating and creating with a completely new purpose in mind, that is, to limit waste.

This research will explore how the zero waste approach pushes entrepreneurs to develop new ways of innovating. It will illuminate how the innovation process is directed by the notion of zero waste by outlining the challenges that arise when committing to such approach. Connecting to the how this new way of doing things benefit the businesses, the research will introduce a holistic view on innovation endeavors.

Answering these questions shall give explicit insight into the way the zero waste pioneers of the gastronomy industry innovate and hopefully support other entrepreneurs on their journey towards a zero waste business. In doing so, this research broadens the conversation of innovation scholars and sustainability literature by spanning a bridge to a new emerging gastronomic category.

## 1.1. Why this topic matters

The introduction of the underlying notion, that shapes zero waste, can help explain the emergence of zero waste restaurants. This will build the foundation for understanding their innovations going forward. The growing environmental concerns and call for sustainable solutions will be clarifying the focal point for this research.

### 1.1.1. Environmental concerns

Resource scarcity, increased resource demand, urban growth, and surging pollution drives us to the edge of our planet's capacity to support us. In such a resource-constrained world, humanity is confronted with a number of challenges. Concerns about global warming and pollution have increased people's awareness for environmental problems as well as the importance of sustainability-based activities. The increasing concerns to these matters have encouraged businesses across most industries to act more responsible (Wang et al., 2013).

Businesses today are expected to responsibly use their resources as to recycle and reuse products as much as possible. They are also encouraged to respect and protect the nature, taking the environment into account by minimizing the amounts of water, energy and other materials used. Moreover, businesses should work to reduce greenhouse gas emissions and avoid activities that do irrevocable damage to the climate (Alfred and Adam, 2009). As the spotlight has increased on the pressing situation on climate change, more people and businesses have felt the need to change. Approaching innovation to live up to these expectations can be a challenge for businesses that have long followed traditional practices with less concern about the environmental impact of their operations.

On the consumer side, increasing awareness for the climate and environment triggered by the recognition of serious global environmental issues also affect consumer choices. As consumers are becoming more sensitive to environmental matters, some have translated their concerns into ecological friendly behavior such as recycling, energy saving, water conservation and consumption of 'greener' products. Subsequently, the demand for ecologically conscious products and services is growing. Attributes such as 'sustainable',

‘eco-friendly’ and ‘environmentally friendly’ are increasingly being combined with all kinds of activities or nouns across most industry sectors to imply environmental consciousness. A corresponding trend is seen in the gastronomic industry (Jeong et al., 2014).

### 1.1.2. Waste as a main issue

The currently consumption-driven society produces large amounts of waste every day. Continuous depletion of natural finite resources by urban populations is leading the globe to an unpredictable future (Song et al., 2015). Ultimately, the discussion on waste has increasingly been introduced in all business sectors as the awareness of environmental issues and climate change have become the focus of our time (Song et al., 2015). In the food industry the case is alarming, as about one third of all food produced gets lost or wasted every year, that equals 1.3 billion tonnes (FAO, 2020). Increased consumption further explains the contribution of more waste and why the topic has become highly relevant.

Since the 1960’s, data supports a doubling of supply of vegetable oils and meat per capita and an increase of about one third of supply of food calories per capita. It is estimated that 25-30% of total food produced is lost or wasted, as a direct response to increased production linked to changed consumption patterns (IPCC, 2019). Although, food is wasted along the whole supply chain, around 40% get lost or wasted already post-harvest in developing countries. On the contrary, in developed countries the loss happens at the retail or consumer stage (FAO, 2020). Consequently, food is wasted much later in the supply chain in industrialized countries, where restaurants are considered to be responsible for generating significant amounts of that food waste.

As a response of emerging awareness on the role of waste in climate change, businesses globally have all seen shifts in demand, technologies and policies. The changes nudge businesses in new directions. With the motivation of reducing the environmental footprint in mind, by making changes with new practices that are both healthy for the planet and for the human, some have decided to incorporate this approach of sustainability into a business. This group of entrepreneurs are confident about the potential of combining the demands of the planet and people into a profitable business. These are the zero waste businesses.



### 1.1.3. Waste in the gastronomy context

The gastronomy industry is no exception to undergoing changes in the direction of sustainability, as consumption and waste have always played a prominent role. With up to 2.5 times more energy per square foot, restaurants consume the largest amount of energy worldwide compared to most other types of commercial buildings (Jeong et al., 2014). On the waste side, restaurants generate a much larger amount of trash than most other retail businesses on a daily basis. Compared to other food service operations, such as fast-food chains, cafés or canteens and caterers, restaurants may offer more complex and hence energy-intensive food creations, that consequently accumulate higher amounts of food waste (Gössling and Hall, 2013).

It comes with no surprise that for most gastronomic establishments a large amount of the costs are wasted (Principato et al., 2018). Heikkilä and colleagues observed that food waste is produced during several stages of an organization's food producing processes (Heikkilä et al., 2016). Hence, many of the food waste reduction measures affect a number of operational points. Strategies to reduce the waste in the establishments included measurement, staff engagement, reduction of food overproduction, inventory and purchasing reevaluation and reuse of excess food. Consequently, the management of food waste is a holistic issue and is influenced by decisions and activities made across all levels of the business (ibid).

The notion of waste compiles far more than food waste in the gastronomic industry. It includes plastic from vegetable packages, water waste from dishes and energy waste from lamps, kitchen machines and other operations. As a continuous growing sector, the gastronomy industry finds it cannot escape from its social responsibility to contribute to sustainable development. It is an industry with a large worldwide presence, impacting the economy and employment alike. The global restaurant industry surpassed sales of \$3 trillion in 2018, with a steady growth projected in coming years (Cravy, 2018). Ultimately, imposing high responsibility on the industry to secure a better future through better practices.

Throughout the 20<sup>th</sup> century, generally speaking, gastronomic establishments were not very concerned with their environmental impact and a sustainable way of dealing with their waste was not given much priority (Radwan et al., 2010). Waste management in the gastronomy

industry has improved considerably in the past 15 years, as an increasing number of establishments adopted waste management processes as well as a series of other practices that aim to promote environmentally sustainable activities. The growing interest, also from the customer side in environmental issues, further reflects the booming number of ecolabels that are being used as a means of certification for many businesses around the world (Unops, 2009). Most of them are getting certified voluntarily and despite them being widely used in the recent years, there is hardly any clear accepted definitions of their meaning and how they differentiate from each other.

In the light of sustainability, the notion of ‘green’ has been connected increasingly to practices in restaurants (Jeong et al., 2014; Wang et al., 2013). A ‘green’ restaurant focuses on three Rs (reduce, reuse, recycle) and two Es (energy and efficiency) to operate in an environmentally friendly and energy-efficient manner (Gilg et al., 2005). Though many businesses are increasingly aware of the economic and social importance of waste management, most of them are not actively innovating in the waste field (Martin-Rios et al, 2018). As a matter of fact, the foodservice industry is not leading the way when it comes to innovation in this domain.

#### 1.1.4. Zero waste restaurants

Over the past years, a new kind of gastronomic establishment is attempting to prove a new way of operating restaurants. The small but growing number of ‘zero waste restaurants’ around the world aim to run fully sustainably and avoid not only leftovers, but also any rubbish accumulated in the operations (Martin-Rios et al., 2018). The term ‘zero waste’ is often used loosely and is still not an established label or formal categorization, yet the businesses are united by a strong goal to be more responsible. Zero waste generally is an approach to eliminate waste by aiming for a massive change in the way materials flow through society. In such system all resources and products are being reused until the ultimate level of consumption. Since the term zero waste was introduced, the life-cycle of products has been questioned and a transformation phase has been included. The transformation of resources challenges conventional ways of resource extraction, processing, designing as well as consumption and waste treatment (Zaman, 2015).

It is indisputable that, adopting these sustainable practices demands a new way of thinking from the entrepreneurs in the gastronomic industry. Developing new innovations through new approaches become vital and unavoidable. Done right, it will allow the business to benefit by improving their environmental performance (Revell and Blackburn, 2007). More efficient waste management can lead to significant savings for the business as it will reduce costs and carbon emissions from the decreased transportation of waste and resources as well as reduce costs due to improved order requirements from suppliers. Moreover, it can improve the business image, improve relations with stakeholders, reduce risks and liabilities, and health and safety benefits (Ball and Taleb, 2010). Making it a sustainable concept for the planet and the business survival.

Hence, the notion of ‘zero waste’ is probably the most holistic and visionary concept of the twenty-first century for achieving a true sense of sustainable waste management systems and has been presented as an alternative solution for waste problems in recent decades (Zaman and Lehmann, 2011). Yet, the lack of current solutions to run zero waste operations initiates a comprehensible restructuring of the innovation process to transform the entire business and supply chain thereof, which can only be led by the pioneers of each industry.

## 1.2. Purpose

The purpose of this thesis is to understand the way gastronomic businesses, that are operating with a zero waste target, innovate. Therefore, this thesis will explore the new ways of innovating and interlink them to the motivation for doing so. Essentially, in order to aid more restaurants in taking steps in the zero waste direction, this thesis will outline the background and insights necessary to proceed. With more innovations in this field thriving and more entrepreneurs who dare to start their business with a zero waste goal in mind, we can secure a better future for all of us on this planet.

### 1.2.1. Problem formulation

Our planet and society need more sustainable business solutions to tackle the threats of climate change. Innovation is needed to change traditional business practices to more sustainable ones. This ‘new way of doing things’ requires an adapted way of innovating and challenges the businesses in many ways. Yet, it may also bring opportunities to the restaurants, as zero waste establishments proudly claim to ‘minimize their waste by maximizing resources’. For this reason, the present thesis shall discuss zero waste practices in connection to the innovation process and the challenges, as well as benefits connected to the new approach in this industry. This will be done in the context of the gastronomy industry, as we illuminate the cases of pioneering zero waste restaurants in this research.

### 1.2.2. Research questions + sub-questions

This thesis has been guided throughout the entire process by the following research question:

*“How does the zero waste approach in restaurants push entrepreneurs towards developing new ways of innovating?”*

The sub-questions have been used to support the research in order to fully answer the research question:

- a) *“How is the innovation process directed by the zero waste notion?”*
- b) *“What are the challenges when innovating for zero waste?”*
- c) *“What are the opportunities from the zero waste approach for the businesses?”*

### 1.2.3. Academic conversation and contribution

It is fundamental to all research to formulate carefully grounded research questions, as argued by Sandberg and Alvesson (2010). Answering these questions shall give explicit insight into the processes of zero waste pioneers in the gastronomy industry. By understanding how they innovate, we can understand how new ways of innovating emerge, and hopefully provide valuable implications to other entrepreneurs on their journey towards a zero waste business. In doing so, this research broadens the conversation of innovation scholars and innovation process literature by spanning a bridge to a new emerging gastronomic category. Ultimately, contributing to the field of innovation management by introducing the perspective of sustainability as the uncompromisable driver. If innovative research questions are not incorporated, it is less likely that the research efforts will generate interesting and significant theories (Sandberg and Alvesson, 2010).

Casting a wide net over prominent aspects of innovation processes in zero waste restaurants will allow us to shed light on a new way of innovating, taking internal and external influences into account. The notion of zero waste management in the gastronomy industry has only just emerged, nevertheless, the urgency to tackle climate change might push restaurants in this direction, whether voluntarily or not. As more businesses adopt zero waste practices, the need to accompany the developments with academic research becomes apparent. Hence, our contributions within the field of innovation theory is highly relevant to our time. Further, the scope of influence held by the gastronomy industry, contributes to the high interest of their innovations. As the novelty of the term zero waste gradually infuse restaurant businesses, the call for understanding their innovative ways of tackling their waste management becomes important.

Innovators in the field of zero waste are finding new ways to innovate on the culinary and organizational level but encompass innovations throughout the whole supply chain. Thus, the call for research on the innovation process becomes prominent and navigating the field of challenges and opportunities in this regard is interesting and valuable. Throughout the study process, the research questions were expected to evolve and change in a manner consistent with the assumptions of an emerging design (Creswell, 2009). For a research to be effective and of momentum, the Academy of Management Journal suggest five distinct criteria to

consider for the research topic; its significance, novelty, curiosity, scope, and actionability (Colquitt and George, 2011).

To begin with we believe the choice of topic for our research to be significant, as it is addressing the possibilities to fight the grand challenge of waste, which has an influential role in the depletion of the world's resources and environmental pollution. By evaluating practices that should diminish these negative developments we can bring light on how to fuel the innovation capabilities for a positive impact in a waste heavy industry. Our research shall reveal challenges inherent to the zero waste concept in the innovation process of the gastronomy industry, in order to allow the practices to continuously develop and become more established. We hope that businesses, current or future ones, can use the managerial implications from this research topic to successfully operate or implement the zero waste approach, thus reduce their negative impact on global climate by understanding the challenges connected to their innovation process.

Secondly, a bridge is being created by combining knowledge from sustainability innovation literature together with the gastronomy innovation literature stream. Zero waste is a new direction that is receiving growing attention across industries, with innovations addressing new practices to eliminate waste. The novelty of this topic will shed light on zero waste innovations in a new context. Especially, in the context of gastronomy, the research on zero waste innovation efforts is scarce, why this thesis brings a new direction to the conversations of zero waste. This leads us to the next characteristics, namely 'curiosity'. Since we are discussing a rather novel topic, we do not expect many readers to hold much pre-existing knowledge about the zero waste concept and its applications in the gastronomy industry. The novel and trendy word will awaken the curiosity. Moreover, we believe the reader to remain curious throughout the thesis as the approach of zero waste restaurants challenges the reader's assumptions of the gastronomic industry. Introducing such a radical approach to the traditionally waste-heavy practices in this context, will retain the desire of the reader to learn more.

The scope of this thesis is rather small, as it is resource- and time constrained by nature. The findings will be limited to data collected within the time frame. Nevertheless, the scope of

the written thesis will allow the findings to be outlined properly and elaborated on. By including a representative sample, we believe the topic to be sufficiently covered, to bring an adequate scope. Albeit acknowledging scope as a limitation, we propose the thesis to be a first step of research within the chosen subject, that is nonetheless considered to be carrying momentum.

Finally, the chosen topic is also actionable. Discussing the challenges, that gastronomic entrepreneurs and chefs are facing in their zero waste operations, offer valuable insights for sustainable and eco-friendly organizational and managerial practices. As the business environment shifts, so will the need for thoroughly different approaches. It favors new entrant entrepreneurs and challenge incumbents, unless they manage to learn and adapt new ways and letting go of old practices (Seebode et al., 2012). We invite readers to learn from the challenges and opportunities we analyze by providing real-life examples of how pioneering zero waste restaurants are working with the innovation process already, therefore offering inherent actionability for both new and established restaurants.

### 1.3. Structure of the research

The thesis starts off by introducing waste as an issue and the notion of zero waste which tackles it. The urgency of climate change and the opportunity for new organizational forms sets the scene for why this thesis is important and defines the purpose of the thesis. Before diving into the theory, we will introduce the research question and the connected sub-questions to underline the direction of this research. Theories on innovation and sustainability provide a foundation for the analysis. Further, zooming into gastronomy innovation literature will grant insights into the innovation process in the light of the gastronomy industry. The following chapter will outline the background of the research context. By emphasizing the issues of waste, we will deep dive into the starting point for zero waste restaurants.

In the second half of the thesis, the methodology explains how the data was collected and how it was analyzed. The restaurants interviewed as our cases will be introduced at this point and elaborated on how they were sampled. Together with secondary data collection, we have adopted a triangulation approach in satisfying the findings necessary. Subsequently, it will allow us to outline our findings in the analysis section with support of all data collected. Ultimately, we can move into the discussion with sufficient background to elaborate on our findings in connections to literature, as well as bring forth the limitations of this thesis and suggest opportunities for future research. We will summarize this thesis in the conclusion, where the reader attains an overview of the researched topic and respective findings.



## 2. Theory

In the following chapter, we will introduce a review of existing literature and relevant theoretical concepts for our particular research field. It will start off with a brief introduction on the innovation concept in general, followed by an overview on how innovation in the gastronomy context has been discussed. The aspect of sustainability will tie the knot to traditional gastronomic practices in order to understand the circumstances for innovating in zero waste. Considering the research question, an understanding of types of innovation will be relevant in understanding how ideas develop and how they fuel the innovation process.

As this research is exploring how new ways of innovating emerge, we will tap into innovation literature in general and in context of the gastronomy industry. This will aid to understand the uniqueness of the innovation practices for sustainability in the gastronomy industry that are subject of this study. The aspect of sustainability becomes essential as the academic field of zero waste is limited. Sustainability in essence is the foundation on which zero waste surface, hence aid in explaining the direction of innovation for these restaurants.

### 2.1. Innovation

Innovation will be explained in the contexts of gastronomy and sustainability after a short introduction to the general definitions. The definition will be a stepping stone for how innovation processes unfolds. By understanding the origin of innovation theory, we can also explain the necessity for adding onto it as the concepts from which innovations evolve constantly changes. It becomes essential to understand who the actors actively pushing innovation are in order to understand the point of departure and development of direction for the innovation process. The theory on innovation is therefore the foundation for explaining how novelties emerge and support this thesis in connecting innovation in several contexts that converge in a completely new context.

### 2.1.1. Innovation in general

Joseph A. Schumpeter, an Austrian Economist, was one of the first to develop a theory for innovation. He describes the term innovation as a new use or a 'new combination' of existing factors, meaning the use of existing technologies or knowledge in a way that they have not been used before (Schumpeter, 1947). Another world-renowned Economist of our time, Michael Porter, acknowledges innovation as a key element of success in creating a competitive advantages for businesses (Porter and van der Linde, 1995). It is a common understanding, that innovations can be expressed in a simple way as 'new ideas that work'. It is the creation of new products, processes, knowledge or services by using new or existing scientific or technological knowledge, which provide a degree of novelty either to the developer, the industry, the country or the world to succeed in the marketplace (Galanakis, 2006). However, the generation and the introduction of ideas into practice is not the same, they are distinct (Knight, 1967). In other words, an invention is considered an innovation solely when it has been commercialized (Dahlin and Behrens, 2005).

Academic research suggest innovation to be the result of push and pull forces in the market (Porter and van der Linde, 1995; Rennings, 2000). It includes internally created and externally adopted innovation. A common practice in one industry can be introduced as a novelty in another, therefore still be considered as an innovation (Crossan and Apaydin, 2010). Management scholars have generally defined innovation in ways that emphasize organizational adoption of new ideas (Crossan and Apaydin, 2010). One of the most cited papers in this literature by Crossan and Apaydin (2010) states that innovation is best conceived as both a process and an outcome, hence, it focuses on business processes that support the development and application of innovative ideas. In other words, innovation is the underlying requisite for a prosperous business and fuels the creation of new products and processes.

When the first OECD Oslo-Manual on innovation was published in 1992, innovation was distinguished in three categories - organizational innovation, process innovation, and product/service innovation (OECD/Eurostat, 2019). Later this was built on, by identifying business model innovation as the fourth type of innovation (Crossan and Apaydin, 2010). Organizational innovation considers the organizational structure and how it facilitates the

creation of new products and processes, especially in relation to fast changing environments (Wolfe, 1994). Inevitably, the structures and systems of a business facilitate the ease and development of innovations. It refers to the business culture which indirectly addresses knowledge sharing, strategies, as well as human resource allocation (Crossan and Apaydin, 2010). It connects the innovation to a business, group or individual level, why it originates from elements within the control of a business (ibid).

Product/service innovation covers both a new product and service that provides a significant improvement in characteristics or specifications and is introduced to the market well-timed (OECD/Eurostat, 2019; Crossan and Apaydin, 2010). Process innovation describes the introduction of novel production or delivery method with important changes in technology (Crossan and Apaydin, 2010). These innovations alter in accordance with the business model, a conceptual tool demonstrating how a business executes. It is useful for analysis, comparison and performance assessment, management, communication, and not the least for innovation (Osterwalder et al., 2014). Business model innovation is described as value changes to the ways of doing business and delivering value to customers (Osterwalder et al., 2014; Crossan and Apaydin, 2010). Whether it being new to the customers, business, or industry (Crossan and Apaydin, 2010).

Although improvements mostly refer to incremental innovations, those ideas which enhance existing organizations, processes, products, or business models, are innovations that encourage more abrupt changes. Today, academic literature widely acknowledges radical innovations to gain increasing importance as uncertainties and fast changing competitive settings are present in many business sectors. Radical innovations include rethinking whole products, designs and processes, not only improving those that already exist (Sandström and Tingström, 2008). It requires interventions through technological, social, cultural, institutional and organizational change (Ceschin and Gaziulusoy, 2016). Conclusively, innovation loom as advancements of what already is, or create structures that are not yet there. Both incremental and radical innovations can emerge within the same business and is not bound to just one type of establishments or one industry.

The actors that introduce innovations are widely regarded as entrepreneurs. Schumpeter (1965), defined entrepreneurs as individuals that take advantage of favorable market circumstances through technical or organizational innovation. The concept of entrepreneurship is recognized as one of the most significant contributors to innovation and used to comprehend whether, how, why and what exactly actors do to create new solutions in the form of products, services, processes and models. To understand where their motivation comes from and how opportunities emerge, is therefore relevant when investigating. The individuals that realize innovation activities, the entrepreneurs, are usually regarded as risk-takers and adventurers by nature, that enjoy exploring unconventional practices and unknown fields (Bernadi and Azucar, 2020).

### 2.1.2. Innovation in the gastronomy industry

The need for innovation is no exception to the gastronomy industry. Gastronomy is constantly evolving, and new trends charge the innovation capabilities, where gastronomic entrepreneurs have fostered several significant innovations for the industry.

Gastronomy as an industry itself is becoming increasingly important as it receives much attention in the media through TV programs, cooking shows, competitions, blogs, websites, journals and books. The spread of knowledge feeds consumer's demands for endlessly diversified food choices, as their expectations grow (Santich, 2004). At the same time, gastronomy tourism is becoming a growing topic globally, as more tourists are travelling to destinations to experience the local cuisine (Apaydin and Guzel, 2016). Consequently, these developments urge chefs and managers across the gastronomy industry to maintain their popularity, as the competition is intense. Creativity and innovation are essential to sustain a competitive advantage in the gastronomy industry (Lane and Lup, 2015).

Most academic research in the gastronomy industry has been concerned with the examination of 'haute cuisine' establishments. The reason why this high-end sector of gastronomy has been predominantly observed, might lie in their potential to communicate knowledge on creativity and innovation more widely, given the global recognition of haute cuisine

(Petruzzelli and Svejenova, 2015). Haute cuisine is widely regarded to provide an environment for an innovative breeding ground (Ottenbacher and Harrington, 2007).

Surlemont and Johnson (2005) observe similarities to how haute couture influences the fashion industry in the aspects of how haute cuisine plays a key role in trend setting, image building and in setting quality standards for culinary services altogether. Moreover, haute cuisine restaurants are commonly awarded with stars or other symbols, such as the Michelin rating. Those awards recognize consistency of high quality dishes and uses originality or individual signature of a chef as main criteria for ratings. Thus, making haute cuisine a good profile in innovation and creativity studies (Lane and Lup, 2015).

Unique to the gastronomy industry is the position of the chef in the restaurant. Svanjenova and her colleagues (2013) consider haute cuisine indeed as a creative industry where the chefs are the creative entrepreneurs. Chefs are acknowledged as the leaders of innovation in culinary products and services, and the intuition of a chef is said to be a crucial driver of innovation (Leschziner, 2015; Lane and Lup, 2015). Ottenbacher and Harrington (2013) find that top chefs usually start their own business in order to be in control of innovations and innovating without restrictions to maximize their reputation for more profits. As a consequence, studies acknowledge chefs to not only take the role as innovators, but also as entrepreneurs in the gastronomy industry (Svejenova et al., 2015).

Generating an idea such as a new dish and implementing it into the menu to successfully commercialize it, differentiates an innovation from an idea in the gastronomy industry. Consequently, the innovator can be equally differentiated from an entrepreneur in this field. Petruzzelli and Svejenova speak of a ‘new wave of gastro-entrepreneurs’ that is emerging and experimenting with culinary styles. They are doing so by “opening up opportunities for creativity and value creation through search, recombination and reproduction, entrepreneurial capabilities and novel business models” (Petruzzelli and Svejenova, p.650, 2015).

Innovation in gastronomy has fueled significant developments across the value chain, steered by new ingredients, process technologies, business and logistic concepts (Ottenbacher and Harrington, 2007). At the same time, it is a field that has received insufficient yet increasing

interest from academia (Albors and García-Segovia, 2017). An emerging body of academic literature across economics and sociology to organization and management, have made novel phenomena and initiatives in the gastronomy world subjects of research. A popular field to research is the product or service innovation in gastronomy, which is expressed as culinary innovation. These types of innovations are responsible for the development of today's diverse food creations and cuisine. Yet, innovations in the gastronomy industry also occur on the organizational, process and business model level. They will now be individually illuminated.

#### 2.1.2.1. Culinary innovation

Notably in the field of gastronomy, academic research on the culinary side of innovations has attracted most popularity. The competitive advantage of a restaurant is seen as its ability to be creative on the culinary level (Horng and Hu, 2008). Culinary innovation describes innovations on the product side in the gastronomy context. It has been defined accordingly: "Culinary innovations, culinary products and culinary product development are used interchangeably as all of these concepts reflect innovative food items consumed in a foodservice establishment" (Harrington, p.36, 2004). Movements such as the nouvelle cuisine, the fusion cuisine and the molecular cuisine have brought radical innovations to the gastronomy industry and were closely integrated with culture, art, science and technology (Lin and Horng, 2020). Concurrently, research has been addressing culinary innovation from different disciplinary angles and various levels of analysis (Feuls, 2018).

#### 2.1.2.2. Process innovation

Most empirical studies that explore culinary innovation have concentrated on the generation, creation and development of an idea. Another approach is to analyze the components and techniques used to create culinary innovation in order to comprehend the multiple facts of existence to it (Messeni Petruzzelli and Savino, 2014). Research reveals new technologies to be an influential factor in the exploration of process innovation. Rodgers (2008) suggests that process innovation in the food service context commands multi-disciplinary approaches stemming from engineering and food science. She further argues that novel technologies can be both impacted by chefs as well as impact chefs in their practices and learnings (Rodgers,

2008). Collectives of chefs, such as the ‘Experimental Cuisine’, have formed in the past and present, to understand scientifically novel cooking processes, illuminate new food technologies, and accelerate the discovery of scientific and experiment-based approaches to innovative culinary practices (Cousins et al., 2010).

#### 2.1.2.3. Organizational innovation

In the context of gastronomy, organizational innovation involves the structures which enables creativity and innovations to prosper. It accounts for human resource allocation and idea exploitation for successfully implementing innovations. Thus, organizational innovations in gastronomy refer to new hierarchies in the kitchen, new systems of communication, as well as establishing management tools for incentivizing creativity. A limitation, however, is that current research too narrowly focuses on restaurants that are successful, which overlooks creativity and innovation as a multi-level phenomenon. Neglecting the importance of effective management in its ability to govern the tension between exploration and exploitation (Lane and Lup, 2015).

Another aspect to organizational innovation in gastronomy relates to the impact of institutions in shaping structures of the restaurants. Comparing restaurants in geographically dispersed locations proved that participative behavior is more or less demanded depending on location (Ottenbacher and Harrington, 2013). Thus, socio-cultural and institutional aspects are proposed as crucial parts of how behavior within the restaurants unfolds, which also affects how innovations are developed (Lane and Lup, 2015; Ottenbacher and Harrington, 2013).

#### 2.1.2.4. Business model innovation

Business model innovation in the gastronomy context has received, on the other hand, rather limited attention in academic literature (Svejenova et al., 2015). Little is known about what drives business model transformation in the gastronomy establishments and studies on whether and how individuals shape and innovate the business model, is scarce (Svejenova et al., 2010). Some examined the role of the chef to be the core ressource of the restaurant and

consequently leading the innovation of the business model to pursue specific interests (Svejenova et al., 2010; Presenza and Petruzzelli, 2019). Svejenova et al. (2015) find that depending on their motivation and the scale and scope of their activities, these creative entrepreneurs differ in the type of business models they establish and operate. This involves new forms of supply chains through the relations to suppliers, customers and other stakeholders. Borgers and Jensen (2017) suggest that the development of new business models, or refinement of the current ones, need to address the roles of customer value proposition, market segments, revenue model, growth model, as well as internal and external capabilities.

### 2.1.3. Innovation in the sustainability context

Innovation research is often neglecting possibilities of redefining, reusing or repurposing input and output (Ceschin and Gaziulusoy, 2016). Innovation is the term itself liberal from direction but content of change (Rennings, 2000). Introducing the notion of zero waste, suddenly affects the direction and content in which innovation funnels. Emphasizing possibilities and constraints, as the entrepreneurs become aware of the burden on the environment through their innovations. Once the actors are aware of the environmental impact, they can subsequently start addressing them in their creative process of idea development, leading to innovations built with the notion of sustainability in mind.

The idea of innovating for sustainability dates back to the middle of 20th century, but one of the more common cited explanations was coined in 1987 in the Brundtland's report. The report explains sustainable development as; “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Ceschin and Gaziulusoy, p.118, 2016). It is a form of innovating which pressingly requires behavioral, cultural, systematic and social change (Song et al., 2015; Ceschin and Gaziulusoy, 2016; Rennings, 2000).

More sustainability focused innovation is described to be looking beyond boundaries and initiating change in wider systems (Adams et al., 2016; Porter and van der Linde, 1995; Bocken et al., 2014; Ceschin and Gaziulusoy, 2016). It includes intentional changes to the



values and philosophy of the business as well as to its products, practices and processes (Adams et al., 2016; Porter and van der Linde, 1995). Further, requiring a fundamental re-conceptualisation of the business purpose (Bocken et al., 2014). The innovative activities around both internal and external communication embed sustainability to move away from ‘take, make, and waste’ to active recovery (Adams et al., 2016), possible by carefully rethinking how to integrate sustainability in all aspects of the business (Bocken et al., 2014).

A sustainable business is described as a business that creates, delivers, and captures value for all its stakeholders without depleting the natural, economic, and social capital it relies on (Breuer and Lüdeke-Freund, 2014). Additionally, the innovation process in sustainable businesses need to give the environment the same status as traditional businesses give to profits, functionality, aesthetics, ergonomics, quality or image. There is a need to move from a sole focus on product improvement to a much wider approach, focusing on structural changes in the way production and consumption systems are organised (Ceschin and Gaziulusoy, 2016).

Characteristics of a sustainable economy are including the encouragement of minimising consumption and the use of closed-loop systems to restrict waste, which strengthen reuse, repairs and remaking (Bocken et al., 2016). The need for designing systems to maximise societal and environmental benefits becomes prominent as to also provide a rewarding work experience. Such workplace enhances human creativity and development of skills as the system is built on sharing and collaborating, rather than strict competition. To achieve sustainable outputs, entrepreneurs have to rethink perceptions of value and repurpose the logic of value creation. Thus, innovations can arise from resources which have not been valued before. The choice of business model direction will articulate how a company turns capabilities into economic value and ultimately how it will convert its resources (ibid).

## 2.2. Innovation process

In today's highly competitive marketplace, businesses across all industries require established processes for innovation in order to be an industry leader. Not the least, as innovations are regarded both as a process and an outcome (Crossan and Abaydin, 2010). The method of moving an idea from creation to preparing it all the way for the market is the innovation process of an organization. The innovation process will vary in many regards, influenced by the business sector, innovation type, knowledge inherited, history and time frame as well as geographical location (Pavitt, 2006).

### 2.2.1. Innovation process in general

The call for innovation stems from numerous reasons incorporating a need for change or simply stemming from exploration and workflows in a playful and relaxed environment. From time to time innovation kicks off as a new employee unsettles norms and known assumptions in the business. However, innovative ideas do not have to be entirely new. Ideas which are well-established in one place can inspire new ideas for practices, processes or products by revealing possibilities in a new place (Desouza et al., 2009). To plan organizational initiatives around innovation or to sustain innovation requires a full understanding of the innovation process. Undoubtedly, most businesses acknowledge the need for innovation and commonly encourage it, yet they fail at specifying the process behind it (ibid).

In an exploratory research of over 30 American and European companies that have robust innovation processes, Kevin Desouza and his colleagues (2009), break down the innovation process into discrete stages. What is referred to as 'robust innovation programs', entails defined guidelines and stages for aiding the recognition and construction of innovations. Ultimately, it helps in recognizing potential valuable ideas, growing them as well as avoiding an overload of information (Desouza et al., 2009). The distinction between idea creation and idea commercialization is recognized by the process.

Stages in an innovation process funnel the ideas through predefined steps to become accepted and finally implemented (Pavitt, 2006). The most common stages of the innovation process, as suggested by Desouza and his colleagues in their research, are found to be these ones in modern businesses; idea generation and mobilization, advocacy and screening, experimentation, commercialization, and diffusion and implementation. The stages are interlinked in a cyclical way and present the major steps an idea generally undergoes in order to become completely implemented and approved (Desouza et al., 2009). For most businesses, a definite innovation process can appear complex and challenging to control and manage, which is why a common language and understanding around innovation is essential for businesses (Ibid).

### 2.2.2. Innovation process in gastronomic literature

The gastronomy industry is characterized by increasing competition and changing trends and consumer tastes, forcing businesses to constantly innovate. To be successful in the long term the introduction of new products and services are critical for restaurants, yet the failure rate of innovations is high (Ottenbacher and Gnoth, 2005). Different to other businesses, in restaurants, the products offered consist of a bundle of tangible and intangible elements that together make up the experience for the customer (Harrington, 2004). Consequently, gastronomic entrepreneurs need to adopt innovation process techniques for both new service and new product development (ibid). Only a few studies have illuminated the innovation process in the context of restaurants and other gastronomy settings, hence it emerges as a recent phenomenon in academic literature (Ottenbacher and Harrington, 2009b). Two distinct perspectives on this have become apparent, a linear process and a systemic model.

The researcher team Ottenbacher and Harrington examine the innovation process in gastronomic settings from a sequential process perspective and have published several studies as part of an ongoing research stream. In a first study from 2004, Harrington developed a culinary product innovation framework that includes four primary phases; (1) culinary innovation formulation, (2) culinary innovation implementation, (3) evaluation and control, and (4) innovation introduction (Harrington, 2004). Building on these findings, together with Ottenbacher (2007), they analyzed the innovation process in Michelin-starred

restaurants and compared it to traditional new product development processes. The innovation process model they derived from this, can be broken down into seven main step; (1) Idea generation, (2) Screening, (3) Trial and error, (4) Concept development, (5) Final testing, (6) Training, and (7) Commercialization (Ottenbacher and Harrington, 2007). With these findings they suggest a formal and linear innovation process that is structured and iterative to diminish risk in innovation for gastronomic entrepreneurs.

A different way of looking at innovating is provided by Stierand et al. (2014), as they build on Amabile's and Csíkszentmihályi's socio-cultural systems view and develop a detailed study from in-depth interviews with 18 world-class chefs in the haute cuisine scene. Their findings challenge the linear innovation process that assumes rationality yet does not account for intuition and sensemaking in the process. They propose a systemic model, where the 'personal creativity part' of the innovation process is a complex embodied experience that is often guided by intuition and cannot be imposed in a sequential innovation process. The central figure in this model is the chef, the creative mind behind the innovation, who's creativity cannot be controlled and standardized (Stierand et al., 2014).

Lane and Lup (2015) observe the tension that arise between idea creation and implementation in the gastronomic innovation processes. They argue that; the "view of innovation processes is not only overly simplistic, but could also be misleading, because it ignores the fact that tensions and their management affect the link between creativity and innovation" (Lane and Lup, p.28, 2015). The balancing between daily execution of ideas and the creative work of developing new products are found challenged, as haute cuisine chefs aim at changing menus often, but are solitary responsible in creating them (Lane and Lup, 2015).

Horng and Hu (2008) explore the importance of creativity in the process of culinary creation and develop a model for the creative culinary process development. Their research acknowledges the first step of the process, the 'preparation' to be the hardest one, where creative chefs must collect sufficient information to develop their creative potential. This includes learning and making breakthroughs from previous failures and successes. In the second step, 'incubation and transformation', chefs filter which idea to incubate after careful considerations and further improvements and transformations to the idea. The 'idea

development', as a third step, involves four key phases: discovering new ideas, concretizing ideas, discussion and compromise and clarification. It is crucial to discover new ideas during the creative process. The final creation will be generated through team discussions and compromises before the final creative culinary product is then being evaluated as a last step of the process. As an underlying theme, they find that free time to create has been a recurrent and crucial factor for the outcome of a successful innovation process (Horng and Hu, 2008).

Ottenbacher and Harrington's research (2013) likewise suggests that successful culinary and restaurant service innovations demand a balancing act between encouraging open-ended, free-flowing creativity with appropriate management of the innovation process (Ottenbacher and Harrington, 2013). The application of more strategic human resource practices that are connected to strategic planning, creative and innovative environment and promoting creativity and entrepreneurship, are key to successful gastronomic innovations (Ibid).

However, compared to traditional innovation process models, the employee involvement during the process seems to be much lower in culinary establishments. In the study with the Michelin-chefs, none of them accounts employees to be a key source for innovation (Ottenbacher and Harrington, 2007). This is explained by the highly personal philosophy, which is guiding innovation in those establishment, why dishes can only be recreated by the same individual or a smaller group (Lane and Lup, 2015). Thus, it is an underlying notion that the human factor and personal skills of the chef play a highly important role in the innovation process of the gastronomy industry.

Inspiration for new products, methods, and ingredients are external to the restaurants as they often are found by peers, suppliers or loyal clients (Lane and Lup, 2015). According to Ottenbacher and Harrington (2013), a key element for a well-managed innovation process, involves tight collaboration with customers at the idea generation and strategy stage as well as the final testing phase. Birdir and Pearson (2000) support this claim and suggest that chefs often find their inspiration from customers reviews. Others suggest traditions, terroir and products or fairs, workshops and exhibitions inspire the innovators in gastronomy (Messeni Petruzzelli and Savino 2014; Lane and Lup, 2015).

Additionally, studies found that networking with other chefs' fuels innovation in the gastronomy industry (Slavich et al., 2014), and that many chefs obtain inspiration from visiting colleagues' restaurants, from literature on cooking and new cooking technology (Ottenbacher and Harrington, 2013). Furthermore, their research reveals that businesses that established strategic alliances with other establishments or suppliers are also able to improve their innovation potential and successful implementation. A well-established network can ensure superior local products from farmers and a sense of trust and commitment from specialty purveyors to obtain high-end, limited-quantity products (Ottenbacher and Harrington, 2009a). Thus, the network becomes imperative.

Notably, also Ottenbacher and Harrington find, that chefs do not reflect on the attractiveness of the market when creating dishes, yet they rather evaluate an idea with a "fit" to their cooking style and other operational issues, such as the ability to reproduce at a consistently high level (Ottenbacher and Harrington, 2013). The signature dishes embody a similar philosophy template, and the search for ingredients is mainly guided by their philosophy connected to the chef's personal style (Lane and Lup, 2015). The principal concept screening criteria are the use of seasonal ingredients, high-quality ingredients and compatibility with cooking style.

They, moreover, suggest that culinary innovation processes do not contain a formal evaluation system, but rather acknowledge customer satisfaction to be the key criterion, and financial measures seldom used to benchmark the performance of new dishes. Generally, it became apparent for the innovation process, that in the high-end sector, such as fine dining and haute cuisine, it includes less explicit business assessments such as financial or marketing obstacles compared to other gastronomy settings (Ottenbacher and Harrington, 2013).

### 2.2.3. Innovation process in sustainability literature

As businesses face new technologies, new markets or environmental and regulatory requirements, they need to develop better absorptive capacity for handling their innovation. The challenge of adopting dynamic capabilities pressures businesses to enroll in new approaches and abandon old ones around the core search, select and implementation process

(Seebode et al., 2012). Sustainable approaches have moved from being correctional in character, to involve completely new innovative solutions. For this reason, considerations to the environment have to be encouraged and integrated as early as possible in the innovation process, that means before a project target is specified, which means already in the idea generation phase (Sandström and Tingström, 2008). Commonly, the process in which such innovation can take form, involves ensuring a vision before working backwards to explore the necessary steps to reach that end state (Adams et al., 2016). Thus, the process will be guided through the vision to incorporate planning for sustainability instead of having traditional key performance indicators (Ceschin and Gaziulusoy, 2016).

Using and accessing knowledge about resources and how to combine them are important for successful innovation management when addressing sustainability issues. As the environment, where businesses exist, becomes more complex, the innovations will emerge as a product of a process of coevolution. It involves significant systems level thinking on emergent and radical solutions. Thus, the coevolution of technical, organizational and socio-economic structures has to be addressed. “Such system-level innovation goes beyond reviewing the relationship between a particular product and the environment, to rethinking the way we produce and consume, imagining new outcomes as well as understanding and leveraging the interdependencies of system components” (Seebode et al., p.42, 2012).

Resources are a substantial part to innovating, however, they can be restricted by the lack of options, availability, or access. Resource constraints such as human capital, funds, materials, time and space, can therefore limit the inputs that are available to the entrepreneurs. This consequently affects the innovation capabilities (Acar et al., 2019). Sustainable businesses often avoid the sourcing of new resources. Since their goal to lower the environmental footprint urges them to rethink and reuse the resources they already have. Thus, innovative product development aims to create outputs as good as possible for the environment, given the constraints of the business (Sandström and Tingström, 2008). Nevertheless, the input constraints affect creativity by encouraging a search for novel combinations of what is already available. This challenges the entrepreneurs to question traditional solutions and maximize the creative value generated from present resources (Acar et al., 2019).

It becomes a necessity for businesses to be alert and seek opportunities beyond familiar sources (Adams et al., 2016; Acar et al., 2019). Yet, there are two sides to the story of resource constraints; if resources are not constrained the risk of following ‘the path of least resistance’ unfolds, as the entrepreneur only innovates from the knowledge he or she possesses and from materials the entrepreneur knows the best. This hinders identification of novel ideas. On the other hand, if the resource constraints are too strict it risks limiting conceptual inputs which could have been used as recombinations to achieve novel outcomes (Acar et al., 2019).

Interestingly, resource-constrained innovation can also happen when resource inputs are minimized with the purpose to reduce end product costs while sustaining the same quality (Adams et al., 2016; Porter and van der Linde, 1995). It can be achieved by transforming outputs of each system element into an input, so called opportunity, for another system element (Ceschin and Gaziulusoy, 2016). Indeed, the ability to identify these opportunities rely much on team efforts, supported by processes which acknowledges individual opinions and encourages building ideas from that. Additionally, when faced with constraints, a structure for collaboration and interaction among the team is necessary in order to increase knowledge sharing and trust (Acar et al., 2019). The businesses need to integrate a process that incentivizes individuals in the team to alternate between creativity and routine work. Achieving an integration of creativity and implementation (Lane and Lup, 2015).

The literature on sustainability, green practices and waste innovation have predominantly been characterized by a technological approach. One that highly focuses on extraction of resources and waste treatment (Zaman, 2015), neglecting several stages in between. Innovation processes in sustainability-oriented businesses require a wider spectrum of considerations relating to social, environmental and economic returns. Ultimately, innovation processes need to consider the whole system, therefore, sometimes full system changes are necessary to satisfy a goal of more sustainable practices (Adams et al., 2016).

Another challenge in the innovation process stems from external causes such as policy makers and suppliers, where sustainable packaging either is under-promoted, expensive or unavailable. “Regulations constrain the search space for innovation activities by, for



example, banning, taxing, or incentivizing the use of particular materials, processes, or standards.” (Acar et al., p.107, 2019). Thus, regulations will either hinders, obstructs or just do not promote sustainable solutions, which also can explain why the different suppliers in the supply chain neither understand, use or offer such solutions (Porter and van der Linde, 1995). On the other hand, regulated standards can also promote innovation efforts; “research shows that standards codify accumulated knowledge on which innovations can be built.” (Acar et al., p.107, 2019).

Innovation process in the lens of sustainable orientation highly demands wider collaboration in the network of policy makers, business leaders and other stakeholders. It introduces the notion of creating shared value as a new wave of system innovation, demanding leaders and managers to acquire new knowledge and skills, and work across traditional boundaries. Consequently, reshaping the relationship between business and society on a global scale (Seebode et al., 2012). It includes the invitation of parties from the entire supply chain, to engage in more sustainable practices. This allows entrepreneurs to acquire knowledge from external stakeholder which enhances innovation capabilities (Adams et al., 2016).

However, network collaboration as a condition for better innovation, builds on the belief that sustainable businesses cannot succeed in the long term if the system, in which it exists, is unsustainable (Seebode et al., 2012). It becomes paramount to understand and explore the whole supply chain in order to innovate accordingly (Pietzsch et al., 2017). Hence, when a business face constraints to resource supply, it will have to rely on a more systematic approach. Where external stakeholders, including community action groups, social entrepreneurs and activists, are further identified, explored and integrated (Adams et al., 2016; Porter and van der Linde, 1995; Sandström and Tingström, 2008).

## 3. Background

To understand the emergence of the zero waste restaurants and the need for innovation in this space, we have to take a step back and look beyond the gastronomy industry. This chapter shall outline the development of a zero waste concept and illuminate the urgency for waste management innovations. Evidently, explaining the transformation in various industries to adopt new innovation processes. This will give the reader an enhanced understanding of the background for adopting the notion of zero waste in the context of gastronomy.

### 3.1. Climate change

Climate change is de facto a reality of our time. Since the 19th century, the IPCC has supported scientific evidence of climate change and continuously follows its impact on the planet. Climate related changes have direct negative impact on human health, such as an increase of dust storms, rainfall, drought and heat stress. Furthermore, animals have changed seasonal activities which has affected reproduction and challenged their existence (IPCC, 2019). The current warming trend is believed to be, by over 95% probability, the result of human activity dating back to the middle of the 20th century. It includes over-consumption, waste and inconsiderate use of toxic and pollutive resources. Evidence demonstrates that the current warming is developing ten times faster than the average rate of ice-age-recovery warming (NOAA, 2020). Climate change is affecting humans, animals and vegetation all over earth.

At the same time the population on earth is predicted to grow from seven to ten billion people by 2050, global consumption, especially the global demand for food is expected to rise by roughly 60% (FAO, 2020). Food systems are considered as one of the main driver of climate change around the world. 40% of land use, 30% of greenhouse gas emissions and 70% of freshwater consumption is currently attributed to global food production alone (FAO, 2020). Simultaneously, more and more people are moving to cities, with two-thirds of the population projected to live in urban areas in 30 years (Ritchie and Roser, 2018). This exponential

urbanization causes negative effects because of an increase in natural resource demand in urban areas that depend mostly on imported resources. This in turn requires more complex supply chains resulting in increasing greenhouse gas emissions and expanding volumes of waste (Bernardi and Azucar, 2020).

A few years back, the United Nations proposed 17 sustainability goals (SDGs) to tackle global warming and climate change. To resolve the issue on waste, the SDG 12 is directing organizations to ensure sustainable consumption and production patterns, aiming at ‘doing more and better with less’ (UN, 2020). It is evident, that to prevent further depletion of global resources, changing towards a more sustainable society requires greater sophistication in strategic waste management (Pietzsch et al., 2017).

### 3.2. Waste management

Waste is the result of a poor allocation of resources and represent the inefficiency of modern society. Waste is created out of foregone natural resources, energy and water consumption as well as by neglecting the potential of manufactured and grown products (Song et al., 2015; Ceschin and Gaziulusoy, 2016). It damages land and pollutes the environment which inevitably leads to additional economic costs (Song et al., 2015). Waste comes in many forms as a result of inefficient use of resources, including packaging, organic waste, water and energy, single use plastic and containers to just mention a few.

In the light of sustainable practices, waste has yet to be given more attention as energy and water have been dominating research and industry development (FAO. 2020). Generally, most of the literature on waste practices investigate the subject matter from consumers’ perspective, rather than from businesses’ perspectives. Yet, resource recovery and the optimization of material flow can only be accomplished along the side of and through behaviour change to lower both the creation of waste and wasteful consumption (Azucar and Bernardi, 2020).

Over time different solutions to the waste problem have been introduced. Once, landfill was considered a modern innovation but has gradually been outdated by more sustainable solutions such as recycling, composting and advanced treatment-methods. Yet, waste is still regarded as an ‘end-of-life’ product and an outcome in the last phase of product-consumption (Zaman, 2015). Research suggests, that the environmental footprint should be calculated for the entire product life-cycle and is a major concern when that life-cycle gets shortened (Sandström and Tingström, 2008). Here, especially businesses have a strong potential to engage in more responsible practices that result in less waste. Such an approach, that attempts to tackle the environmental, social, and economic problems that humanity is currently facing, is ‘zero waste’.

The concept of zero waste disputes the presumption that waste is inevitable, by shifting “the focus from ‘end-of-pipe’ solutions and disposal practices, to promote the cyclical use of materials in the economy“(Lehmann and Crocker, p.24, 2012). This aligns well with the growing significance of sustainability-based activities across industries worldwide.

### 3.3. Zero waste

With the rapid increase in awareness of the importance of sustainability, the number of terms used in connection with it, continues to develop (Glavic and Lukman, 2007). Peter Glavic and Rebeka Lukman (2007) reviewed sustainability terms and their definitions, as they see terminology in the field of sustainable development becoming increasingly important. Using a ‘system approach’, they created a framework that consists of a hierarchical structure of principles, approaches and sub-systems all under the label of ‘Sustainable System’. They categorize zero waste as an environmental approach that is very much connected to other dimensions of sustainable development (Glavic and Lukman, 2007).

#### 3.3.1. Definition

The term zero waste is a holistic approach to waste and the ample flows of resources in society. Glavic and Lukman’s definition reads; “Zero waste maximizes recycling, minimizes waste towards zero, reduces consumption and ensures that products are planned to be reused,

regenerated, repaired, and recycled internally or back into nature or the marketplace” (Glavic and Lukman, p.1881, 2007). Hence, zero waste does not consider waste as a material that must be disposed off or incinerated, but rather treats it as a resource that can be reused or repurposed, therefore taking full advantage of the waste potential. The holistic zero waste life cycle therefore pose greater measures for evaluating opportunities for recreation and repurposing along the whole cycle. Conclusively, demanding greater creativity, thinking “outside-the-box” and analysis along every step of each product.

The term ‘zero waste’ was first used in 1973 for recovering resources from chemicals (Palmer, 2004), yet the concept did not expand until the late 1990s. From 1998 it gained publicity as a movement that has since advanced from theory into action, by directing efforts towards the structure and behavior of a ‘zero waste community’. Today the term is being used increasingly in all kind of settings, as the approach can be applied to businesses, communities, industrial sectors, schools and homes.

Further the movement is gaining more importance among the younger generations globally. Aiming to enhance waste management infrastructure and growing awareness about the subject, the ‘Zero Waste Youth Movement’, as a frontrunner, is spreading knowledge about the zero waste concept. Thus, they promote individual responsibility for the waste generation and management as a tool to reach the UN Sustainable Development goals (Zero Waste Youth, 2020). With the youth becoming increasingly and actively engaged, zero waste will undeniably be a topic in the future.

### 3.3.2. Challenges

Learning and information are challenges in sustainably focused innovation as the complexities of integrating diverse knowledge relating to social, economic and environmental considerations are pressing (Adams et al., 2016). A common spoke in the wheel for the zero waste movement relate to the view that there are trade-offs between ecology and economy. Those tradeoffs connect to the belief that there are unavoidable costs related to being sustainable, which lead to higher prices and, thus, diminishes the competitiveness (Adams et al., 2016; Porter and van der Linde, 1995). Nevertheless,

sustainable businesses are compelled to dispose, store and handle waste through additional activities, which are adding costs but not directly creating value for customers (Porter and van der Linde, 1995).

Thus, while innovating, businesses have to interlink the environmental aspects with economic considerations in order to achieve successful innovations. Far too often, policy makers narrow their lens on static cost impacts which forgoes the offsetting benefits in productivity, stemming from innovation. Consequently, resulting in more costly environmental regulations. Barriers to innovation can arise if regulations and policies make it costly or more difficult to obtain resources. This may also restrict the opportunities to implement innovations necessary for running sustainably.

On the other hand, one barrier for innovations relates to businesses who oppose and delay environmental regulations and movements instead of innovating to address them (Porter and van der Linde, 1995). Importantly, regulations hold the power to steer the economy in preferable directions, why it becomes ever more important for policy makers to adopt regulations which motivates businesses to innovate in an environmentally friendly direction. Unless it is financially advantageous to dispose or reuse waste responsibly, businesses will withhold change (Pietzsch et al., 2017; Zaman, 2015). Thus, it becomes necessary to relax the static mind-set about trade-offs for businesses and governments, which deteriorate both competitiveness and environmental protection.

### 3.3.3. Governments for zero waste

Despite challenging waste policy implications, zero waste innovations are being developed and implemented in various industries and the concept has also been embraced by policymakers around the globe. Therefore, studies have argued for governmental actions as a motivator and initiator of change for businesses (Porter and van der Linde, 1995; Zaman, 2015). Thus, they are responsible for ensuring financial viability in bringing forth recommended or regulated directions. Thus, governmental efforts to work in favor of the zero waste development actively affect the opportunities to innovate and implement innovations in each geographic location.

Now, the depletion of materials and resources at an accelerating pace, and increasing consumption trends globally have set resource efficiency, waste reduction and recycling at the heart of many policy agendas, devoting them an unparalleled importance. Some governments have therefore stepped in with specific waste policies. Tackling the issue of food waste and reducing the resource overexploitation is high on the agenda of the European Union. The European Waste Framework Directive (WFD) introduced targets to recycle or re-use at least 60% of waste within the next 10 years and prepare systems for an even higher recycling rate in the future (Bernadi and Azucar, 2020).

Various governments have announced zero waste as a goal. As a result, communities all around the world are adopting new principles and changing the way waste is handled and managed. The European Union launched a first 'Circular Economy Action Plan' in 2015 in which guidelines for zero waste practices of member states are presented (European Commission, 2020). Across the Atlantic, the United States are also working towards zero waste. At their 83rd annual meeting, cities mayors from all states adopted a resolution in 2015, declaring the support of municipal zero waste principles and a hierarchy of materials management (United States Conference of Mayors, 2020).

In November 2018, the Canadian Council of Ministers of the Environment (CCME) recognized a Canada-wide Strategy on Zero Plastic Waste. With this action plan all plastic waste should be recycled, reused and the value recovered to lower the amount of plastic released in the environment. Currently nearly ninety per cent of Canada's plastic waste is not recycled or recovered. This represents an estimated economic loss of \$7.8 billion, according to the CCME (CCME, 2019). With the governments of three of the largest economies in the world adopting zero waste strategies, the importance of this concept becomes evident. Furthermore, an increasing number of businesses worldwide have adopted it, setting a target of zero waste disposals to landfill (Zaman, 2015).

### 3.3.4. Zero waste across industries

Large corporations such as IKEA, Unilever, and Metro are looking into reducing waste and they are not the first ones to do so. The initiation of the zero waste concept into different industries often starts with a few pioneering businesses, that commit to zero waste and demonstrate their new ways of doing things to their respective peers. Consequently, the term 'zero waste' is now being associated with a variety of industries, where an increasing number of businesses are pushing for a more sustainable path. The rapid emergence of zero waste on all fronts brings about innovations and forces entrepreneurs and innovators to search for new ways of innovating. To illuminate the innovative potential of zero waste and the opportunities that it means for business sectors, the respective industries will be outlined briefly.

The construction industry is known as one of the key contributors to the solid waste generation, hence, waste management in the industry is a challenging topic that has been increasingly discussed (Liyanage et al., 2019). Zero waste in the construction industry replaces the 'end-of-life' concept with restoration. It seeks to eliminate the use of toxic chemicals, which currently hinder the reuse of building materials. Further, the use of renewable energy is encouraged and through superior design of materials, products and systems, redundant waste is reduced (Siew, 2019). Through this approach in the construction industry, zero waste can improve the use of natural resources, diminish environmental problems and promote sustainability (Liyanage et al., 2019).

The rising popularity of living a more sustainable and conscious lifestyle includes for many also the decisions on fashion purchases. Across the fashion range, from couture to casual, designers are reacting to consumer demand and delivering novel zero waste options. Between 15-30% of fabrics are being wasted in most cutting processes for clothing alone. The new way of thinking, forces designers to challenge existing techniques and designs, with the goal to waste much less fabric in the production, recycle all scraps or upcycle from other materials (Almond, 2018). With more and more leading designers using these techniques, zero waste design is gaining importance in the fashion industry (Zaman, 2015).



Supermarkets, too, are waking up to customers' growing concern of the environmental impact of plastic packaging, as well as the origin and transportation of the products they buy. Around the globe, there is a growing number of grocery stores that minimize packaging and provide local produce. The concept of 'zero waste' stores began in Europe more than a decade ago, aiming to minimize the environmental impact of consumer habits (EC, 2015). The non-profit organization 'United Against Waste' run campaigns against food waste in the foodservice industry and supports large businesses, such as Unilever, in making sustainable changes to business operations (United against Waste, 2020). Slowly, the idea behind zero waste is eventually moving up the food value chain and has reached some of the food producers and farmers.

Evidently, the zero waste movement is present in various industries across luxury goods as well as basic products. It is a trend, influencing larger businesses as well as smaller ones to change current practices and to innovate with new guidelines and resources. Consequently, seeing zero waste practices being introduced in all the above industries, leaves no doubt that this is an emerging topic that will become increasingly important in the future. This is a trend leading sustainability across all industries. For that reason, it becomes inevitable to explore the zero waste development further and understand how innovation is fostered with this direction.

The expansion of the zero waste is also visible in academic research. The concept has been gaining importance over the recent decade considering that the numbers of articles published are growing overall. Pietzsch et al. (2017) reviewed 102 published articles on zero waste, where 71% of the publications analyzed occurred between 2012 and 2017. Therefore, the concept only got conceptualized in various studies in the last decade (Zaman, 2015). Zaman (2015) aimed to incorporate all relevant research conducted on zero waste in his study and found following prominent topics being discussed: zero waste society, zero waste community, zero waste city, zero waste living, zero waste campus, zero waste places, zero waste practices, programs and strategies (ibid). To all appearances, there is limited research addressing the connection of zero waste to gastronomy or restaurant practices. Based on the review of the literature, Zaman (2015) concludes that zero waste is still in development.

### 3.3.5. Zero waste in the gastronomy industry

In the gastronomy industry, the zero waste approach is neither a label nor a certification. Yet there is a growing number of establishments in the gastronomy industry that are called ‘zero waste restaurants’ because they all follow the militant goal of not producing any waste in their operations (Matchar, 2020). To date, there is no 100% zero waste restaurant in the world, it is rather a term used to express the dedication to eliminate waste in the operations of the businesses. Thus, the zero waste approach is rather a guideline than a hard target.

Innovation within the zero waste context of the gastronomy industry becomes particularly interesting due to several reasons. In the initiation of larger trends, a considerable stake in spreading and creating more knowledge about the concept, requires a small number of pioneers (Porter and van der Linde, 1995; Suarez and Lanzolla, 2005). Looking at the zero waste gastronomy, as of today, we can quickly identify the pioneering restaurants that adopt a zero waste approach due to their small scale.

### 3.3.6. Zero waste restaurants in this research

To dive deeper into the zero waste context in the gastronomy industry, six pioneering foodservice establishments have been identified and selected for this research. The one overriding characteristics that all restaurants analyzed unite is their vision and goal to reduce waste to the minimum. The two cafés, two contemporary cuisine and two fine-dining restaurants shall be introduced briefly.

***Freia***, is the world’s first vegan zero waste restaurant and based in Berlin. The founding couple, Jasmin Martin and David Johannes Suchy opened the restaurant in spring 2019 and can host approximately 120 people for dinner. When they first opened, they served lunch as well, yet had to decide to only concentrate on dinner, because they became too busy. Besides, their daily changing restaurant menu, they offer an extensive catering menu, as founder Suchy was running a catering business before opening the restaurant. All dishes are vegan and based on organic ingredients. By compositing all organic waste, they can ensure a circular system where the soil goes back to the farmers. It is one of the most popular restaurants in Berlin’s Mitte district (Freia, 2020).

***Fotografiska***, is an award-winning restaurant that is part of the same-named museum for contemporary photography in Stockholm. The renowned Swedish chef, Paul Svensson advocates, is the visionary for the ‘new conscious’ kitchen with an organic plant-based kitchen, that is dedicated to practice sustainable cooking techniques and wasting as little as possible. Since 2016, they offer their guests a seasonal based lunch and dining experience and can serve up to 300 seats a day. They also serve conferences and events, as well as run their small café and bar at the same venue. Besides serving local produce they actively collaborate with external stakeholders, to produce their own beer, run a hydroponic system for growing plants as well as buying fish from aquaponic farmers (Fotografiska, 2020).

***Silo***, opened in 2014 as the world’s first zero waste restaurant in Brighton on the south coast of the United Kingdom. Founder and chef, Douglas McMaster, is often acknowledged in the industry as the pioneer of zero waste gastronomy and its most militant advocator. Silo has been awarded for its sustainable and ethical restaurant approach repeatedly. In 2019, Silo relocated from Brighton to a canal side warehouse in Hackney Wick in London, to prove that the zero waste system can work in one of Europe’s largest metropolitan city. The establishment has their own mill and next to the restaurant it is also a bakery (Silo, 2020).

***Nourish’d***, is a plant-based café and juicery with two locations in Cape Town, South Africa. It was founded by Natasha Napoli in 2017 with a commitment to being as environmentally conscious as possible, by reducing the negative impact of the gastronomy sector to a minimum. They serve locally sourced and seasonal organic juices, smoothies, coffees, acai bowls and light meals. Although, their cafés are small, they are among Cape Town’s most popular by serving both seating guests as well as much take-away. Additionally, they offer catering for both businesses and events. The most current thing is their expansion into the retail sector as well (Nourishd, 2020).

*Isla Coffee*, is a cafe and vegetarian restaurant with two locations in Berlin, Germany. The founders, Peter Duran and Philipp Reichel, opened the first café in 2016 with the idea to fully follow circular economy principles and showcase best practices in gastronomy. With their innovative model for food service waste-management, the two founders won the German ‘Gastro-Gründerpreis’ in 2018, an award for gastronomic entrepreneurs. They offer their coffee in cups made from recycled coffee grounds and serve light meals in a space where everything is either reclaimed, recycled or homegrown (Isla, 2020).

*AMASS*, is a fine-dining restaurant located in Copenhagen, Denmark, that started its journey towards zero waste in 2016. Ever since, Amass has been recognized multiple times. Not only as one of the best restaurants in the world, but also as one of the most sustainable. Matt Orlando, is the owner and head chef of the restaurant and has been experimenting with his sous-chef and head of R&D, Kim Wejendorp, innovative zero waste approaches in all different directions. Together, they set up Broaden & Build, an ingredient-focused brewery, research space, restaurant, and bar, which is located next to the restaurant Amass. It is a casual version of the fine dining restaurant, showcasing that a commitment to zero waste, can be realized on any level (Amass, 2020).

These restaurants, together with a few others, are making up the forefront of the zero waste movement in the gastronomy industry. Although they differ greatly in their cuisine and operations, they share the same vision, that is to reduce waste to the minimum and keep their environmental impact as low as possible. No restaurant yet, has been able to reduce waste to the absolute, the zero, however they are attributed the term zero waste because they are fully dedicated on the journey to reach this goal.

This journey is mostly characterized by finding ‘new ways of doing things’, because the way restaurants and their kitchens run for the most part, is evidently accumulating tremendous amounts of waste. This forces restaurants, that aim for zero waste, to create and establish different practices across all levels of the business, which leaves much room for innovations.

## 4. Methodology

The methodology builds the foundation of the research and determines how data should be collected. It is used to guide this thesis with the goal to achieve a useful result. The following chapter will outline the methodology and research design. The first part will elaborate on the chosen method of data collection, as the basis for analysis. It will introduce the semi-structured interviews as a means to obtain qualitative information for our research and include the secondary data as a means to complement it. Suggestions on overcoming quality issues and pitfalls in the research will be put forth, as well as the acknowledgements of delimitations from this methodology. Altogether, this section aims at giving the reader an understanding of the foundation, on which the analysis will be conducted.

### 4.1. Qualitative research design

The research approach of the present thesis will be the following: interviewing our sample group, coding the findings to identify emergent themes, making sense of the interview data by analyzing the codes and nestle them together in smaller groups and sub-groups. The secondary data will follow a similar approach, before cross-checking and merging all data. This will lead us to incorporate our findings with the theoretical background in the analysis. The purpose of the research design shall be an exploratory study, as it serves as a valuable means to discover the nature of the phenomena, to seek new insights and to ask open questions. Exploratory research has the advantage that it is flexible and adaptable to change (Saunders et al., 2016), which equates well with our inductive approach.

The specified research question demands an approach of qualitative nature succeeding to gather data on an experiential level of the phenomena. A qualitative method is useful in social science research when the researcher is unsure about the important variables to examine (Creswell, 2009). Consequently, applicable in this research as the process of innovating in zero waste restaurants lack much previous academic background. The approach allows for flexibility in addressing the topic of the thesis and allows to explore various inputs in the

field of study. Further, the thesis embraces a social science perspective, concerning social community on all levels through its motivation to address the waste issue. Yet, by exploring the corporate context, the role of businesses in finding solutions to the problem will be examined. Through a social constructivist worldview this research aims at understanding the situation on the basis of the participants in order to construct meaning. It accounts for the interaction with others and adds the historical and cultural norms (Creswell, 2009).

The goal of the research is to rely on the participants' views of the situation, on how the zero waste notion pushes them to find new ways of innovating. Hence, particular questions are left broad and general so that participants can construct the meaning to this social phenomenon. This social constructionism adopted worldview, requires the research to develop a theory or pattern of meaning inductively (Creswell, 2009).

The time horizon for the present study is cross-sectional, as it is based on interviews conducted over a short period of time, due to the time constraint of our Master studies. In addition to the interviews, we collected data from secondary sources such as documents, books, websites, podcasts and videos from the restaurants. The secondary data will hold a supportive role for primary data (Creswell, 2009). Although, the interviews will account for majority of the data collected, the the secondary data will be embedded in the analysis to confirm validity and enrich the findings from the primary data set.

## 4.2. Research strategy: Case study

To address the research question, without a predefined theory, the choice fell on case study research. It will be used to examine a novel phenomenon, that is characterized by deficiency of detailed preliminary research. When research questions are not fully established and when data to form propositions has not yet been obtained, the exploratory nature of this case study research allows for flexibility (Mills et al., 2010). We will adopt a multiple case study approach in order to use cross-case analyzing in the research process. This will allow us to explore the emergence of unique patterns to each case before we can generalize it across the cases (Eisenhardt, 1989).

Case study research is a strategy that focuses on understanding the dynamics present within single settings, yet case studies sometimes lack trust from researchers, as it is believed to not provide reliable information for the broader research (Eisenhardt, 1989). However, Flyvbjerg (2001) exemplifies, how well case studies can be both generalizable and used for development of theories. The underlying importance of case studies is to generate theories and hypothesis. However, this is often diminished as researchers mistrust the relevance of one or a few cases to generate enough data. Cases, however, provides real-life experiences to describe situations. Yet, the critical point relies on the validity and reliability (Flyvbjerg, 2001; Mills et al., 2010; Saunders et al., 2016). It cannot be overlooked, that case studies are generally facing more difficulties in terms of the process and summary of findings, yet, this is not implying that the outcome of the findings are less valuable. They contribute with real life narratives to understand complexities and contradictions (Flyvbjerg, 2001).

For the purpose of the present thesis, the independence associated with case study research, allows the research design and data collection to fluctuate as new information is obtained (Mills et al., 2010). It is an apparent overlap of data collection and data analysis which forms a theory in case study research (Eisenhardt, 1989). In general, case studies carry a supportive role for continually developing social research (Mills et al., 2010). Hence, the collection of cases carries much importance (Flyvbjerg, 2001; Eisenhardt, 1989). Due to lack of previous attention to the phenomenon, a multiple-case approach was conducted. It aims at exploring the way zero waste encourages innovation in restaurants, by collecting data from six distinct zero waste establishments. Chefs, managers and founders of these pioneering restaurants participated in the interviews. Initially, 30 restaurants were considered and ultimately six interviews conducted. Although a small sample to study, it resonated as an appropriate sample of subjects to conform with the indicative approach (Saunders et al., 2016).

To understand the dynamics of the topic you have to understand “the interactions between the subject of the case and its context” (Saunders et al., p.184, 2016). A purposeful sampling was chosen to achieve homogeneity of information on a specified sub-group, namely the zero waste restaurants. The subgroup was selected on the characteristic of having ‘zero waste’ as their vision, eliminating a generic sample from the restaurant industry. A purposeful sampling should be based on a careful selection of cases experienced within the central phenomenon

(Creswell, 2009). Furthermore, there was no selection made from the type of cuisine or size of restaurant. It was neither limited to geographical scope. Primary reasoning relates to the scarce presence of zero waste restaurants, which automatically restricts the sampling size. Indeed, when resources are limited, the identification and selection of information-rich cases can be most effective in generating data (Palinkas et al., 2015), which well corresponds to our chosen method.

Nevertheless, the restaurants in our case-sample are assumed to be representative of the subgroup, as type of cuisine, size and location are characteristics, that do not affect the motivation for being zero waste directly. Yet, the participants equally represent a varying spectrum of cuisines, including two cafés, two contemporary cuisine restaurants, and two haute cuisine. Thus, providing insights from restaurants serving light-meals up to higher-quality food creations. The participants were chosen with the assumption that they “possess knowledge and experience with the phenomenon of interest (...) and thus will be able to provide information that is both detailed and generalizable.” (Palinkas et al., p.7, 2015). The goal of the chosen data collection method correlates to identifying a common core, and saturate data for alignment of findings.

To begin with, an initial online research on the topic exposed some of the ‘zero waste pioneers’ of the industry, which were contacted first. Followed by a further in-depth internet search, other potential participants were identified. Information on websites helped determine, whether the respective businesses follow a zero waste mission. Additionally, restaurant guides like the ‘360° Eat Guide’, where named jury members assess restaurants based on how they work with sustainability and gastronomy, helped to identify establishments that could be relevant for the topic. Essentially, in order to obtain valuable data, established zero waste restaurants with experience of at least one year in the field were contacted.

Secondly, we reached out to the restaurants via email and elaborated in our initial outreach on the purpose of our thesis. By emphasizing our interest of their innovation practices, we were put in contact with the most suitable person for our request, within the restaurant. Several restaurants returned with follow up questions regarding the information we would



need. We utilized this email conversation to put forth our ideas as well as send them our summarized version of the research proposal. Hence, we were sometimes forwarded to someone new in the restaurant to continue our conversations. Once an interview was confirmed, we felt secure that the restaurants were confident that we had reached the right person for the subject. This process allowed us, eventually, to speak to a person with lots of insights regarding the innovation process.

Thirdly, in addition to the purposeful sampling, snowball sampling was used. The approach helps in finding people with similar characteristics, by identifying cases of interest from sampling persons (Palinkas et al., 2015). Through referrals from these entrepreneurs we were further suggested new entrepreneurs to contact. We asked every interview participant, whether they could think of anyone else that would be beneficial for us to talk to for our research. Working via recommendations allowed us to gain a sense of the network in the industry and their collaboration efforts. Also, it enabled us to tap into additional sources from where to gain more information about cases. It was beneficial to include restaurants and cafés that have not yet been given much public attention or are rather unknown within the industry.

In addition to that, we also conducted three briefer interviews with industry experts that disclosed their impressions of the zero waste trend in gastronomy. From their experience in the gastronomy industry, they provided us with further suggestions on who to contact as well as initiated a few conversations within their network. Their inputs helped shaping initial questions in our interview guide. As Pettigrew (1990) described, considering the limited number of cases which can be studied in a research setting, cases that represent extreme situations and polar types should be chosen. This allows the process of interest to be more transparent to observe. Our chosen strata consist of pioneers in the industry, being among the first restaurants to adopt zero waste practices. The people behind the restaurants have experienced the transition from a traditional- to zero waste business setting. They can be expected to have a sound understanding of innovation practices in their field and to have the capacity of sharing information in regards to the novelty of innovating for zero waste. Choosing information-rich cases allows us to extend the emergent theory (Eisenhardt, 1989).

### 4.3. Case overview

The one overriding characteristics that all restaurants analyzed unite is their vision and goal to reduce waste to the minimum. As already implied, there is no 100% zero waste restaurant in the world yet, it is rather a term used to express the dedication to eliminate waste in the operations of the businesses. On this journey towards zero waste there is no one defined path, each of the businesses are following an individual path to reach their aim and it is important to note, that, at the time this research was realized, each of them is on different stages. In the following, the individual approach to zero waste practices will be briefly outlined for each of the representative establishments.

#### Interview participants

Code	Restaurant	Type	Location	Interviewee
Interview 1	Frea	Contemporary cuisine	GER	Founder and CEO
Interview 2	Fotografiska	Contemporary cuisine	SWE	Executive Chef
Interview 3	Silo	Haute cuisine	UK	Former partner & Chef
Interview 4	Nourish'd	Café	SA	Marketing manager
Interview 5	Isla	Café	GER	Chef
Interview 6	Amass	Haute cuisine	DK	Head of R&D

*Case sample: Zero Waste Restaurants*

At ***Frea***, the Berlin based restaurant, dishes are entirely made in-house from local and seasonal produce that they receive without packaging from farms in the region. The composter machine is part of the unique value proposition of the restaurant and transforms all organic waste from the restaurant into humus, that is then returned to the farms they source from. The Frea restaurant interior decoration is a combination of reclaimed materials and second-hand bought. The art on the walls are made out of plastic that was collected during Frea's construction phase. Their attention goes into the detail, the staff shorts, and napkins are made from fair trade materials (Frea, 2020). At Frea we spoke to one of the two founders David Johannes Suchy. Frea will be referred to as Interview 1.

***Fotografiska***, the Swedish museum restaurant is following the head-to-tail and root-to-flower principles, aiming at extracting the maximum from each produce, which they receive from regional farmers. Their 200% taste initiative transforms unused products, from the bakery for example, into new ingredients, which they can use for their dishes, thus reducing their food waste to the absolute minimum. With the restaurant being connected to the contemporary museum, they encourage their guests to look at the food and drinks as art. In other words, it does not have to be 'pretty' but it should awaken thoughts. The team at Fotografiska is passionate about challenging their visitors' perceptions on all levels (Fotografiska, 2020). At Fotografiska, we talked with Martin Wall, one of the main chefs in the restaurant. Fotografiska will be referred to as Interview 2.

With ***Silo***, the world's first zero waste restaurant in Britain, Douglas McMaster promotes the concept of a closed loop pre-industrial food system. It is praised as the model for the future in his best-selling book; "Silo - the zero waste blueprint". At Silo, the true aim of zero waste is to work only with natural materials, letting everything live its life and then return to nature. To realize this, the Silo team thinks about the whole supply chain, only accepting ingredients as whole foods and package-free, to break with the wasteful industrial logic. With Silo's formula, the menu is never the same and cannot be replicated identically, by virtue of the always changing ingredients, shapes and quantities. It is a restaurant without a bin, where the the production of waste has been eliminated by simply choosing to trade directly with farmers, using reusable delivery vessels and choosing local ingredients that themselves generate no waste. Further, they were one of the first restaurants to make use of

a compost machine for restaurant scraps (Silo, 2020). At Silo, we spoke with Blair Hammond, who has been Douglas McMasters close friend and chef at Silo Brighton and his partner when they moved the restaurant to London, before he left the business. Silo will be referred to as Interview 3.

At *Nourish'd*, the South African juice bar and café, that is pioneering the zero waste approach in Africa, the seasonal produce is mainly sourced from in and around Cape town. In the kitchen, Nourish'd proudly manages to send out zero plastic with their operations. To limit the waste generation from the takeaway business, they commit to compostable containers, wooden cutlery and glass bottles. Adding to future offerings, they are hoping to soon be able to sell zero waste retail products. By expanding their product range, they can also improve their waste management by reusing kitchen waste for shelf-products. As one of the first establishments in the region, they implemented zero waste reusable coffee cups with a discount for customers if they bring them back or if they come with their own. The large amount of peels and pulp from all the juices and smoothies are being composted and unavoidable small amounts of plastic are recycled (Nourish'd). At Nourish'd, we interviewed Sam Chambers, Marketing and Communications manager. Nourish'd will be referred to as Interview 4.

At *Isla*, the essence of the business is avoiding packaging, sourcing responsibly with smart logistics, and finding ways to reuse waste or avoid it altogether. The team from the Berlin café and vegetarian restaurant is a strong advocator of the circular economy system. This approach encouraged them to use the leftover milk from the coffee machine to make ricotta, transforming food scraps into new ingredients in the kitchen, and the cups are made from recycled coffee grounds. They frequently collaborate with local suppliers who send their waste to their kitchen, where the team is eager to transform it into something valuable again. Thus, unused ginger beer for instance, that could not be sold anymore, is transformed at Isla into ginger beer cake and sold at the bakery. A strong value proposition for them is their coffee, tea and cacao, which is fair produced and traded. The space is frequently used as an event location for other sustainability endeavors, such as tours, clothing drives, dinner clubs and farmer's markets. The owners see it as part of their mission, to be a platform for people and businesses that are doing good work (Isla, 2020). At Isla, we talked to Sophia

Hoffmann, one of the main chefs in the restaurant and author of the first German zero waste book “Zero Waste Küche”. Isla will be referred to as Interview 5.

*Amass*, the fine dining restaurant in Copenhagen, Denmark, are finding new ways for achieving zero waste in the food systems through their dedicated scientific engagement. The connected brewery, Broaden & Build, uses leftovers from the Amass restaurant to infuse and brew own beer varieties. Recycled water for cleaning and the compost from the restaurant leftovers is used for the facilities own garden, which grows more than 80 varieties of plants and includes an aquaponic farming system. The Amass team have been frontrunners at measuring into detail the the carbon footprint of their operations and improving wherever possible. Their dedicated research and development facilities enable them to explore the science behind the materials and experiment without restrictions to find innovations for the food system, besides the usual restaurant operations. It is a space for processes and techniques where they also work with local universities, science labs and businesses from the food industry (Amass, 2020). At Amass, we interviewed Kim Wejendorp, the head of research and development for both the Amass restaurant and Broaden & Build. Amass will be referred to as Interview 6.

#### 4.4. Data collection

The inductive approach taken collects data in order to outline the emerging patterns and themes to then be able to build a theory for the specific field of study. This relates to both primary and secondary data. As previously mentioned, the data was collected through a multi-method of qualitative nature in the form of interviews and secondary data from podcasts, articles and video material. Multiple data collection methods allow for triangulation and provide stronger substantiation of constructs and hypotheses (Eisenhardt, 1989). The present study focuses on the gastronomic sector, including restaurants and cafés, where small- and medium sized companies predominate.

Cases were chosen on the premises that their vision, aim or goal is to reduce waste until zero. The establishments are all in different stages of waste reduction, as of now, and are taking different paths to reaching this goal. Secondary data was gathered from several sources and consisted of published data on the restaurants, essentially as many as was found relevant to the topic, including websites, documents, videos and podcasts.

To fully embrace the nuances concerning our research, semi-structured interviews were chosen. We acknowledge the opportunity to find emergent patterns by allowing flexibility in questions asked. Additionally, we believed our participants to bear different backgrounds, experiences and views, where narratives should be allowed elasticity to fully portray the lived reality yet guided in the direction of the thesis purpose. The semi-structured one-to-one interviews can help understand causal relationships between variables, in our case referring to zero waste as a direction for innovating (Saunders et al., 2016). Prior to the first interview, a set of guiding questions had been prepared (*see Appendix A*). However, over the natural course of the interviews, some questions needed to be adapted, left out, or tailored to the respective participant. This was done in the attempt to allow the participant to share their own personal and, by definition, subjective experiences and thoughts on the zero waste movement in gastronomy with no limitations.

Additionally, this type of data collection assures the flexibility to explore areas outside of the initial idea while keeping to the main topic (Sreejesh et al., 2014). It allows the questions to be further explored as the interview evolves, explaining why the interviews to some extent differ from one another. Further, it gives the opportunity to touch subjects not yet considered as the participant moves the discussion into new areas. It was also used as a help to enhance understanding and formulate research questions as we initiated our research.

As suggested, a few shorter interviews can aid the exploration of a topic thoroughly before elaborating further (Saunders et al., 2016). Before initiating the first data collection, we interviewed industry experts, in order to get a sense of the zero waste topic in the gastronomy industry. This helped us draft our initial questions, as well as provided us with concrete ideas on who to contact. Furthermore, each conducted interview with the restaurants'

representative, then funneled the research towards a narrower direction. Consequently, also the final research questions and sub-questions only emerged over time.

Interviews as a qualitative method to collect data, becomes especially valuable when questions are complex or open-ended and where the logic and order of questions may be varied. Also, allowing probing questions to be applied when requesting extended details (Sreejesh et al., 2014; Saunders et al., 2016). We also allowed for additional adjustments to be made to the interview protocol, as the overlap between data analysis and data collection helps to build the theory from case studies (Eisenhardt, 1989). Adjusting the questions enables us to probe emergent themes or take advantage of special opportunities which might only emerge in a particular interview context.

The interviews all started with a summary of the research purpose and content, a brief introduction of both researchers and asking whether recordings were allowed. As a next step, general questions followed to understand the background and history of the interviewee and the restaurant. Thereafter, we moved into more detailed questions concerning waste management practices, the innovations, creative process and challenges. Another area of enquiry was motivations and team dynamics. All interviews were conducted electronically over online meeting platforms such as Google Hangouts and Whatsapp. The chosen method depended on our large geographical distance to the interview subjects. Since both participants and interviewers were based on different locations, preparation became key.

The synchronous interviews ranged from 30 min up to one hour, depending on the elaboration of answers by the interviewee. The interviews were simultaneously recorded and taken notes to, as well as later transcribed. This process was chosen to capture the variations of tones and emotions and to avoid misinterpretations. Nevertheless, it was beneficial to conduct the interviews by a two person team, with one researcher assigned to handle the interview questions, while the other wrote down the notes. While the interviewer has the perspective of personal interaction with the participant, the one taking notes retains a different, more distant view (Eisenhardt, 1989).

Having a second researcher observe also supports the interviewer by reminding to not deviate from the research topic. It allows the observer to suggest going back if certain aspects were missed, or reformulate if the respondent seemed to not understand the questions correctly. Accordingly, there were always two sets of interview notes: the transcripts and the instantaneous handwritten notes. The full set of all interview transcripts will be attached in the appendix (*see Appendix B*) and referred to as “Interview 1, 2020”, “Interview 2, 2020”... etc.

The transcribed data resulted in a total of 4 hours and 20 minutes of interviewing, which resulted into 39 pages of transcription, in addition to several pages of notes from the interviews. The use of two investigators was crucial for this thesis, as it enhances the creative potential of the research. Complementary insights of both individuals add to the richness of the data and the individual perspectives increase the possibility of building on any novel insights in the data (Eisenhardt, 1989).

## 4.5. Data analysis

Interview transcripts, documents, websites, audio and visual material provide a descriptive account of the study. In order to make sense of the data gathered, we had to analyze the findings. The large amount of data needed to be organized, coded and conceptualized to allow for a better overview. All materials were systematically reviewed and evaluated to extract similarities and differences. Coding was used as an interpretive technique to organize the keywords and key themes.

As a first step each dataset, which reflects one restaurant, was treated as a stand-alone entity and data within each case was analyzed. This allows the unique patterns of each case to show before they were generalized across all cases. Initially, this was undertaken by re-reading the transcripts after each interview, in order to detect valuable insights and highlight/comment on them. Following this process, a search for cross-case patterns was undertaken. Key here was to look at the data in various ways, to avoid premature and false conclusions because of information-processing biases (Eisenhardt, 1989). Common segments were summarized and aggregated to get a categorical overview of main factors. This was done by forming a table



with the topics found in each transcript and plot for each case which topics applied. Through this approach, similarities and differences within and across cases crystallized, as well as links between different aspects. Once sufficient similarities between the case findings were identified, and no more new findings emerged, we inserted all our data, including primary and secondary data sets, into a coding tool called Nvivo.

The elemental goal of this process was to thoroughly understand the context, the innovation process, challenges and opportunities of zero waste restaurants. Hereafter, all data was screened, and codes were created. In Nvivo one can freely create new codes, that connect to the paragraphs of each text in the data. This allowed us to easily drag and drop text paragraphs in new or existing codes and subsequently have all findings gathered in one place. These codes correspond to some of the topics found in the first screening but were narrowed down and merged to more suitable denotations. By using structured and diverse lenses for the data, the cross-case searching tactics forced us to go beyond initial impressions. This process increased the probability for novel findings (Eisenhardt, 1989). It led us to categorize the codes in themes, which was done in Nvivo by combining the codes under bigger headlines. The themes finally portrayed a representative structure of emergent patterns. Following the within-case analysis plus various cross-case tactics the tentative themes, concepts and relationships needed to be assessed on strength and consistency.

As suggested by theory, the emergent frame was compared systematically with evidence from each case, in order to evaluate how well or poorly it matches the case data (Eisenhardt, 1989). As a next step towards theory building, the emergent concept had to be compared with existing literature, to assess similarities and contradiction with previous research. This process is especially crucial in theory-building research, because the findings build on a limited number of cases (ibid). The entire process of iterating between theory and data was ended once theoretical saturation had been reached. Conclusively, the data analysis of the present research consists of interwoven parts that required the researchers to move between data reduction, data display, conclusion drawing and verification. The process involved two investigators and multiple data collection methods, as well as multiple cross-case searching tactics. This makes the qualitative data analysis and the process of building theory from case studies an ongoing iterative practice.

#### 4.5.1. Table overview on interview and secondary data

<b>Primary Data</b>	<b>Type</b>	<b>Duration</b>	<b>Referred to</b>	<b>Conducted</b>
David Suchy - Frea	Interview	30 mins	Interview 1	20.01.20
Martin Wall - Fotografiska	Interview	32 mins	Interview 2	06.02.20
Blair Hammond - Silo	Interview	60 mins	Interview 3	09.02.20
Sam Chambers- Nourish'd	Interview	35 mins	Interview 4	25.02.20
Sophia Hoffmann - Isla	Interview	55 mins	Interview 5	10.03.20
Kim Wejendorp - Amass	Interview	51 mins	Interview 6	18.03.20

<b>Secondary Data</b>	<b>Type</b>	<b>Referred to</b>	<b>Published/ Accessed</b>
'Our restaurant at Fotografiska Stockholm'	<u>Website</u>	Fotografiska	15.04.20
Silo London - Story	<u>Website</u>	Silo	10.04.20
Amass Restaurant / Broaden and Build - Mindset	<u>Website</u>	Amass	15.04.20
Frea - About	<u>Website</u>	Frea	01.04.20
Isla Coffee Berlin - Facebook Page	<u>Website</u>	Isla	10.04.20
Monocle 24: 'The Menu - How to create a zero-waste restaurant starring Douglas McMaster'	Podcast	Podcast A	08.11.19
Beyond The Plate Podcast: S4/EP.012 'Chef Matt	Podcast	Podcast B	20.11.19

Orlando'			
Nordic Foodtech: 'Amass's Kim Wejendorp on how they've made fine dining sustainable'	Podcast	Podcast C	22.10.19
The Atlantic: 'The struggle of a Zero waste restaurant'	Video	Video A	10.01.20
'SILO: The Zero Waste Blueprint' by Douglas McMaster	Book	Book A	27.06.19
Forbes: 'The world's first vegan zero waste restaurant wants to set a new benchmark for sustainable hospitality' by Elizabeth Rushe	Article	Forbes	29.10.19
Smithsonian Magazine: 'The rise of zero waste restaurants' by Emily Matchar	Article	Smithsonian	16.03.20
Fotografiska Handbook (see Appendix C)	Company Document	Fotografiska Handbook	06.02.20

## 4.6. Delimitations

It is a priority of us as researchers to establish a quality research design for our thesis. However, it is evident, that all research has limitations due to time, data, location, and resources (Saunders, et al., 2016). Nevertheless, the limitations are not necessarily restricting the research if awareness can mitigate and allay the problems associated to it. Limitations generally affect data gathering and can influence the strengths and accuracy of the data and results. There is a risk of overlooking problems or searching in the wrong place (Osterwalder, et al., 2014). In the following, we will outline some of the identified shortcomings and limitations in the presented research methodology.

Reliability is concerned with the quality of the data and is a key characteristic for good-quality research. Together with validity, which is concerned with the extent to which the empirical measure adequately reflects the real meaning of the concept. To demonstrate a qualitative research to be reliable and credible is not as straightforward as with a quantitative approach. Mostly, since findings derived from using non-standardized research methods, they are unlikely to be repeatable. They reflect reality at the time they were collected, which is generally subject to change as circumstances are complex and dynamic (Saunders, et al., 2016).

One effective way of enhancing validity and reliability is the use of triangulation. To add depths, breadth, complexity and richness to the research, multiple methods, sources and even researchers (Denzin, 2012; Denzin and Lincoln, 2011; Mills et al., 2010). Besides the interviews, secondary data consisting of documents, website, audio and visual material were used. The secondary data used, was initially collected with a different purpose or angle than our thesis, stressing the need to interpret it carefully. Yet, it is a resource effective way of enriching our primary data by supporting findings. Thus, ensuring internal consistency for establishing reliability (Mills et al., 2010). It provides a tool for triangulation to ensure stability of findings. With the support of secondary data, the final data set is derived from multiple perspectives, which also ensures validity.

The data used for the theory background was cross-checked through different references. Moreover, examining as much literature as possible was essential to mitigate the natural selection bias in picking specific secondary sources (Chenail, 2009). Therefore, the challenge lies in finding relevant information to support this thesis and support its credibility. To ensure quality and high level of reliability in the data collected from secondary data, sources used, are written by renowned authors and credible organizations.

Already, the choice of research method provides subjective interference (Osterwalder et al., 2014). Rather, it should be treated as a point of awareness and guide each consideration of the thesis. Nevertheless, subjective choices and analysis must not be considered a weakness or limitation. The equivalency highlights the importance of consistency in the data collected, which in general is challenged in case study research because of observer bias (Mills et al., 2010). Our background, being from different countries and experiences in interviewing assures less biases which improves reliability. Moreover, Flyvbjerg (2001) elaborate on the subjectivism as a challenge facing all research methods, not only applicable to case-studies.

A thorough preparation and planning for the interviews aimed to prevent poor performance that could result in an observer error, being unable to properly obtain data through lost recordings or forgotten questions. Prior to each interview, roles were clearly allocated, technology tested and sufficient background knowledge on the restaurant and interview participant gathered, in order to facilitate a smooth conversation. We had to take into account, that the interviewees have a tight time schedule and the possibility exists that they are not focused during the interview time, limiting richness of data or facing insufficient time to answer all questions.

Semi-structured interviews open up for a more informal setting, but still guides the participant in certain desirable directions. For the present research the main shortcoming can relate to the observer bias of the data collection and analysis, since analyzing an interview is highly subjective. Observer biases are extant in qualitative research, as the researcher is viewed as part of the measurement process. This can challenge the reliability to reproduce the results, yet be alleviated by ensuring equivalency (Mills et al., 2010). The questions asked and the way of interviewing can have an effect on the results, especially in semi-structured and

unstructured interviews (Saunders, et al., 2016). Through triangulation of measurements and findings, observed by two persons, we can address the concerns of equivalency.

The choice on semi-structured interviews was made strategically to alleviate the participant bias, a second challenge to reliability. Through the semi-structured method, the interviewee could talk freely within the predetermined topic, without feeling pressured to respond for certain expectations. This approach will provide space for answers to differ and, therefore, allows more freedom to interpretation which tests the validity (Mills et al., 2010). However, the variations in answers and questions are welcomed as a necessity for our inductive research approach. An additional source for asymmetries in the data collected might stem from overlooking regional differences that exist within countries and cultures. We have kept our geographical scope rather broad, since we aimed to speak to the sustainability pioneers in the industry, that happened to be dispersed.

Interrelated, is the selection bias, also referred to as ‘an outcome of necessity’ (Saunders et al., 2016). Yet, as of now, there are not many restaurants that could be considered to be operating with a zero waste focus on their mind. Thus, we must acknowledge that the small representation of zero waste restaurants in this thesis can limit the transferability. Nevertheless, the opportunity to have interviewed two cafés, two contemporary restaurants, and two fine-dining restaurants supports the findings for different types of cuisines. A full description of the research questions, design, context, findings and interpretations are provided in this thesis. This offers the reader the opportunity to judge solely, whether the research can be transferred to another context.

## 5. Findings and Analysis

This chapter is dedicated to interlinking theory and findings in order to address the sub-questions of the present research. Going forward, they will be outlined individually. By answering the sub-questions of this thesis, we build a foundation for answering the overriding research question in the discussion; *How does the zero waste approach in restaurants push entrepreneurs towards developing new ways of innovating?*

The findings of the primary and secondary data are analyzed based on existing literature on this topic. It will follow the triangulation approach to ensure reliability and validity, where findings have been checked through cross-case analysis and compared to secondary information. To begin with, we will lay out the findings on the way the restaurants, that were subject of this research, innovate for zero waste. Secondly, the challenges that are connected to the innovation process will be presented and lastly, the opportunities or benefits that arise with the notion of zero waste will be identified.

### 5.1. “How is the innovation process directed by the zero waste notion?”

The inductive approach taken in this thesis, allowed exploration of emergent themes which revealed several new implications in the innovation process of zero waste restaurants. By locating relevant insights in existing literature, it allows us to examine how the innovation process is directed through the zero waste approach. The innovation process is exposed to several stages of idea development before ending in an innovation that can fully be implemented. The data gathered suggests that all innovations are directed by the goal of minimizing waste, an aspect neither restaurant is willing to compromise with. The innovation process is characterized by much curiosity, inspiring creativity and bold experiments. It is a process which demands everyone in the restaurants to stay alert and open to new possibilities. It necessitates thinking outside the box by utilizing what is available and to dare to try it out, even if the idea might seem completely crazy at first. The process can appear unplanned to begin with but dedication is key; “Progress is messy” (Book A, p.34, 2019).

### 5.1.1. Innovation process

When directing the innovation by a vision, unavoidably the businesses need to enroll in new approaches to adopt dynamic capabilities around the core search and implementation processes (Seebode et al., 2012; Adams et al., 2016). The innovation process of zero waste restaurants is well defined by the following statement; “Every question resulted in more questions. These questions were put through our priority filter, which resulted in action. This action led to lots of failures, but every now and again a success. This was usually the order: failure, failure, failure, kind of success, failure, failure, failure, success:” (Book A, p.38, 2019). A quote from the British zero waste pioneer Douglas McMaster, who wrote a book about his zero waste restaurant Silo.

#### 5.1.1.1. Questioning the status quo

It became apparent in the interviews that the innovation process is led by continuous and constant questioning of what is already existing. These queries are guided by the notion of whether or not the innovation is reducing waste, following a sustainable proposition. Thus, the questioning always take stance in what is available, rather than what can be obtained, and relates to enhancements of the zero waste aspect. Unless, the questions can be connected to refining the business model, organizational structures, processes, or products to optimize for zero waste, the idea generation will not be initiated. As proposed, the considerations of the environment have to be integrated already before the idea generation phase (Sandström and Tingström, 2008).

Martin Wall at Fotografiska exemplified this process by telling us how he usually questions himself and the team at least 200 times a day. “It is a lot about questioning, it is a long journey, which we just started (...) You have to be alert and curious, and question everyone, the people around you.” (Interview 2, p.11, 2020). It is about being in the zone where everything focuses on the notion of achieving zero waste; “You are already in an environment where we encourage that type of creativity and keep thinking, keep question, keep pushing everything and see where it goes with that (...) And things will always pop up. The job is never done. There is always that kind of curious nature where you are constantly identifying everything.” (Interview 3, p.22, 2020). Literature on haute cuisine discusses how the innovation process is initiated through the formulation of objectives and a strategy for a constant search of new



culinary innovations (Ottenbacher and Harrington, 2009a). Where the intuition of the chef is the prominent driver of the innovation and where it is directed (Leschziner, 2015; Lane and Lup, 2015).

In zero waste businesses, the questioning of existing solutions is constantly practiced; “We just want to think outside the box and think; how can we create something that is different?” says Sophia Hoffmann at Isla (Interview 5, p.43, 2020). The opportunities for new innovations can emerge by questioning ideas which are well-established in one place to inspire innovations in practices, processes or products by revealing possibilities in a new place (Desouza et al., 2009). For the zero waste restaurants, this involves far more than the culinary side of the business.

“So you slowly but surely look at every small aspect of the restaurant and kind of improve as you move along.” (Interview 3, p.22, 2020). It takes the holistic approach of questioning waste on all levels of the restaurant, including the produce, supply chain, interior and other aspects. Incorporating the notion on all levels of the business, aligns with theory. Literature suggests that businesses, which are innovating for sustainability, need to look beyond boundaries and initiating change in wider systems (Adams et al., 2016; Bocken et al., 2014). Moreover, “sometimes it might even be guest that come in and ask good questions” (Interview 3, p.22, 2020). Incorporating questions from customers allow an understanding of the entire business, from product to service shared by someone with a different perspective. In other gastronomic settings, entrepreneurs concede to receive input for innovation through reviews from customers as well (Birdir and Pearson, 2000).

Notably, existing theory focuses on the entrepreneur, in singular, as the chef who is asking the questions and filtering the ideas (Ottenbacher and Harrington, 2007). The main difference here, is that the innovator role is denoted the chef, particularly in haute cuisine, whereas in zero waste restaurants the interviewees stress the importance of an all team involvement in asking those questions. As Martin again explained; “it has to be everyone, otherwise it is too slow. It is a very open environment. It doesn’t matter age or knowledge, everyone has to question everyone and be curious, otherwise we won’t get anywhere.” (Interview 2, p.12, 2020).

#### 5.1.1.2. Seeking inspiration

Besides questioning the status quo, seeking inspiration from alternative sources is a substantial part of the innovation process in zero waste restaurants. To frequently and constantly question the current way of doing things, the entrepreneurs depend upon external inspiration. The interviews reveal that the teams look into history and beyond to other cultures for inspiration. “200 years ago every restaurant was a zero waste restaurant.. Waste wasn't a thing“ (Video A, 2019). “The world has a history of using everything and we are just forgetting about it”, explains Kim Wejendorp (Interview 6, p.54, 2020).

They also suggest to look for inspiration in other countries and the way they consume and prepare food. “Food waste is traditionally a first world problem” (Interview 6, p.54, 2020). There is a lot to learn from other cultures; “if you want to talk about sustainability and zero waste, they [the people in slums] are amazing at reusing everything” (Interview 2, p.15, 2020), and, “then it is about taking these recipes or taking these years and thoughts to making them relevant for today” (Interview 6, p.54, 2020).

Gastronomic literature acknowledges customer reviews (Ottensbacher and Harrington, 2013; Birdir and Pearson, 2000), as well as fairs, workshops and exhibitions as an inspirational source for entrepreneurs (Messeni Petruzzelli and Savino 2014; Lane and Lup, 2015). Yet, for the zero waste restaurant this was not as straightforward, as practices in the gastronomy industry are generally not as concerned with waste. ”There weren't any instructions, there was no map” (Book A, p.37, 2019). “There was no manual to a zero waste food system. No one had ever done it.” according to Douglas McMaster, who from most people in the industry is regarded as the pioneer of zero waste gastronomy (Video A, 2019).

Nevertheless, the interviewees have revealed that they find inspiration in each other's work. Silo, regarded by many as the first zero waste restaurant in the world, has been an inspirational source for many restaurants, that started this path afterwards. Before opening Frea, for instance, founder David Suchy spent ten days at Silo to understand the system and even made a former Silo-chef head chef at Frea. Also, Sophia Hoffmann, has done an internship at Amass, before starting at Isla (Interview 5, 2020). “As long as you are aware, and kind of observing others, it is endless inspiration” (Interview 3, p.24, 2020). This aligns

with academic research, which acknowledges networking with other chefs and visits of other restaurants to be fueling innovation in the gastronomy industry (Slavich et al., 2014, Ottenbacher and Harrington, 2013).

Whether found in other restaurants, individuals, foreign cultures or historic practices, inspiration is a key element of the innovation process for zero waste gastronomy, as the entrepreneurs and chefs seek new ways of doing things, outside the scope of a traditional restaurant. A notion that is supported in the literature, that implies the necessity to seek opportunities beyond familiar sources when facing a novel approach (Adams et al., 2016; Acar et al., 2019).

#### 5.1.1.3. Guided by value

The process is also injected by constant considerations of value. This includes realizing the worth of products where the value has been forgotten or diminished, in order to make them valuable again. It follows the questioning of what exists and goes into how to improve it. As indicated, the zero waste approach requires the repurposing of the value creating logic and rethinking the perceptions of value (Bocken et al., 2014). Kim Wejendorp explained that; “a lot of what I have been doing is create ingredients of value from the secondary parts of things that are not used ever or not really thought about it and automatically disposed of.” (Interview 6, p.53, 2020). This new conceptualization of value eventually fuels culinary innovations for produce that have previously not been taken into account. As a consequence, it also includes process innovations by finding new ways of processing these foods.

The priority filter directs the entrepreneurs on how to proceed with developing ideas after having questioned existing products, processes and models. “The idea can be rationally filtered through a series of logical questions. It is a quick exercise that will help you see more clearly”; explains Douglas McMaster in his book (Book A, p.86, 2019). The importance of this phase is described in the literature on sustainability. It is encouraging considerations to the environment to be taken before idea generation starts and to be nurtured throughout the innovation process (Sandström and Tingström, 2008).

Moving into improving those practices, the zero waste restaurant always adopt a lens in which minimizing waste is the influential factor, thus reusing, refining and repurposing becomes essential in realizing value of what already is; “I mean, the newest thing that we have is that we really reinvented what people or what chefs can define as food. Or what chefs can define food of value.” (Interview 6, p.53, 2020). In haute cuisine settings the entrepreneurs evaluate on fit to cooking style and the opportunity to have continuous reproduction with high-quality ingredients (Ottenbacher and Harrington, 2013). The entrepreneur filters the ideas after personal considerations, before transforming or improving them (Horng and Hu, 2008; Lane and Lup, 2015).

The goal of a business will present how the capabilities are turned into economic value and articulate the direction of innovation, thus, it will influence how that business convert its resources (Bocken et al., 2014). “We use everything! No technique is more or less valuable than another.” (Podcast C, 2019). The interviewees stress the fact that process innovation is essential for the innovation capabilities of zero waste restaurants. To give an example, Amass well outlined how they realize the value in fish through several innovations. Normally, the fillets are used to create tasteful dishes, but that is only about 25-40% of the whole fish. As achieving full utilization of all products is a goal to avoid waste, Amass has begun making sauces from the guts of the fishes, like broth and fish sauce as a product innovation. However, they realized that the bones, in their original form, were rather useless. As a consequence, Amass found a way of liquidating the bones to make noodles, puddings and doughs. Engaging in a process innovation which creates new products on the menu as well. The rest is fed to the fishes in the aquaponic aquarium who brings nutrition to the plants growing in this system, a prerequisite for this business model innovation to work (Interview 6, 2020).

An innovation approach like this goes beyond reviewing a relationship between products and waste, to rethink how we produce and consume, in order to realize interdependencies of system components. This way new outcomes can be conceptualized on all levels of the restaurants (Seebode et al., 2012). The innovation process of zero waste restaurants always involve making use of everything available, hence not wasting anything, why innovations of all levels are necessary. “At one point we turned the frying oil into candles. (...) It does not need to be edible.” (Interview 3, p.22, 2020). All resources are valued in these establishments,

as they search for new ways to create value from things that would usually go to waste. It is about imagining value of those resources which have lost it from a traditional perspective.

#### 5.1.1.4. Trial and error

“For every ten things we tried, maybe one would succeed. When you own a commercial business, it’s not ideal to work at 10% efficiency” (Book A, p.38, 2019). Undoubtedly, not all ideas are valuable, and the zero waste restaurants always find iteration to be a big part of innovating. The process of exploration and iteration involves a lot of testing and failing in order to find something that works. “When we were frying cauliflower, the candles ended up smelling like cauliflower. So it wasn’t the greatest thing. (Interview 3, p.22, 2020). It was not working the way they intended it to, but they tried and they learned from it. Trial and error in zero waste restaurants are not only limited to experimenting with food, but also addresses organizational innovation. As Douglas McMaster recounts at Silo; “We tried to integrate front-of-house (FOH) and the kitchen, but chefs were afraid of customers and FOH afraid of long hours” (Book A, p.38, 2019).

A process which constantly provides knowledge and experience for future ideas (Hornig and Hu, 2008). The trial and error phase stems from what is available, thus following the process of revaluing and realizing possible ways to improve it. In the literature, Ottenbacher and Harrington (2007) describe trial and error as the third step in the innovation process for new product development. They acknowledge this step to be essential for the innovation process, because here individual parts and elements of the ideas are tested and evaluated.

One way to realize new value has emerged, when the restaurants assess available resource; you “look at the stuff that is available to use at the moment and just play around with it and see what we think can happen and try some things” says Kim Wejendorp at Amass (Interview 6, p.53, 2020). This is how the interviewees generally expressed their approach to finding new ways of using resources. It is about turning things around and pushing it. It is allowed to not succeed with every trial, and it is encouraged to try and find out that it is not working, rather than leaving it as it is.

“If it sounds like it’s going to work, we’ll give it a go twice to be sure. The smallest things can make the biggest changes.” (Podcast C, 2019). Once again, a great part of the innovation development phase describes a continuous and constant approach. Trial and error is elevated as a crucial part for learning and breakthroughs, to spark creativity (Horng and Hu, 2008). For zero waste restaurants this is inevitable in order to test the assumptions from the questions and value attributed.

#### 5.1.1.5. Evaluation

Innovation process literature suggests, clear parameters, under which innovations are being evaluated, especially in fast paced environment of ever-changing external elements that challenge innovations (Desouza et al., 2009). In gastronomy, too, innovations that arise from the trial and error phase, need to be evaluated before they can be implemented fully in the restaurant’s operation. In the examined restaurants, the primary evaluation criteria stemmed from the aspect of how well the implementation of the innovation could minimize waste in the restaurant operations. It includes evaluating the efficiency of managing the innovation in regard to time, money, energy and materials (Book A, 2019). For haute cuisine chefs, the primary criteria for evaluation connects to the ‘fit’ of their personal cooking style (Ottenbacher and Harrington, 2013; Lane and Lup, 2015). Thus, explicit business measurements such as financial considerations are perceived to be of less importance to these chefs (Ottenbacher and Harrington, 2013).

The process for zero waste restaurants consists of constant questioning of practices for zero waste restaurants before they find something that can be improved. If the question embodies substance to the vision of zero waste, it will be introduced and advanced as an idea, which rapidly can be tested in the trial and error phase and evaluated accordingly. “Logical planning is crucial for zero waste. The foresight reveals what needs to happen: to execute efficiently with minimal waste of time, money, energy and materials” (Book A, p.86, 2019).

### 5.1.2. Committed to create

The restaurants interviewed are in constant creation as existing solutions are always questioned. To obtain zero waste, the restaurants are guided by external inspiration and utilize the team to spur maximal creativity. Through daily work and dedicated time, they ensure constant commitment to create for zero waste solutions.

#### 5.1.2.1. Team involvement

What unraveled in the interviews was the gravity of teamwork and team efforts along the innovation process of zero waste restaurants. It became apparent that the culture, which guides the team, possess much value when innovating. Kim Wejendorp express how sharing the same vision fuels the innovation process; “Our staff started to change and you get more and more people working with you that also are believing in the same thing, you sort of start gaining a momentum to make more drastic changes.” (Interview 6, p.50, 2020). Notably, compared to traditional innovation process models, the employee involvement during the innovation process in culinary establishments is low. In the study with the Michelin-chefs, none of them accounts employees to be a key source for innovation (Ottenbacher and Harrington, 2007).

The interviewees agreed that team members bring valuable input which keeps the innovation process highly active at all times. Employees can question norms and known practices, which spurs creativity (Desouza et al., 2009). “We’d be foolish not to listen to everyone’s ideas.” (Podcast C, 2019). This aligns with sustainability theory, that acknowledges team efforts to be substantial to the innovation process. Interaction and collaboration enhance knowledge sharing, an important trait when faced with resource constraints (Acar et al., 2019). Yet, in haute cuisine literature the chef, as an individual is generally portrayed as the sole innovator, finding opportunities to innovate and only incorporating team inputs in the implementation phase (Lane and Lup, 2015).

#### 5.1.2.2. Time dedication

Findings have further revealed that innovations emerged in the case restaurants from dedicated time for innovation, including planned meetings and daily conversations. Although, the daily talks between chefs, waiters, founders and others in the team appear random and unorganized they are a prominent part of the innovation process. It was elucidated several times by the interviewees that constant awareness to improvements spark conversations, leading to new ideas for potential innovations. It is “the daily process” (Interview 5, p.37, 2020), it becomes a continuous approach where creation is happening at all times; “Just create every day.” (Interview 1, p.3, 2020). The meetings can be daily catchups to align on vision and give time for feedback and discoveries to be put forth. A systemic approach to innovate, allows for intuition and complex experiences to guide the innovation process, which is why it cannot always be controlled and standardized (Stierand et al., 2014).

As innovations are substantial to these restaurants, they also plan time to generate ideas and utilize all team capacity. “We have closed days where we just try out food and we choose days for workshops, to just get better in the kitchen and in the service (Interview 1, p.5, 2020). Amass hosts project nights every two weeks where one team member from the kitchen and one outside the kitchen teams up to create something of their passion, anything (Interview 6, 2020). Ultimately, the team at Amass frequently come up with interesting creations of byproducts from the kitchen, matched with home-made wine or exotic drinks. However, the project night also allows for innovations outside the culinary scope, why, for example, one time an employee; “made a new metal polish for us, as we weren’t using an industrial metal polish. So he was using like byproducts to make this kitchen polish for us and that was his project.” (Interview 6, p.56, 2020).

#### 5.1.2.3. Essential creativity

“When you commit to an idea, you will inevitably face countless challenges that can only be overcome with creativity” (Book A, p.86, 2019). Creative ideas are essential to the innovation process, and consequently key for staying competitive as a restaurant (Lane and Lup, 2015). For zero waste restaurants, plenty of creativity is needed when working with ever changing



produce and limited resources. The principal determinant is often availability; “We cannot expect that fruit or that fish on the menu all year around anymore because it is just not realistic” (Interview 3, p.20, 2020).

Not to compromise on the vision unraveled as a common trait across these restaurants analyzed. Thus, the innovation process of zero waste restaurants is characterized by an ever-changing need to adapt to what is available. “This forces you to be creative. Creative to adapt. To not compromise that belief. The moment we fish from North of France just because we need it on the menu, just because we promised it on the menu, then that’s it. We need to adapt and say it is not available...” (Interview 3, p.20, 2020).

The commitment to not create waste naturally demands more creativity in the innovation process since, on the culinary side, making use of waste cuts from a vegetable or alike that would usually be disposed, requires a creative mind to turn it into something of value. A quote from the book of Douglass McMaster summarizes the overall importance of creativity for the zero waste innovation process well: "Creativity is a crucial part of all development and ideas - inescapable challenges grappling the unknown" (Book A, p.86, 2020).

Questioning the status quo fuels curiosity and drives the entrepreneurs’ commitment to create. “Because of the environment that we are creative, we were always in a very curious state. There was always this idea that you are always alert to something that you could possibly change or do better” (Interview 3, p.22, 2020). Creative environments, encouraging entrepreneurial activities are viewed as crucial for successful gastronomic innovations (Ottenbacher and Harrington, 2013). The search for new combinations is encouraged when inputs are constrained, as entrepreneurs have to create from what is already available. The entrepreneurs question traditional solutions which do not align with the zero waste goal and maximize the value generated from available resources through creative approaches (Acar et al., 2019).

Conclusively, the innovation process in the zero waste gastronomy is directed by a constant questioning of the status quo, where entrepreneurs seek inspiration on all levels in order to create value from resources that are otherwise disregarded. Gastronomic entrepreneurs find opportunities for creativity and value creation, by search, recombination and reproduction (Petruzzelli and Svejenova, 2015). Bold innovations emerge through numerous trial and error procedures, as their strong commitment to create is encouraged through team involvement, dedicated time and endless creativity.

## 5.2. “What are the challenges when innovating for zero waste?”

Introducing such a new notion as zero waste to any context, inevitably brings along challenges. The findings of this research highlight challenges to the innovation capabilities of restaurants that strive for zero waste. First and foremost, resource constraints challenge the innovation capabilities through lack of available resources, for example due to scarcity of produce or suitable suppliers. It challenges the team in the restaurants to always be creative. Furthermore, it becomes increasingly challenging when regulations and certifications favor those who do not put the same effort into innovating for sustainability. In the following, each challenge shall be presented more illustrative through findings from the data.

### 5.2.1. Resource constraints

Resource limitations make it difficult for the restaurants to plan ahead, which becomes a challenge to constantly be alert and creative. The zero waste restaurants have to work with smaller suppliers and simultaneously educate them in order to get the most sustainable supply. Thus, working with what is locally and seasonally available, while running a economically healthy business.

#### 5.2.1.1. Supply chain

“Not having a bin meant going directly to farmers and buying from farmers isn’t easy. They’re often late, they don’t want to change their routine, their communication leaves a lot to be desired” (Book A, p.38, 2019). This reveals some of the challenges that stem from the supply chain of zero waste restaurants. Working with fresh produce, often means that deliveries have to be made daily, to avoid spoilage. This eventually is “expensive for the supplier to manage trade, inconvenient for the chef by limiting delivery times and choice, and not aligned with the way most kitchens are operated today” (Book A, p.60, 2019).

Instead of purchasing at one big wholesaler that can supply an abundant choice of products, buying directly and regional means also having to deal with a lot of small and individual suppliers that are dispersed. This poses great considerations of a wider spectrum to incorporate environmental, social and economic returns and demands innovation processes to make part- or full system changes to satisfy a sustainability-oriented vision (Adams et al., 2016). Business model innovation become necessary to find new ways of allocating resources and restructuring the supply chain (Svejenova et al., 2015).

Running a restaurant with zero waste affects the sourcing of supply; it “basically includes that you also have to simplify the pallet of products you want to use, because you are going more and more complex with more and more deliveries with more packaging” says Sophia Hoffmann from Isla (Interview 5, p.41, 2020). With every product the sustainability approach also requires one to evaluate where it comes from, how it has been produced and what is involved in their operation. “Most difficult is finding the ones with the right mindset. Because there is a lot of farms in Germany, just not many that think the same as us.” elaborates David Suchy when speaking about the supply chain challenges for his restaurant Frea (Interview 1, p.6, 2020). Fundamentally, a sustainable business cannot exist if the system, in which it operates, is not sustainable (Seebode et al., 2012; Adams et al., 2016).

Packaging is a big topic in this regard, where a mutual understanding from the suppliers’ side is required for the zero waste businesses. Commonly, most goods come in some sort of packaging, major food suppliers generally ship their goods in single-use materials. Farmers are used to throw out bad looking produce, that does not conform in shape with the standard.

Consequently, most of these restaurants struggle with supply, as was described; “one of our main challenges to overcome, is actually the supply chain and getting our suppliers to supply us in compostable or recyclable containers” (Interview 4, p.29, 2020). This in turn, restricts resources to innovate with. Most of the zero waste establishments have worked hard to receive the food produce in reusable crates, bags and buckets. If something comes packaged in single-use plastic by mistake, the chefs sometimes even send it back (Interview 5, 2020). Therefore, what was planned for the menu can abruptly change. A traditional target-based optimization approach cannot be successful when planning for sustainability (Ceschin and Gaziulusoy, 2016).

Sophia Hoffmann revealed that in her work at Isla; “we actively asked for it. If you just accept how it is, the conventional way, then there is a lot of packaging.” (Interview 5, p.39, 2020). It becomes a prominent task for these entrepreneurs to strike arrangements that eliminate waste also throughout their entire supply chain. Being small scale in this regard, makes it extremely difficult to find affordable solutions because their relevance is often minimal to their suppliers. “Opening something with sustainability and responsibility in mind, you work in reverse. You work with what the suppliers are able to offer. First you address which suppliers align with what you think and are willing to collaborate with you on these ideologies and then you work back into the restaurant. You figure out what is available. Because they take us, not the other way around.” (Interview 3, p.19, 2020). By ensuring the vision first, you work backwards to explore each step before reaching that state (Adams et al., 2016).

Committing to local produce and seasonality also means that sometimes there is simply not much produce available. With supply of produce being inconsistent, the zero waste restaurants are hindered from planning ahead, which in turn demands constant creativity. Martin Wall explains, that in the Nordic countries; “it is often a challenge when you have root to flower. Now that is our hardest time before we get the small onions and rams and that. It is not easy to be creative in this time”, referring to the winter and spring (Interview 2, p.13, 2020). It is reflected as a gap in where constraints to planning for inputs to the innovation process are particularly pressing. “In England we have this 'hungry gap', which is usually a couple of months in late winter, just before the spring where just very little grow.” This is

one way to explain how resource constraints challenge the innovation process on the culinary side (Podcast A, 2019).

Availability becomes a challenge, as zero waste restaurants cannot ensure resources for future innovations. It means constant adaptation for the innovation process. It urges the entrepreneurs to always ask new questions and realize value in new resources. Not to forget the testing phase, before actually implementing the ideas. Sustainably focused businesses aim at using resources available, utilizing each resource to its fullest potential (Sandrström and Tingström, 2008). However, as availability fluctuates, a resource from yesterday can be unobtainable tomorrow. “We have this unique supply chain which means you just can't have everything you want on tap” (Podcast A, 2019), referring back to how the resource constraints impacts the innovation process, and this not only on the culinary side of the business.

Not only is the supply at times unknown but can also change daily, which can be challenging when innovating for zero waste. It is extremely challenging to achieve consistency in these processes. Douglas McMaster points out correspondingly; “When you are dealing with such a natural food system as Silo, consistency is very difficult.” (Video A, 2020). Yet, consistency in the gastronomy industry is acknowledged as one of the key factors for the innovation process in restaurants and is it is expected by the guests (Ottenbacher and Harrington, 2013). “Restaurants run smoothly when there is consistency, Silo was about as consistent as the Wild West” acknowledges Douglas McMaster in his book (Book A, p.39, 2019).

In contrary to haute cuisine, where perfection is key, zero waste restaurants will have to work with what they have, which sometimes requires overlooking the superficial and reusing ‘unattractive’ produce. “You are working with living cultures”, illustrates David Suchy, as he shares the example of the sourdough bread that they make at Frea on every day, yet it does not always turn out the same way. It is “still tasty but it didn’t look, how a bread should look like (Interview 1, p.8, 2020). Therefore, some days the restaurants have to find new ways of using that bread, since it cannot be thrown away, which is bringing the attention to the value of adopting dynamic capabilities. The creativity ensures the capability to cope with unstable resources and supply.

#### 5.2.1.2. Creativity constraints

Adopting dynamic capabilities to purposefully adapt to a changing resource base, is a challenge which filtrates through all kinds of innovations (Seebode et al., 2012). For the zero waste businesses examined, it became apparent that innovative ideas in zero waste are essential to cover operations, eatables, resources, and other tangible and intangible things. This consequently challenges the team to be creative outside their scope of expertise.

Independent of type of resource limitation it will highly impact the creativity which contributes to a successful innovation process (Acar et al., 2019). Working directly with farmers, instead of purchasing at wholesalers, brings inconsistency in the supply and consequently challenges the chefs in creating menus spontaneously. At first glimpse, this can seem uncomplicated, and many traditional restaurants already claim to be following seasonality. However, as explained by an interviewee; “Menus should be changing weekly, daily, aspects of it.” (Interview 3, p.20, 2020).

Indeed, following the aspect of zero waste, the entrepreneurs have to be creative at all times. “It has to be sustainable for the farmer and the supplier, not what is sustainable for the restaurant. This is where we need to use our creativity, to still create a menu.” (Interview 3, p.19, 2020). Where the tension of execution and creative work is prevailing, entrepreneurs are challenged with finding the balance between creating and daily operations (Lane and Lup, 2015).

As a matter of fact, creativity needs to be a constant input in the work of zero waste restaurants, and new ways of doing things have to be found recurrently. An anecdote, that is clearly demonstrating this symbiosis is when Silo has been faced with no produce in the past. Douglas McMaster recounts in a podcast that during a couple of months of late English winters; “when we had no produce coming in, we would go on to the hills of Sussex and forage Alexander Buds and would have it on every dish of the menu. We had to get extremely creative in that period.” (Podcast A, 2019). It, thus, becomes apparent how demanding the zero waste approach is to the creativity and innovation capabilities of the entrepreneurs and their teams.

### 5.2.1.3. Human capital

Following up on previous findings, that describe the importance of the team for the innovation process, we discovered the challenges that arise with the dependency on team efforts when innovating. As Sophia Hoffman describes their situation of the team now, after highlighting their growth over the last year; “Isla is now open for 2,5-3 years, and he [the founder] says now is the time with the perfect team. Sometimes it takes a bit longer.” (Interview 5, p.44, 2020). Furthermore, it also refers to the retention of staff, which in the early years appears to be of extra difficulty. “The reality was tough, chaotic and intense. Staff were dropping like flies.”, Douglas McMaster continues; “I’ve burnt so many people along the way and it didn’t feel good.” (Book A, p.37, 2019). Working in such environment, where pressure to innovate is high, can be hard on the team and it is difficult to find the right people to support this particular vision.

Having a strong culture also plays a role in attracting and retaining staff, that is aligned and passionate about zero waste. “There is always going to be that typical restaurant aspect of where you have someone who has something in mind and when they got it, it was different in what they thought.” (Interview 3, p.23, 2020). However, unless the philosophy is clear, it is challenging to foster team innovation capabilities. If the team is not aligned with the vision and purpose, they will not take the opportunities to ask questions and realize value as part of the innovation process. After all; “for them it is extra work, they could just throw everything in one bin.” (Interview 4, p.31, 2020).

Indeed, if not everyone can participate in the innovation process, it will be too slow, as previously described by Martin Wall from Fotografiska (Interview 2, 2020). It reconnects with the urge of fostering a philosophy which inspires innovation. “We depend on a strong a business culture where all our employees think it is fun and challenging to be with us.” (Fotografiska Handbook, p.61, 2020). Undoubtedly, the ability to pinpoint opportunities for innovations depends on team efforts, where processes encourage individual opinions and supports building ideas from their inputs (Acar et al., 2019).

On the other hand, the novelty of the zero waste approach means that a restaurant cannot always find people with the right knowledge. This is especially portrayed in developing countries, such as South Africa. Sam Chambers illustrates how this includes the needs of education, also after recruiting; “So, it’s sad but it’s a challenge. We do put quite a lot of effort into educating our staff. Because a lot of our staff has never heard of recycling (...) it can be challenging because we are open seven days a week. So, it’s challenging to find those opportunities to create education” (Interview 4, p.31, 2020). A culture for zero waste requires the entire team to be aligned on a knowledge level. As it is the foundation to question the known practices and to think outside the box.

#### 5.2.1.4. Time and space

The challenge lies in balancing the time for the innovation process activities while running a restaurant (Lane and Lup, 2015). ”We made our own soap, but it cost us too much time. We tried to grow mushrooms, but it required too much attention. I tried to pick up all the products myself in a van, but me leaving Silo was calamitous”; are just a few examples of the constant discrepancies when finding new ways to reach zero waste in restaurants (Book A, p.38, 2019).

“Sometimes we really have to say; this would now take two or three more hours it’s not worth it”, elaborates Sophia Hoffmann when talking about innovating with leftovers (Interview 5, p.40, 2020). It becomes a friction between following the zero waste approach and operational logics on all levels. Likewise, haute cuisine chefs, are challenged with time in the idea generation phase when pressured with execution in the kitchen, therefore they need a calm space and free-time to come up with novel ideas (Lane and Lup, 2015, Horng and Hu, 2008).

Zero waste restaurants set out to use everything they can, but to manage running their restaurant they also have to realize what is feasible. Produce, like vegetables, fish and meat is being purchased as whole foods to utilize the entire product. These processes require more time and effort for preparing, cooking and not the least, innovating. “If you buy a lot of vegetables it takes a bit more time to cut up compared to an entrecôte” (Interview 2, p.10, 2020). Since most parts of the produce nowadays, by habit, are thrown away, the restaurant



teams and chefs need to spend time in realizing value in everything available. This includes investing more time for trial and error, in order to find a way of utilizing the product entirely. This is a challenge to what can be managed in the everyday workload of the restaurant; “you need more people to process the product, more time goes into that.” (Interview 5, p.40, 2020). It is about making choices to balance time without compromising the belief. Time constraints restrict creativity and consequently the innovation outcomes (Acar et al., 2019).

For most establishments in the gastronomy industry, the kitchen space is constrained, in order to have a large dining room that can fit as many seatings as possible. Though, working with whole foods at the zero waste restaurants requires more space. The raw materials do not only fill up the fridges and cutting areas, but also require space as part of the innovation process. For zero waste restaurants, that often means that the innovation process happens alongside cooking for a service. “While butchering a piece of fish you have got a pot on the side brewing to test something out”, which was the usual situation in the kitchen of Amass before they built a dedicated research and development space for innovation practices (Podcast B, 2019). “We got to the point where if we really want to understand these processes and be able to share them with people, we need a space to do this where we don't have things getting ready for service. And this is not a space where dishes are created, that still happens in the kitchen of Amass” (Podcast B, 2019). Most other restaurants cannot establish such spaces.

Frea in Berlin for instance, had to decide just a few months after opening, to stop serving lunch and only concentrate on dinner. As they became more and more popular, they required more time and space to create everything from scratch for two servings a day, while constantly innovating. “Having 120 [guests] for lunch and 150 for dinner just didn't work for the logistics. Crazy things, like 400 kg of vegetables we would use every day. Our kitchen is not exactly built for the amount of food. Too little storage space (...) so we decided just to focus on dinner” (Interview 1, p.7, 2020). The innovation process is a daily component of zero waste restaurants' operations and in contrast to traditional restaurants they innovate even beyond the culinary level. Thus, innovation is not always directly linked to the kitchen space in these establishments. Trying out a new cleaning polish or creating cutting boards from old doors, requires both time and space outside the kitchen walls.

Time and space also directly connect to the processes of asking questions and realizing value, as developing new ideas are time-consuming. “We would probably be able to be more creative even if we would have more time or if we would have more space” says Sophia Hoffmann when explaining why time and space are great challenges for the zero waste businesses (Interview 5, p.45, 2020).

#### 5.2.1.5. Financial constraints

Just like any business, zero waste restaurants have to operate in a financially viable way. Yet, their devotion to run sustainably, challenges the balance between ecology and economy. Since neither restaurant is willing to compromise on the aspect of sustainability, they are pressured to innovate with a conscious mindset on financial viability. “So, it is not sustainable, and it is not economically viable.”, Sam Chambers explained as a challenge to get the right packaging (Interview 5, p.33, 2020). Costs hinder zero waste restaurants to reveal value of existing material, if reusing or refining appears too expensive to justify it.

“Unfortunately, a lot of things that aren’t sustainable are very viable compared to the alternatives at the moment.” (Interview 6, p.49, 2020). Organic produce in most countries poses higher costs compared to conventional products, an important metric when sourcing to ensure the highest level of sustainability. Therefore, the resources available for innovating are by inception often more expensive. Clearly, finding solutions that are as good as possible for the environment are the central element when innovating for sustainability, though economical reasonability is fundamental (Sandström and Tingström, 2008).

Most often, full system changes have to be made to satisfy the zero waste approach (Adams et al., 2016). Consequently, the restaurants are pushed to change how expenses and incomes interlink, which demands business model innovation. “Because you turn around the economy for the whole restaurant business.” (Interview 2, p.10, 2020) explains Martin Wall from Fotografiska. Developing new business models requires a thoughtful considerations of customer value propositions, revenue models, growth models as well as market segment in order to adapt internal and external capabilities (Borgers and Jensen, 2017). “We were throwing down hundreds of seeds [concepts] to understand the relationship between Zero

Waste system and a commercial restaurant" (Book A, p.39, 2019). Since readily available models and solutions currently do not exist, the businesses look into changing their way of doing things on various levels, that include the business model, new processes, organizational structures and repurposed products.

"However, it costs much to do business change and it takes a lot of effort to find out how" (Podcast C, 2020). Kim Wejendorp from Amass indicates that the business change may also be one of the biggest obstacles for why not more existing restaurants change for such sustainable practices. "If you really want to create something where you are that kind of busy you really have to spend a lot of time and also money and you don't get a lot out of it. This might keep young entrepreneurs away, because it's not really a big market in the first five years." (Interview 1, p.7, 2020). As Blair Hammond from Silo summarizes: "From a business standpoint it is successful. But it is just about finding that balance." (Interview 3, p.21, 2020).

In order to find that 'sweet spot', the balance, pricing is crucial. Thus, certain aspects, such as described by Sam Chambers at Nourish'd, like giving glass jars as take away cups, will require a higher price for the consumer. "There is where the education needs to come in and that is why we put a lot of effort and energy to education to also justify our price point essentially." (Interview 4, p.35, 2020). As innovations can be particularly costly, they need to ensure a fair pricing to balance the financial aspect to their innovations; "also to be very careful that we don't sell ourselves under the price." (Article A, 2019).

"In Berlin there is this whole mentality where the food cannot be too expensive, but then you have a lot of workforce involved, you have organic products", all this challenges the innovation efforts as they see their customers being sensitive to pricing, admits Sophia from Isla (Interview 5, p.41, 2020). "If you are looking at the percentage of people that would be able to spend more on sustainable solutions and are interested in spending more on sustainable solutions, it is very very low percentage of the market", explains Sam Chambers about the current market demand (Interview 4, p.34, 2020). Zero waste restaurants thus depend upon developing innovations that are affordable to their customers to ensure their demand.

### 5.2.2. Regulations and certifications

The innovation process in the lens of sustainable orientation highly demands wider collaboration in the network of policy makers (Seebode et al., 2012). The limited governmental support for zero waste businesses and lagging certification or labelling systems for zero waste innovations, challenges innovations in the implementation phase. The restaurants described how they feel unsupported by their governments in their endeavours for positive change. Kim Wejendorp from Amass elaborates in a podcast; “It would be nice if governments became more involved so that organic is not a choice but the norm.” (Podcast C, 2019).

Sustainable innovation efforts are restricted when regulations and policies stand in the way to implement new ideas (Porter and van der Linde, 1995). Unsustainable resources and solutions are still widely favored by regulations, which discourages the innovation efforts for zero waste. The entrepreneurs criticize especially the poor governance on produce. “This stuff is still not properly regulated, there is very loose regulations on what is organic.” (Interview 3, p.17, 2020). In the UK, for instance, “to be organic you pay your certain amount a year to the soil association and (...) have the [organic] label, but you will see how their work doesn’t changes at all, and it is the same old little company just with a tag on.” (Interview 3, p.17, 2020). Although, all businesses are increasingly aware of environmental issues, most of them are not actively engaged in innovating in the waste field (Martin-Rios et al., 2018).

On the other hand, not having a consistent system that evaluates businesses on the same parameters, especially when it comes to sustainability, is also discouraging to innovation practices. Despite the fact that zero waste restaurants spend a lot of time and money to innovate, they compete in the same category as any other restaurant. “So, we’re really struggle a lot with people making comparisons with us to other restaurants that simply are just not doing as much as we are but you see the same kind of advertising, (...) I think that is one of the biggest things for us, still bothering to do this when so many people are just taking the easy part and making it sound great without any real change” demonstrates Kim Wejendorp (Interview 6, p.51, 2020).

Regulations are responsible for favoring behaviors in each industry, why it becomes important to encourage opportunities for sustainable innovations to evolve (Acar et al., 2019). Undeniably, is this frustrating to a business, that puts plenty of effort into creating a positive change in the industry. Although their innovation efforts require more time and money, they have a hard time to differentiate. There is hardly any overall labeling system that fully captures the sustainability practices of businesses in the gastronomy that can be internationally respected. Labels such as ‘green’, ‘environmentally friendly’, and ‘sustainable’ are notions which the customer base are familiar with through Fair trade, European Flower, Nordic Swan and many more (Unops, 2009). Though, they are rarely given acknowledgement across borders. Zero waste is yet to receive a label, which can educate the customers about the notion of zero waste and their innovation efforts. This challenges the entrepreneurs that thrive with their work for zero waste and have limited ways to manifest their innovations.

All in all, it becomes evident how the commitment to zero waste brings along constraints to a lot of aspects of zero waste innovation efforts. Resource constraints in terms of the supply chain setup, the extra time needed and limited space as well as financial constraints crystallized as the mayor challenges to the innovation capabilities of zero waste restaurants.

### 5.3. “What are the opportunities from the zero waste approach for the businesses?”

The findings of the data not only revealed the above elaborated challenges, but also indicate a number of opportunities that the notion of zero waste brings to the gastronomic businesses of this research. They suggest why these entrepreneurs engage in zero waste innovations and what benefits this innovative approach brings to the business and the respective stakeholders. It appeared that some of these opportunities emerged mostly internally, while others address the benefits that arose outside of the restaurant. Therefrom internal opportunities and external opportunities will be outlined in two parts in this chapter.

#### 5.3.1. Internal opportunities

Internal opportunities refer to the possibilities arising within the restaurant, connected to the restaurant operations, systems and offerings. It accounts for the people and products. It became clear that opportunities to innovate were highly influenced by the goal of reducing waste, since this pushes creativity to incorporate all aspects of the business. Although, resources are often constrained by seasonality, locality or other supply chain restrictions, the zero waste restaurants also see great potential when working with limitations. The constraints foster creativity, make them stay alert and ask questions and push frequent conversations. Moreover, it is believed that the vision aligns the team in contributions to the innovation process. It encourages participation, fueling more ideas and inputs. Additionally, it ensures that the team is motivated to push innovation through trial and error, the urge of trying their own ideas out.

##### 5.3.1.1. Creative freedom

The analysis of the data elucidated that the commitment to reaching a zero waste target has pushed the innovation capabilities of each of the businesses on various levels. For restaurants, creativity nourishes the opportunities to create value (Petruzzelli and Svejenova, 2015). The innovation process cannot be directed by the demand of consumers, making it dependent on bold ideas and inspired solely by the perspectives of the restaurants and their passion for zero waste.; ”our goal is not to serve just what society thinks is fine, for us it includes the creative

process more. Interwoven with the aesthetic lies the desire to be faithful to nature.” (Fotografiska Handbook, p.67, 2020).

As a zero waste restaurant you have to be convinced that your ideas are valuable and dare to pursue them, in order for anyone else to realize it. Similarly, in haute cuisine, chefs often appear unconcerned to satisfy trends and consumer taste when creating their dishes, as they focus their creativity on the personal fit to their style (Ottenbacher and Harrington, 2013).

On the culinary field, it became evident that the chefs and their teams are able to innovate freely. They could create without following any guidelines to conform in a particular category, such as often expected in the Michelin starred sphere, where the ability to reproduce at a consistently high level is key (Ottenbacher and Harrington, 2013). Kim Wejendorp explains that the team at Amass is very free to adapt to change in resources available; “If someone comes with a box of 30 kg of mushrooms, we can buy them and put them on the menu tomorrow, we are not so dictated by having to serve the same things every day for every meal all year or for periods of time and we go along the season for what is actually available.” (Interview 6, p.60, 2020). This dynamic capability makes them less vulnerable to inconsistent or scarce supply.

Beyond the culinary side, the interior at these new kinds of zero waste establishment is an opportunity to fuel the zero waste culture. “It does not need to be edible. You are already in an environment where we encourage that type of creativity and keep thinking, keep questioning, keep pushing everything and see where it goes with that.”, elaborates Blair Hammond (Interview 3, p.22, 2020). This turns the restaurants into showrooms for sustainable design. At the new restaurant location of Silo in London, the entire floor is made out of natural cork that is carbon negative, the wall light fixtures are made from crushed wine bottles while a ceiling fixture is crafted from dried seaweed. The bar stools are made from mycelium, purpose-grown in molds then baked until solid (Article B, 2020).

It becomes evident how the commitment to zero waste fuels the innovation processes in the entire restaurant with much creativity. “When instead we can apply our creativity and our intelligence to those waste items. We can turn waste into high quality crafted sheets of plastic for example”, illustrates Douglas McMaster on the process of how the restaurants’ plates

were made from recycled plastic bags and tables from packaging waste (Podcast A, 2019). The opportunities to be creative seem to be endless.

The data further suggest that the notion of zero waste puts constraints to the restaurants in terms of resources. However, this has not only been perceived by the entrepreneurs and their teams as a disadvantage, but rather an impulse to innovate. Kim Wejendorp from Amass describes this notion with the following words; “A zero waste kitchen has been an incredible creative constraint inspiring major changes to how this fine dining institution cooks, recycles, sources, and operates in their local environment.” (Podcast C, 2019). Not being able to use particular ingredients, ultimately depending on the seasons and turning the back entirely on single-use packaging in the supply chain, certainly restricts the restaurant teams in many ways. However, the same restrictions fuel their need to find alternative ways of doing things and consequently their need to innovate.

One of the main captions in Douglas McMaster’s book ‘Silo - the zero waste blueprint’ reads; “Limitations breeds creativity” (Book A, p.28, 2019). In a podcast he revealed a few times already, the restaurant was confronted with no new produce from the farmers. “There is nothing, so we have been like 'well then we go foraging today'. And we have these ferments and pickles and we have to get extremely creative.” (Podcast A, 2019). Resource constraints necessitates thinking outside the box, which requires much creativity (Adams et al., 2016; Acar et al., 2019). Challenges are addressed by asking questions and realising value, why new solutions arise. “The daily energy that is spent on waste management appears less extensive if we see garbage for what it might be better than it once was.” (Fotografiska Handbook, p.69, 2020).

At Silo, Douglas McMaster recounts, “I insisted on zero waste relentlessly, to the point where we used a coconut instead of scouring pad.” (Book A, p.35, 2019). As there are not always sustainable solutions available to the zero waste restaurants, the entrepreneurs find alternative supply and ways of sourcing. When the metal polish at Amass was found to be unsustainable, they had a team member repurposing byproducts to make a zero waste version of a metal polish (Interview 6, 2020). This explains how the entrepreneurs, at times, also move outside their expertise of culinary products and engage in innovation across fields. “I think the whole



topic of side products is such... it is waste products and sometimes it is not used for anything, and I see a lot of potential in that. It is definitely also something we want to implement in our restaurant, to consciously use yeah more of these things.” (Interview 5, p.47, 2020). That indirectly introduces new components to be used when innovating, by transforming outputs or unavoidable leftovers in one system to inputs in another (Ceschin and Gaziulusoy, 2016).

#### 5.3.1.2. Team commitment

As another opportunity, the zero waste businesses experience that striving together for the vision to create sustainable gastronomy solutions influence the team commitment positively. Commonly, the gastronomy industry is characterized by high fluctuation in staff. Though it became clear that once the zero waste establishments become more established, they experience lower staff turnover, than commonly at other restaurants. To be aligned on a goal that the individual can identify themselves with, pushes the engagement of a team to a large extent (Heikkilä et al., 2016). The entrepreneurs perceived that they were able to better connect the individual staff to the business, through the aligned vision. Highlighting the ‘we’ as a team, is regarded as important in resource constrained innovation as they are said to succeed through team efforts (Acar et al., 2019).

“I truly say that all of us working now in the kitchen are also very passionate about this concept.” (Interview 5, p.45, 2020). The changes in traditional values foster these new team efforts (Adams et al., 2016, Porter and van der Linde, 1995), while the opportunity to share the passion for zero waste within the team also helps to retain them. “You get a bit more out of people and they stay a bit longer because they feel invested. They are not just there for a paycheck.” (Interview 3, p.23, 2020). And it also reflects in the recruiting of employees. “I wouldn’t say it was super easy, but it was from what I know from other restaurants much easier”, says David Suchy about the recruitment of new employees for Frea. He adds explanatory, “people that live vegetarian or vegan or sustainable in the industry it is hard for them to work in other restaurants.” (Interview 1, p.8, 2020).

Through the zero waste vision, “Fotografiska’s food and drink philosophy, under the signature of our culinary creator Paul Svensson and team, constantly pushes the boundaries and creates as much taste sensation as heightened consciousness.” (Fotografiska, 2020). The

culture becomes an opportunity to align the innovation efforts to ask questions, realize value and do trial and error in conjunction with the zero waste goal. “It’s funny because my colleague that runs the kitchen, she comes from conventional kitchens, you know like, Isla was her first contact with a concept like that. Through starting to work here and running this kitchen it was a demand that she would work like that, and she of course got into it and now it is natural to her.” (Interview 5, p.45, 2020). Thus, showcasing how the culture of these restaurants positively influences the thinking of the employees to further aid the innovation process. Where a common languages guides the way (Desouza et al., 2009).

Additionally, as everybody is encouraged to participate in the innovation process, there are opportunities to tap into knowledge from various sources (Seebode et al., 2012). In that sense, it much differs from haute cuisine restaurants, where the chef is mainly in charge of leading innovation (Leschziner, 2015; Lane and Lup, 2015), and finds inspiration outside the own business (Ottenbacher and Harrington, 2013; Lane and Lup, 2015). The organizational construction is more dynamic for zero waste restaurants. This can be understood as a response to necessary system change (Adams et al., 2016). “I think it’s also complex, non-hierarchical. There is no hierarchy in that sense.” (Interview 5, p.45, 2020). It promotes teamwork and fosters more inputs to the innovation efforts.

All employees add valuable inputs to the innovation process; “We all have strong ideas, but it just takes that new opinion to build on it or to reshape something you might be missing. So, you have to keep that open to everyone because it shows that they are part of the team, just as much as you are. Once you give people that kind of open road to run on it is incredible. They really can push something.” acknowledges Blair Hammond (Interview 3, p.23, 2020). Generally, highlighting employees opinions as a positive source to foster innovation by unsettling norms and known practices (Desouza et al., 2009).

### 5.3.2. External opportunities

Moreover, opportunities also arise as external efforts under the zero waste vision of a restaurant. The zero waste approach does not only positively influence the creative capabilities and team commitment within the business, but also triggers opportunities with external stakeholders. Among the opportunities is the potential of differentiation from other restaurants and reaching a broad customer base, which will increase demand for resources in the innovation process, as well as give valuable inputs for creativity. By showcasing sustainable innovations in the restaurants and by hosting educational events, the zero waste restaurants awaken curiosity and questions. The opportunities identified will be outlined in the following.

#### 5.3.2.1. Collaborative approach

A positive aspect of the zero waste approach crystallized from the network and unique set up of the supply chain. Strong collaboration with suppliers ensures customized sourcing (Ottenbacher and Harrington, 2009a). “You are getting exactly what you need from that, so there is very minimum waste on that. Not only was the produce phenomenal but we won’t be having stuff sitting in the fridge for weeks” elaborated Blair Hammond about Silo’s experience (Interview 3, p.19, 2020). Also, the restaurant Amass values their network with smaller suppliers, that are more flexible than larger wholesalers. “Because of that freedom we are really able to buy things from a lot of people who already have small amounts of stuff. If you have a lot of people with a small amount of stuff you will have a lot of stuff. It works well for us.” (Interview 6, p.60, 2020).

When you are not bound to one big supplier, you can benefit from local products, as fresh as can be, and available at all times because a good network improve trust and commitment by the supplier (Ottenbacher and Harrington, 2009a). “Working with small producers is much easier than industrial players to create sustainable relationships.” (Podcast C, 2019). It became apparent that establishing a sustainable relationship with suppliers is the overriding benefit that the zero waste restaurants have. David Suchy from Frea further acknowledges that; the “lower the transportation ways, the lower the ecological footprint on the product.” (Interview 1, p.6, 2020). For the zero waste entrepreneurs, this approach outways the challenges concerning availability and consistency of produce, that we discussed earlier.

The vision for zero waste is not only shared internally, but also finds support from external stakeholders which can result in fruitful collaborations. Silo's unique new location in London, for instance, attracts many external collaborators that share their vision for sustainability. "They have amazing network of people doing these cool things for them." remarks Kim Wejendorp from Amass about Silo (Interview 6, p.60, 2020). The entire restaurant has become a gallery showcasing sustainable creations in all varieties from other artists that seek collaboration with Silo. By reshaping the relationship between business and society, to include the invitation of external stakeholders, the innovation capabilities can be advanced through new learnings and perspectives (Seebode et al., 2012; Adams et al., 2016).

At Silo, the lamps, the chairs, and the art have been made from the broad creative network that Douglas McMaster attracted over the years with his vision of a new food system. Through collaborations, innovation capabilities are boosted by inspiration from new input. This in turn, nurtures the creative culture in the business, which in turn fuels the innovation process (Ottenbacher and Harrington, 2009a). Incorporating people from different industries, with different backgrounds and experiences, can inspire new ways of innovating on all levels. Encouraging entrepreneurs to acquire new knowledge and skills to work across traditional boundaries (Seebode et al., 2012).

Fueled by the zero waste vision, collaboration can also move beyond the immediate partners of the restaurant to larger industrial players. Amass discloses; "We have been getting a lot of requests from people who are from international businesses being like; look, we want to do this and we got 300 canteens across the world. We want to change that. We have to try to figure out if we can do it on that sort of level as well." (Interview 6, p.56, 2020). Matt Orlando, the founder and CEO of Amass, shares in a podcast that it "is a massive opportunity to have an impact on the large food industry." (Podcast B, 2019).

#### 5.3.2.2. Corresponding to a trend

Whether in Cape Town, Berlin, London, Copenhagen or Stockholm the interviewees recognize that they are in the middle of an evolving trend towards sustainability, and zero waste is part of it; "It is fashionable to be sustainable" (Interview 6, p.57, 2020) or in other

words: “Sustainability has become trendy and Instagram has facilitated that” (Interview 4, p.32, 2020). The environmental issues, are already affecting consumer choices, making products with a notion for sustainability more desirable. Where this growing demand from other industries have infiltrated the gastronomy industry (Jeong et al., 2014). Zero waste restaurants endorse the importance of explaining and propagate their vision and operations.

It is an opportunity to feed consumer demand for novelty and variety in the gastronomy industry (Santich, 2004), and become relevant in the growing gastronomy tourism trend (Apaydin and Guzel, 2016). When customers and suppliers are engaged in the vision, they demand more of this approach “so once you become aware of sustainable practices in the food system, then you want to visit more restaurants that are acting on that. I think it is happening and I can only see it be exponential.” said Sam Chambers at Nourish’d when explaining how he hopes that zero waste restaurants will reach a broader audience (Interview 4, p.33, 2020). Correspondingly they express; “we don’t view other vegan restaurants or sustainable restaurants opened as competition, we actually view them as a beneficial thing because they are creating more demand for the products we want and the more demand the bigger pool and the cheaper it will be” (Interview 4, p.33, 2020).

#### 5.3.2.3. Proving transparency

Currently, in terms of customers that visit the establishments, they receive a broad spectrum from people that just want to have a great meal, to people that are conscious of their health, vegetarians, vegans or precisely people that are eco-conscious and think about sustainability. “I truly believe that the key to this is communication” (Interview 5, p.41, 2020). “Spreading messages is about communication; about understanding and being understood, and always includes at least two parties.” Fotografiska Handbook, p.63, 2020). An opportunity to reach the conscious consumers, building a demand for their products and for the resources they desire. “There are many ways to spread a message, and here at Fotografiska we believe in clarity and transparency. We do not want to be a lecturer, but whatever we do daily, we share knowledge.” (Fotografiska Handbook, p.63, 2020). To ensure that customers are convinced by the zero waste concept, the restaurants believe transparency to be beneficial. Their ability to be honest about their sourcing and operations is an opportunity. “We want to maintain that transparency all the way through.” (Interview 3, p.20, 2020).

This transparency is intrinsically achievable through the close-knit supply chain. “Our products basically come from the farm right away. So quality can be checked right away, nothing is packaged, we have it pure in our hands and we can decide what we can make out of it.” explains David Suchy from Freja (Interview 1, p.6, 2020). “You are not just looking at you and the product in front of you, but outside of the restaurant. Where did it come from and how do they produce it and what is involved in their operation.” (Interview 3, p.17, 2020). The entrepreneurs in this industry have experienced that transparency and traceability is something that is being increasingly valued by customers today, that want to know where things are coming from and how they are produced.

On the other hand, Sophia Hoffmann experienced at Isla that; “transparency and communication can really help to explain to people the costs of things” (Interview 5, p.41, 2020), allowing for an opportunity to justify their prices. “So being transparent, having things available to show people and welcome them into an environment where it is not just ‘we have it figured out’ you need to learn from us. No, this is a collaborative approach. There is aspect of it you will be able to see us learning. This is what we focus our whole day on.” (Interview 3, p.21, 2020). The novelty of zero waste, requires a clear communication through the supply chain, where transparency helps explain the new way of doing things. Many customers and other stakeholders’ value this sincere approach.

#### 5.3.2.4. Spreading awareness

“Now chefs have this great spotlight, which is kind of a weird one. Out of nowhere we are now the spokespeople for kind of the food system, for everything moving forward.” finds Blair Hammond (Interview 6, p.18, 2020). This unique position is a grand opportunity for the zero waste movement to spread their innovations. Today more than ever, gastronomic entrepreneurs and restaurants have the ability to spread awareness, not only to other chefs and teams in the gastronomy industry but even beyond. “For a lot of people it would come across preachy, but now it is more conceived as educating. Some people would still find it preachy, but people want this type of information now.” (Interview 3, p.21, 2020). It is their grand opportunity to showcase their innovations to successfully commercialize.

It is a repeatable task to crystallize the information, why each restaurant described various opportunities to inspire and spread awareness, further fueling the trend and consumer demand. In order to achieve this, the restaurants are holding workshops, lectures, talking to guests, writing books, participate in podcasts, being active on Social Media and sustaining a business culture which inspires. In Fotografiska's words; "You are the one who will take part in our business that will be out in the world and spread the knowledge you have picked up here (...), in return we want to give you a positive and educational experience." (Fotografiska Handbook, 2020). Moreover, Nourish'd frequently hosts events about the sustainability topic and uses their platform outreach through social media and blog to create educational and inspirational knowledge for their customers, partners and staff (Interview 4, 2020).

Frea's approach to this, was to simply put the in-house composter in a prime spot of the restaurant, that guarantees diners to notice it. This serves as a novel way to get people thinking about restaurant waste (Forbes, 2019). Besides their garden that offers an educational patio for the customers, Amass runs a Green Kids Program, where they invite school classes to visit and learn hands on about sustainability, by planting their own vegetables and cooking healthy (Podcast B, 2019). The interviewees expressed that these educational inputs feel like a natural part of their operations. They use every chance to incorporate them in their meal servings, marketing efforts, extrinsic workshops and even just as part of the interior. "We usually use a linguistic picture of sowing seeds of inspiration. We seed the seeds around us every day by choosing sustainable solutions." (Fotografiska Handbook, p.61, 2020).

#### 5.4.2.5. Awards and recognition

The differentiation of being zero waste and sustainable has further given the establishments much publicity and interest from customers. While in haute cuisine, the Michelin rating recognizes consistency of high-quality outputs, the importance of those recognitions is highlighted as a mean to attract customers and justify their efforts (Lane and Lup, 2015). Several zero waste restaurants have already been recognized by their commitments by renown gastronomic awards. Isla has been awarded the German 'Gastrogründerpreis' that recognized the best founders for innovative concepts in the gastronomy industry. Moreover, Silo has been one of the finalists for the 'World Restaurant Awards' 2019 and the 'Basque

Culinary World Prize' 2019. This holds an opportunity for these restaurants, as it proves the acknowledgements of their practices.

Subsequently, the trend for sustainability has further implied 'traditional' gastronomy awards and press to include new categories that evaluate sustainability. This development highlights the growing recognition of sustainable practices. New international awards and gastronomy guides, such as the 'Green Restaurant Awards' or the '360° Eat Guide', recognize extraordinary sustainability efforts and innovative concepts. They further acknowledge separately unique waste management efforts through their 'Zero Waste' category. This poses an opportunity for zero waste restaurants to be distinguished among other sustainable restaurants. Differentiating them against competition and allowing their efforts to be recognized by consumers.

Overall, it has become apparent how the zero waste restaurants benefit in several ways from their commitment and approach to zero waste. Through the novelty of the zero waste concept, the teams have the opportunity to create freely, which in turn makes them resilient to changing circumstances and resource constraints. Further, the close network, aligned by the vision to create a positive impact, allows for a collaborative approach with suppliers and other stakeholders. The transparency of the supply chain and the operations allow for unique opportunities to communicate and spread awareness, which in turn helps to attract customers. Increasing recognition from publicity further affirms the efforts of zero waste restaurants in the industry.



## 5.4. Summary of the findings

To sum up, the chapter presented the findings and analysis of the data. It became clear that the innovation approach of restaurants striving for zero waste, is primarily directed by their strong commitment to sustainability. Consequently, a process loomed in which innovations were guided all the way through by the goal of reducing waste. Our findings further demonstrated that the innovation process for zero waste has been fueled by strong team involvement, inspiring creativity and trial and error procedures. Reinventing the value for materials that are usually disregarded in the industry, triggered unconventional practices and innovative outcomes for the zero waste restaurants.

As a next step, the challenges that are involved in such process have been illuminated. Again, it became apparent how the resolute commitment to zero waste provokes most of these associated challenges. Resource constraints, resulting from the alternative supply chain and organizational set up, interconnect with the limitation of time and space. Taken together they manifest the overriding challenges that affect the innovation practices of these businesses. The creative approach for innovation is constrained by the risk of abandoning certain ideas, as they are not financially viable to explore further. A lack of supportive regulations additionally may discourage entrepreneurs to keep innovating for zero waste.

Lastly, the opportunities and benefits that the zero waste notion brings to the gastronomic businesses were demonstrated through an internal and external lens. The freedom to innovate on all levels as well as the creativity that guides the entrepreneur and their teams in the right direction, elucidated as the prevailing opportunity for these restaurants to mitigate their resource constraints. The novelty of zero waste and the capability to be transparent, while spreading awareness about the topic becomes a crucial part of building demand. Not only does it help to attract collaborators, but it also aligns the team with the philosophy. At the same time, zero waste serves as the central concept for the ability to differentiate the restaurants from others, as well as inspire and create meaningful collaborations beyond the gastronomic context.

## 6. Discussion

Entering the discussion section, we aim at clarifying the analysis by merging the findings to answer the overall research question. Extending existing theory for innovation processes to apply for zero waste restaurants. Our findings bridge sustainability innovation theory with gastronomic innovation literature, by introducing learnings from the zero waste approach in the gastronomy context. Thus, extending existing innovation literature in the gastronomic setting to include new factors influencing, challenging and benefiting the innovation process when introducing a sustainability notion, namely the zero waste aspect. After correlating and contrasting theory and findings in the previous chapter, we are confident moving to discuss how these aspects push the entrepreneurs when innovating. Thereafter, as the research question is answered, we will delineate the contribution to academia. We hope it will shed light on opportunities for future research, while declaring potential pitfalls to this study. All in all, the discussion will bridge new findings with current theory before transitioning into a thorough conclusion.

### 6.1. Answering the research question

Building on the findings of the three sub-questions that have been presented in the previous chapter, we can now move into the discussion of the main research question for this thesis. *“How does the zero waste approach in restaurants push entrepreneurs towards developing new ways of innovating?”*

The implications for the innovation process, by introducing the notion of zero waste have been elaborated. It became evident, that the notion shapes the way a growing number of restaurants in the gastronomy industry are operating. Gastronomic entrepreneurs choose this new way of doing things, because they aim to run their business in a more sustainable way. They acknowledge the fact that the gastronomy industry, with the way restaurants are usually operated, accumulate vast amounts of waste and threatens the environment with their practices. This change of mindset for the entrepreneurs has triggered the embodiment of a new business philosophy. They are determined to lower the impact on the environment of their operations to a minimum, by reducing waste to a minimum. However, no manual for

running a zero waste restaurant exists, there is no blueprint on how to successfully operate such business. Each individual in the team has to contribute to the innovation process in order to keep up with the high need for new innovations.

Committing to zero waste essentially means a high pressure of innovating on all levels, because there is simply not any readily available solutions to match the vision of these businesses. It requires a fundamental refining, restructuring and repurposing of most models, systems and products in order to operate without waste. It therefore is not just a motivation for these restaurants to adopt new solutions for better waste practices, but a necessity in order to tackle the flaws in current solutions and tailor them for their needs. Examples will be put forth in coming paragraphs where the push for innovations will be elaborated. The push for these new approaches can be denoted two prevalent reasons - first-mover advantages and lack of current solutions.

#### 6.1.1. The push

The pioneers of the zero waste approach all have a strong motivation to save the world, create a fully sustainable business and redefine the value of resources, as expressed in several ways. As Douglas McMaster expresses in an interview, “I opened SILO because I had a vision of a food system that was better. A food system for the future.” (Video A, 2020). Also, the founder of Frea explains; “I want a company, it has to be the most sustainable thing I can do in this kind of gastronomy” (Interview 1, p.4, 2020). They also feel the responsibility of making change; “Waste is a human thing... There is no other species on earth that wastes things.. it’s just humans. Because we put it there, it is our responsibility to solve the problem. And it is now the time to turn this around.” (Video A, 2020).

The starting point for moving this way, then naturally sparked questions on how to do it by digging into the real issues; “I think most of the ground philosophy to save the world and go deep down in how to do that.” (Interview 2, p.9. 2020). Really, the motivation is a push to explore necessary opportunities to commit to that point of departure. “I wanted to create change” (Book A, p.39, 2019), and change necessitates innovations to create novelty

(Crossan and Apaydin, 2010). A novelty either to the entrepreneur, the industry, the country or the world by succeeding in the marketplace (Galanakis, 2006).

However, the commitment to zero waste bears strong promises. Running sustainably, businesses pledge the reduction of the environmental footprint, through lowering CO<sub>2</sub> emissions, decline of energy use, better packaging or less toxic chemicals as a few examples. Yet, the term sustainability lacks a description of the particular actions to be taken, in order to reach that sustainable end state. Differing from the notion of sustainability, the zero waste notion promises a smaller environmental footprint specifically by targeting the problem of waste.

Since waste is a broad term it should be noted that it incorporates more than food, even in the context of gastronomy, because “as soon as you turn the lights on and you turn up in the morning,” you will generate waste, Kim Wejendorp explained (Interview 6, p.57, 2020). Therefore, committing to zero waste puts an obligation on minimizing all sorts of wastes, incorporating water and energy use, inventory, food and packaging disposal, transportation emissions, as well as resource and material negligence (Heikkilä et al., 2016). The strong commitment to zero waste naturally conflicts with existing gastronomic operations, practices and systems, which currently, and unfortunately, generate huge piles of waste due to energy-intensive food creations (Gössling and Hall, 2013). Still, waste accumulates in several stages of processing and operations (Heikkilä et al., 2016), why the zero waste entrepreneurs have to critically evaluate all levels of their businesses. “The most important component of zero-waste is not zero except waste. We produce waste and rubbish daily, and we handle waste and debris daily. We strive to be zero waste, but until that day comes, we must have a conscious way to take care of our junk” (Fotografiska Handbook, p.69, 2020).

The innovation process is characterized by a constant questioning of the status quo of conventional gastronomic practices. Our findings display, that entrepreneurs who aim for zero waste are on a constant search to improve practices. The commitment to zero waste restricts them from accepting current solutions. It is an ongoing fight to reduce waste, so until they reach the zero, there will always be something to improve. Innovation becomes paramount in ensuring a prosperous business fueled by creation of new products, processes,

systems and models (Crossan and Apaydin, 2010). Businesses need to deal with changing situations, when readily available options are not existing, by reviewing routines in order to adapt and add to them (Seebode et al., 2012).

Thus, first and foremost the strong commitment to making the world a better place combined with the lack of current solutions in the gastronomy industry, appears to be the main push, according the data analysis. However, the opportunity to be leading a trend in the industry has surfaced as another motivation, that pushes the entrepreneurs to innovate for zero waste solutions. The growing awareness and demand for environmentally friendly options is gaining more and more importance for consumers, also in the gastronomy industry. Therefore, the new business model innovations manifest as a result of push-and-pull factors in the market (Rizos et al., 2016, Porter and van der Linde, 1995, Rennings, 200), where the restaurants are responding to a trend of sustainable practices, by seeing an opportunity to achieve a competitive advantage and other business benefits (European Commission, 2013). “The goal of Silo is to demonstrate a natural food system of the future, with Zero Waste as its USP” (Book A, p.44, 2020). Thus, by ascribing zero waste as a unique selling point, the notion can also be seen as a strategic move for these restaurants to differentiate themselves from other traditional and sustainability restaurants.

Once a novelty is introduced in an industry, there will be first movers who adopt and test the approach, building a template for the rest of the industry to follow. "I've always wanted Silo to be an example, charting a course, ethically, sustainably, morally." says Douglas McMaster (Book A, p.39, 2020). With the zero waste approach, the restaurants examined for this research, are considered as first movers in this space. Drawing from competition theory on first mover advantage, businesses which enter a new market segment first are suggested to obtain favorable states (Suarez and Lanzolla, 2005; Lieberman and Montgomery, 1998). First movers often aim to attain first-mover advantages, which strengthen their position to cope with competition. This could explain why innovation activities for the zero waste restaurants are imperative to ensure a head-start over competition. As the new direction of zero waste naturally lack many suitable solutions, the original practices of pioneering restaurants require new innovations to ensure the development of these capabilities.

Product development and production advancement prevail as substantial capabilities in achieving those benefits (Suarez and Lanzolla, 2005). Already, the adaption of the innovation process techniques for product and service development, are acknowledged as a decisive part of long-term success for restaurants (Harrington, 2004; Ottenbacher and Gnoth, 2005). For the zero waste entrepreneurs, this manifests a need for innovating on the culinary and process level. Yet, the initial resources accumulated by the early entrants and the development of the resources and capabilities, relative to the quality of those held by later entrants, will determine the success in sustaining durable advantages (Lieberman and Montgomery, 1998). Therefore, also organizational innovation and business model innovation become important when adopting the zero waste approach. This could explain why innovating with a strong network of collaborators and a profound innovation process becomes essential to the zero waste entrepreneurs.

### 6.1.2. New ways of innovating

Managing waste is a holistic issue influencing decisions and activities across all levels of the business (Heikkilä et al., 2016). Inevitable in order to ensure that everything conforms with zero waste, new ways of innovating for these restaurants infuse culinary, process, organizational and business model innovations which are altogether substantial. Examples from the analysis will discuss how the zero waste approach carries out these four types of innovations.

#### 6.1.2.1. Culinary innovation

The culinary products, being the dishes in the gastronomy setting, are generally what the restaurant is selling to its customers and, therefore, the most explicit point of reference for innovation. The ability to be innovative on the culinary level is acknowledged in the gastronomy innovation literature to be the competitive advantage of a restaurant and most likely the reason, why it receives much attention (Lane and Lup, 2015; Horng and Hu, 2008). Balancing the growing consumer demand for diversified- and high-quality food choices is challenging for traditional restaurants (Santich, 2004). Adding to that, the aspect of achieving

no waste together with restrictions in resources, leaves the entrepreneurs in zero waste fields to explore new culinary opportunities. The resources, in this case the ingredients, are the basis for culinary innovation. However, the notion of zero waste naturally constraints the restaurants from using exotic and abundant produce, as it cannot be defended from a sustainability perspective.

Consequently, the entrepreneurs that aim for zero waste need to create with what is available and innovations are depending to a large extent on what is available to them from nature. “We don't demand what we want from nature. We let nature tell us what to do.” (Podcast A, 2019) in order to “not compromise that belief” (Interview 3, p.20, 2020). The data illuminates how constraints of resources push and encourage the creativity of the chefs and innovators to a higher level in zero waste restaurants. They constantly have to come up with innovative creations for otherwise disregarded produce that is handled as waste in the gastronomy industry, such as leftovers or food scraps. “Leftover herbs are used to create flavoured oil to sell and for use in the kitchen.” (Forbes, 2019). “The leftover milk when you foam the milk has always a little bit of milk leftover and a lot of places just throw this away (...) we collect that milk and make yoghurt with that milk and use it on the menu.” (Interview 5, p.38, 2020). Thus, the commitment to reduce waste to the minimum serves as an impulse to innovate, giving secondary resources new value.

A key here is that the value of resources is respected distinctly by the entrepreneurs. The notion of zero waste disputes the presumption that waste is inevitable, by ascribing value to everything produced and promoting the cyclical use of materials in the economy. This in turn fuels the innovation capabilities of the entrepreneurs, that aim for zero waste, in new directions. Therefore, culinary innovation does not only incorporate the new use of ingredients, but also the use of other materials; “For example, packaging around our butter is not discarded after being used in the cooking. On the contrary, we preserve the paper and use it as aluminum foil inter alia when we cook fish.” (Fotografiska Handbook, p.68, 2020).

To awaken curiosity about the zero waste vision; “The meal becomes a tool that, for us, covers far more than the food on the plate. The meal experience as a whole is composed and what the guest experiences is a complex combination of impressions“ (Fotografiska

Handbook, p.66, 2020). Culinary innovation is achieved by incorporating the circular economy mind-set; “To show what circularity is about, we created a dish that reflects the onion's journey from earth to table. Onion peel ends up in the compost where it is converted into soil with the remaining food waste. Mixing the soil and some salt, we bake new onions in the oven. The result is our compost-baked onion, one signature dish at the restaurant.” (Fotografiska Handbook, p.69, 2020).

#### 6.1.2.2. Process innovation

Creating value for ingredients that are usually overlooked is essentially what pushes the entrepreneurs to innovate in the zero waste business. However, in order to make use of materials that are usually being disposed, the entrepreneurs are confronted with finding new processes. This demands a multidisciplinary approach (Rodgers, 2008), accelerating discovery of scientific and experiment-based approaches (Cousins et al., 2010). The entrepreneurs analyze the components and techniques used to create culinary innovation and experiment with processes to make these resources last longer or become usable through canning, pickling, drying, fermentation and so forth to comprehend all ingredients. This requires not only profound culinary and scientific knowledge, but also tremendous ability to be creative.

Entrepreneurs innovating for sustainability want to find an extended usage for every produce they get their hands on. This requires a search for innovative ways to reuse, regenerate, repair by recycling internally or back into nature and the economy (Gilg et al., 2005). Amass were given leftover bread by one of their collaborating partners from the retail industry; “We took their bread, we toasted it. 200 loafs of bread a day they had to throw away because they would not fit into the shape of the packaging. What we ended up doing was: Roasting it, drying it, covering it with water, putting it in the oven and we were able to extract 17% sugar.. we reduced the liquid down and then made ice cream out of it” (Podcast B, 2019). A process that is highly explorative and scientific at the same time. It became apparent that zero waste restaurants dedicate much of their time and available space into strategic research of processes, that they can use on excess produce.



Indeed, the processes involve more than new cooking opportunities, and often span outside the actual kitchen walls. At Frea, they used a process for reforming plastic into decorations for the restaurant; “That’s fifteen kilos of plastic which was collected during Frea’s construction phase and melted down to contribute to the interior design, instead of adding to the rubbish dump. And the lampshades at the bar? Those are made of mycelium - the network of roots that enables a fungus to absorb nutrients - and they’re compostable too, of course.” (Forbes, 2019). The entrepreneurs of zero waste restaurants find new ways of innovating as processes consequently entails far more than the culinary production, a step outside the traditional process innovation efforts. This represents a substantial difference to most other businesses in the gastronomy that rather seek the most practical disposal for leftover or excess produce and materials.

The new innovative processes can also be achieved through the close collaborations with external stakeholders, such as artists, craftsmen, and suppliers. When Fotografiska could not figure out a process themselves to reuse wastes, such as oyster shells for instance, they collaborated with a craftsman focused on sustainable design. Eventually, she transformed the shells into powder to craft plates for the restaurant; “Our wish was to try to find a way of using different waste products from the kitchen, and therefore sent compost and shells from mussels and oysters to Anna. The result was a unique porcelain where there is no plate is alike” (Fotografiska Handbook, p.21, 2020). Silo’s innovative way of making plates out of waste, involves; “Crushing empty wine bottles into a fine powder and then melting it at 600°C to create what we call Glass Porcelain - that looks like marble.” (Podcast A, 2019).

### 6.1.2.3. Organizational innovation

Culinary and process innovations require tremendous creativity to reach a level that satisfies the consumer demands (Hornig and Hu, 2008). The creativity in haute cuisine is put forth as the work of the chef, where he or she bears a huge responsibility to lead innovation (Leschziner, 2015; Lane and Lup, 2015). On the contrary, zero waste restaurants acknowledges the importance of team efforts in leading the innovation capabilities. “It has to be everyone, otherwise it’s too slow” (Interview 2, p.12, 2020). The entire team is responsible for asking questions, realizing value and carry out trial and error practices, which allow for

“opening up opportunities for creativity and value creation through search, recombination and reproduction, entrepreneurial capabilities and novel business models” (Petruzzelli and Svejenova, p.650, 2015).

When faced with constraints, there has to be a structure for collaboration and interaction among the team, fostering knowledge sharing to spur creativity (Acar et al., 2019). The restaurants are fostering this participation by innovative approaches to build such culture; “Everybody has a chance to be involved. They can feel like they can have an input, everybody is welcome to bring ideas. We also have a huge whiteboard in the kitchen, where maybe an ingredient go up and then people are free to write what they like around it and ideas and thoughts and all of that and dishes kind of develop from everyone’s input.” (Interview 6, p.55, 2020). Fostering an innovative culture focused on inclusiveness, the new organizational structures allow everyone to make contributions for innovations on all levels.

Restructuring the hierarchies and roles within these gastronomic establishments have therefore been vital. “Every two weeks we have a project night where one of the members of the kitchen is teamed up with one of the members from the front of the house and they have to find a project based on a bi-products. So they get together and they talk” (Interview 6, p.56, 2020). Ensuring a constant cross-collaboration between roles and departments. The responsibility of each team member of zero waste restaurants can be explained as; “Your service role is far from limited to the tasks you are supposed to perform that day, it's all about being an ambassador for what we do. We wish that everyone of our employees should feel proud to be part of the team and welcome our guests with pleasure. Therefore, it is necessary that you have insight into how we work and an overview of what is going on in the house.” (Fotografiska Handbook, p.64, 2020).

To nurture this culture and philosophy the zero waste restaurants innovatively build education into their structures; “We can’t just treat people like a robot, like some restaurants do. You need to get them involved, keep them excited and need to help build them.” (Interview 3, p.23, 2020). The responsibility that the team members are given further feeds into the commitment that the individuals experience towards the zero waste vision, which in turn supports the innovative culture.

The organizational innovations apply to more than the internal team but assign importance to the inputs from guests and suppliers too. “We hope to be able to influence and be influenced by all the people who contribute to our existence.” (Fotografiska Handbook, p.61, 2020). While customer feedback is perceived as an important feature of a well-managed innovation process for gastronomic establishments (Ottenbacher and Harrington, 2013), these restaurants include everyone. It is a collaborative approach throughout the value chain. The zero waste restaurants are therefore not unique in using customer inputs to inspire their innovations. However, the zero waste restaurants are using the questions of the customers as an impulse to innovate. By assigning an entrepreneurial role to customers, making them co-creators of the innovation process, they adopt a new organizational way of innovating. “I think there is people coming in, with constant questions we are being asked.” (Interview 3, p.21, 2020). The team, customers, external stakeholders and supplier thus become co-creators of the innovations of zero waste restaurants.

#### 6.1.2.4. Business model innovation

Ultimately, to advocate their zero waste vision, the restaurants have had to fundamentally re-conceptualize the business purpose (Bocken et al., 2014). Indeed, pushing them to find new ways to conform with this purpose. Fotografiska put the following words to this; “Here at Fotografiska we always work based on the concept of the three p; people, planet and profit (...) The idea is to incorporate all aspects of the business (the economic), which concerns employees and guests (the social) as well as everything that affects the world (the environment). We never take new initiatives without taking all three of these into consideration” (Fotografiska Handbook, p.62, 2020). Business model innovation relates to how value is delivered to customers (Osterwalder et al., 2014; Crossan and Apaydin, 2010), and these new considerations explain how zero waste restaurants generate value holistically.

The motivation, as well as scope of activities influence which type of business model is established in the context of gastronomy (Svejenova et al., 2015). “Opening something with sustainability and responsibility in mind, you work in reverse. You work with what the suppliers are able to do. First you address which suppliers align with what you think and are

willing to collaborate with you on these ideologies and then you work back into the restaurant. You figure out what is available. Because they take us, not the other way around.” (Interview 3, p.19, 2020). The business model needs to be adapted to inconsistency and fluctuations. The vision, thus, set the scene for relationships to be built in the supply chain, both with suppliers and customers as well as other stakeholders (Svejenova et al, 2015).

“So I think one aspect that is really important for every kind of sustainable gastronomy business model is, that these margins are probably different to conventional businesses.” (Interview 5, p.40, 2020). The business model is responsible for guiding the resource allocations in order to create economic value (Bocken et al., 2014). On the practical level, this can be explained with how the restaurants make use of their produce; “So we use 100% of the fish which means, not only, it is in some senses very cost effective (...) it means that it doesn’t go in the trash, it doesn’t go anywhere else, it simply stays within the restaurant (Interview 6, p.53, 2020), which assures that the business model addresses the waste aspect in conjunction with financial concerns.

To overcome inconsistencies of supply, the restaurants have built their own systems in order to create and sustain value of resources within the businesses. At Amass, an aquaponic system is adopted, where plants can grow from the fertilization of fishes, which produce nutrition by eating the leftover food from operations (Interview 6, 2020). This is a form of circular economy, adopted internally. At Fotografiska, the hydroponic system produces food vertically and horizontally indoors, which allows farming directly in the city center. “A system that requires 90% less water and 70% less fertilizer than conventional cultivation” (Fotografiska Handbook, p.71, 2020). Showcasing new ways of delivering value, which is both new to the businesses and industry (Crossan and Apaydin, 2010). Yet, it impacts the innovation on the product, process and organizational level as well, why it also changes how they deliver value to customers (Osterwalder et al., 2014; Crossan and Apaydin, 2010).

The zero waste entrepreneurs examined in this research, developed a circular supply chain with external stakeholders, that allows for the produce to reach the restaurant without any additional packaging and be returned to the ecosystem in form of compost. In order to build such a holistic circle of supply, strategic alliances and a collaborative network have to be

established. Incorporating the whole supply chain, a circular economy approach is adopted in the business model. This is recognized as a key feature of a sustainable economy (Bocken et al., 2014), yet considered as a novelty in gastronomic business models.

Nevertheless, theory also acknowledges that economic motives cannot be disregarded in this approach (Jones and Wynn, 2018; Rizos et al., 2016). Small and medium enterprises in the European Union, disclose that taken the actions to adopt a circular economy, mainly relate to cost savings (European Commission, 2013). Therefore, this model allows the restaurants to take economic, social and environmental considerations into account. Sustainability theory suggests circular thinking to be effectively contributing to sustainable development including more efficient waste management and optimizing the energy and water efficiency (Jones and Wynn, 2019).

To exemplify this, all the interviewed restaurants mention their compost machine in the restaurants, a tool which ensures that 90% of the organic waste can be transformed into a valuable soil. The suppliers then “collect the compost, to add it back into the ground to help grow more vegetables for the restaurant.” (Forbes, 2019). Moreover, “the composting process also produces a kind of juice that goes as a fertilizer for our indoor cultivation.” (Fotografiska Handbook, p.69 , 2020). The fertilizer and composting soil is also sold to other stakeholders, by some of the restaurants. This is supporting the ambition to adopt a new economic model, where discarded products and byproducts are successfully reintroduced into the economic system (Rizos et al., 2016).

To conclude, we have shown how the zero waste approach has pushed entrepreneurs to innovate on the culinary- , process- , organizational- and business model level because of their commitment to zero waste and the lack of solutions thereof. Contrasting to traditional restaurants, there is no ‘ready-to-go’ concept for these restaurants. They are pushed into finding new innovative ways in adopting solutions across all levels of their operations. Each level requires its own specific innovations, but evidently, the creativity and team effort are viewed as the main factors to help push these innovations forward.

## 6.2. Contribution to theory

In academic context, the present research is bridging a gap between sustainability research and gastronomic research in the innovation management literature. As demonstrated in the findings, existing sustainability innovation literature aligns with how the restaurants tackle zero waste, yet current literature lacks in-depth research within the gastronomic field, because of its novelty. Not only are gastronomic businesses considered to be operating in a highly creative industry (Svanjenova et al., 2013), but the gastronomy industry is also regarded as one of the most unsustainable industries, due to its enormous environmental footprint from waste and resource heavy operations (Jeong et al., 2014; Gössling and Hall, 2013; Heikkilä et al., 2016). Thus, illuminating the innovation process of sustainability in the context of gastronomic businesses, extends existing literature in a valuable way.

On the other hand, the gastronomic literature explains the innovation process from a traditional gastronomic perspective, lacking a sustainability lens on their innovation. Introducing this notion becomes imperative as the trend of including sustainability in business practices is ever more growing in the gastronomy industry (Jeong et al., 2014). Especially the high-end spectrum of the industry is regarded to play a key role in trend setting and defining standards for culinary services in the gastronomy industry (Surlemont and Johnson, 2005). This industry has the opportunity to drive sustainable change, due to its large scale globally and increasing importance. Therefore, the extension of gastronomic theory is highly relevant to our time, as sustainable business practices become ever more important to the growing number of conscious consumers. Increasing expectations for tackling global challenges, such as waste reduction, have been put on the entire food industry, which is why understanding their innovation efforts are paramount (European Commission, 2015).

By investigating the innovation process of zero waste restaurants we incorporated sustainability implications in a gastronomic setting. As a result, our research has extended the theory of gastronomic innovations to include understandings for innovations beyond haute cuisine and traditional approaches. The ability to be innovative on the culinary level, has previously received much consideration in literature, as it is viewed as the competitive advantage of a restaurant (Lane and Lup, 2015; Horng and Hu, 2008). While present

gastronomic innovation literature put the spotlight on culinary and business model innovations, organizational structures in this field are often described, yet organizational innovation on this level neglected. The present research has displayed how introducing a strong notion, such as the zero waste concept, affects restaurants across all levels of the business. Thus, our thesis is opening up for a more holistic view of innovation practices and fuels discussions on sustainable innovations and the way they are fostered in the particular industry.

### 6.3. Implications for practice

By extending the theory and bridging a gap in current innovation research, we can contribute with new considerations to the innovation processes in restaurants. Hence, showcasing how gastronomic entrepreneurs innovate for sustainable products and processes, by restructuring organizational systems and business models. With this thesis, the reader can get a glimpse into the practices of the zero waste pioneers in this industry. Thus, the present research aims to outline a foundation for practices necessary to adopt a zero waste approach. Essentially, providing implications for current and future entrepreneurs in leading businesses to a more sustainable future.

The managerial implications of this thesis concern the culture and creativity of a business. It sheds light on the importance of fostering a participative culture with an open environment to encourage a free flow of employee inputs. Moving the business in a more sustainable direction necessitates higher engagement levels of all team members in order to innovate accordingly. It is essential, to involve everyone in leading the innovation efforts forward, rather than assigning the creative role only to the chef. Correspondingly, restructuring of hierarchies might be necessary to incentivize participation through daily conversations and planned innovation workshops. Our case restaurants showcased different strategies to engage their employees in the innovation process, which spanned from a simple whiteboard in the kitchen space to workshops and project nights for all team members.

The commitment is put forth as a strong driver for new innovative ways of running a restaurant. Hence, the strong notion of zero waste should infuse all aspects of the business

operations and is simultaneously the reason, why adopting such holistic concept needs great considerations. Those considerations will not only apply to the culture in fostering open environments but have to align the team with the vision to aid innovation practices. The vision guides the actions taken by everyone in order to ask the right questions and generate new valuable ideas. Thus, entrepreneurs in zero waste context have to be strong communicators of their vision.

However, a strong communication does not only ascribe to the internal team, but also plays a significant role when attracting the right suppliers and network collaborations. Without the right relationships to external stakeholders, that also approve the vision, the innovative capabilities of zero waste businesses are challenged. Consequently, management of such establishment need to ensure clear and ongoing internal and external communication to foster the culture and vision it desires.

#### 6.4. Limitations and future research implications

To each research paper, there are limitations which should be acknowledged. We acknowledge several opportunities to enrich this study, by including other theories and adopting new lenses. As a matter of fact, we declare that shortcomings of this thesis can also be seen as opportunities for future research. The inductive nature of this research draws on realities from the subjects studied, and ultimately gives space for future research to build on the findings. Each interview differed slightly from the other in order to funnel this approach. Consequently, leaving space to further validate findings by applying a deductive approach going forward. Noteworthy, indicating a potential limitation of generalizability from the findings to hold true for other contexts. As should also be noted, this study was set out to extend theory in the gastronomic innovation space and, therefore, should be read with that direction in mind.

Specifically, when working with case study research, the information obtained reflects the reality of these specific cases. Thus, introducing more cases from various locations, can further build on the findings and explore country specific differences. With the case study



format, the empirical research relates to a phenomenon close to reality. Therefore, findings may deviate between present and future, depending on timeframe, as reality is subject to various changes influencing the experiences of the interviewees. Thus, future research has the opportunity to examine new directions, challenges and opportunities of the zero waste notion at a later stage. Later in time, it holds the potential to evolve from a novel concept into a well-adopted practice, thus becoming the new standard.

Opening up a new discussion, by bridging two streams of literature, inherently leaves much room for future research topics. Such implications for forthcoming studies could entail the following: As a start, the present research examines the push for zero waste innovations in the context of gastronomy. Hence, this notion can be advanced in other contexts as well, such as the fashion industry, construction industry, and retail industry, as was briefly touched upon in the background section of this thesis.

Moreover, the importance of creativity for zero waste innovation was highlighted. Future research could take a closer look at the organizational culture needed to encourage creativity for businesses that innovate for sustainability. The creative culture would be best illuminated by gathering data from various members of the business that cover different positions. Such research could imply the uniqueness of the culture that is created in businesses that strive for a greater mission through their operations.

Secondly, during the research, the topic of scalability arose that questions how zero waste practices can be scaled. Examining this question closer, requires economic measures, that could be subject of a future research. The businesses examined in the present study are all individual entities that laid out their innovations for one single location. Should this zero waste model be replicated and scaled, new challenges with regards to the supply chain and logistics may emerge and require new solutions. We therefore suggest the viability to scale zero waste gastronomic businesses as a subject of future research, in order to evaluate the potential of this new approach in the gastronomy industry on a global scale.

The ambition to address the research question from a holistic view on innovating, led us to analyze innovations across all levels of the organization, including culinary, process, organizational and business model innovations. However, with this broad approach we did

not analyze each type of innovation in depth through additional theory and more detailed findings. Incorporating more exhaustive literature on business model innovation, for instance, could help explore the research question from another lense. Therefore, the research possibly neglects important further inputs that push the entrepreneurs into innovating on a particular level for zero waste.

The findings of the present research present the commitment to zero waste to be pushing the innovation efforts of the respective restaurants. Yet, this thesis falls short in further investigating other underlying reasons for pushing the new innovative ways. As discussed, the urge to sustain a durable competitive advantage can push the efforts for developing new resources and capabilities through innovation. Thus, displaying a different reason for innovating, yet not portrayed in the data collected, and therefore not further explored.

The spotlight on the commitment has been prevailing in this research, and the theory of competition has received minimal attention. While interviewing, it became apparent that zero waste restaurants usually welcome more zero waste restaurants to join them in the market. “We don’t view other vegan restaurants or sustainable restaurants opened as competition” (Interview 4, p.33, 2020). The interviewees expressed how similar restaurants are perceived to be beneficial in making the desired resources more accessible and cheaper. Therefore, the competition, as a driver for innovation, was not explored further and could potentially be seen as a limitation to this research.

In addition, the increasing customer demand for sustainable solutions, could potentially be another force which increasingly drives the innovations of restaurant. The response to this demand pushes the restaurants to find alternative ways to operate. Taken together, these alternative reasonings have been limited in regard to this thesis, therefore, being a starting point for future research to explore potential rationale for adopting the zero waste approach.

Furthermore, it could be interesting to examine, whether these pioneering zero waste restaurants have an influence on the industry as a whole. Our findings indicate how gastronomic entrepreneurs seek inspiration from fellow actors in the industry, thus it could be of value to identify how such radical new approaches affect the direction of the industry.

A forthcoming research could therefore investigate the zero waste entrepreneurs in the light of institutional entrepreneurship theory. Additionally, examining customers and suppliers as co-creators of innovation in enhancing the innovation capabilities of gastronomic establishments. This would add the perspective of user-generated innovation theory, interesting as a mean to build an understanding of how highly innovative restaurants, such as zero waste establishments, can capitalize on their inputs.

Last but not least, the theoretical review discusses how regulations actively affect the opportunities to innovate and implement innovations. We remarked the governmental actions for zero waste in the background, as we laid out how various governments are announcing zero waste as a goal and have adopted new policies in regard to this. Concurrently, the findings reveal that, despite the zero waste goals set out by the governments, the interviewees criticize governments' to poorly regulate this space. Hence, current policies are not encouraging entrepreneurs to innovate in a zero waste direction. A future research could address this discrepancy and explore how authorities regulate and push innovations for a more sustainable future.

## 7. Conclusion

The present thesis sets out to understand how the notion of zero waste becomes a driving force of innovations on all levels. Specifically, the research question aims to answer how this novel concept nudge entrepreneurs towards developing new ways of innovating. Through a case study on zero waste practices in the context of the gastronomy industry, we examined six representable restaurant businesses. This research used an exploratory and qualitative approach and gathered empirical data through semi-structured interviews and various secondary data collection sources.

Innovation process theory together with innovation literature on the gastronomy industry and sustainability have served as the underlying framework for this research. The purpose of this research is to shed light on a novel and under-research concept in this particular industry. It aims to empower more entrepreneurs to take the steps in the zero waste direction by highlighting challenges and opportunities to be considered. Furthermore, it has provided insights of operations and innovation practices of the most sustainable, pioneering restaurants around the globe. Thus, the innovations can inspire other entrepreneurs to adopt similar solutions.

In essence, we illuminated how the innovation process for these businesses is directed by the notion of zero waste, through the strong commitment to reduce waste to a minimum. As viable sustainable solutions are currently falling short in the gastronomy industry, the entrepreneurs are pushed to innovate and find new ways of doing things across all levels of the business. Resource constraints in terms of the supply chain setup, the extra time needed and limited space as well as financial constraints crystallized as the mayor challenges to the innovation capabilities of zero waste restaurants.

However, being constrained also emerged as an impulse for creativity, an opportunity for zero waste restaurants. The vision drives a strong culture of inclusion and participation, allowing inputs from various perspectives in the innovation process. Further spanning beyond the internal scope, the empirical data suggests a great potential for the innovation capabilities in these businesses through collaborations with external stakeholders.

Consequently, this research broadens the conversation of innovation scholars and innovation process literature by spanning a bridge to a new emerging gastronomic category. Reflecting a new topic, promising further research areas are manifold. We propose future research to be done considered for the creative organizational cultures, the scalability, institutional entrepreneurship and user-generated innovations for zero waste.

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## Appendix

### A) Interview Guide:

Background	<ol style="list-style-type: none"> <li>1. Tell us a little about your background as an entrepreneur or chef.</li> <li>2. Have you had any experiences of opening/running a zero-waste business before?</li> <li>3. What are you currently experiencing in the restaurant? What was the first step in your restaurant towards zero waste?</li> <li>4. What do you consider a new way of doing things in your restaurant? What are the biggest differences to a traditional restaurant?</li> </ol>
Challenges	<ol style="list-style-type: none"> <li>5. When you first started, was it easy to create a demand for a sustainable menu or was it relatively easy to find suppliers to support your intentions? What are your biggest challenges?</li> <li>6. Where does the push come from to create a different kind of demand? Consumers? Restaurants? Who is driving the sustainable demand?</li> <li>7. Is it a good business case to be sustainable? Or do you have to pay more in order to be sustainable?</li> </ol>
Motivation /Inspiration/ Influence	<ol style="list-style-type: none"> <li>8. What motivates you?</li> <li>9. Who or what inspires you? Have you had any role models in doing these? Where were you guys looking in order to find how to tackle this</li> <li>10. To what extent is your business influencing the industry?</li> </ol>

<p>Innovation process</p>	<p>11. How much time do you dedicate to running business as usual vs. Innovation/R&amp;D?</p> <p>12. Are you more innovative on the culinary or the operational side of your restaurant?</p> <p>13. Where does the innovation happen? Do you feel that your R&amp;D is mainly leading the push to becoming zero waste? Or are those ideas coming from other employees to?</p>
<p>Culture</p>	<p>14. What kind of culture did you have to create in order for people to strategically think how can they minimize their waste or using this as a resource constraint for creativity</p> <p>15. Are you seeing this culture for sustainability to being passed of on the diners? Or do you find that the audience already tends to be 'green' sustainable.</p> <p>16. What is the greatest struggle for the team to retain zero waste?</p> <p>17. How does the sustainability movement influence the work of the team?</p> <p>18. How do you keep your employees engaged in the mission?</p> <p>19. Can you walk us through the creative process in the kitchen?</p>
<p>Other Questions</p>	<p>20. What is the biggest obstacle to zero-waste movement?</p> <p>21. What are some misconceptions about zero-waste?</p> <p>22. Is there anyone else you would recommend us to talk to about this topic.</p>

## **B) Interview Transcripts:**

### **Interview 1 – David Suchy – Restaurant Frea, Berlin – 20.01.20**

Karlotta: What is your background? How did you start up with the idea for the restaurant Frea. How did it all fall into place?

David: So basically everything started when I started with my catering company five years ago Johnny and the food. And I like to cook, I have always liked to cook, I have always have people around me. And it started with like people asking around me if I wanted to do like a YouTube kind of channel and looking into the camera with healthy cooking, lots of vegetables.. and this was also about when the catering company started to grow. It all started with the catering company and everything came together. So I trained myself as a health coach, a Holistic Health Coach and learned more about sustainability in general and just wanted to learn more, to grow and wanted to have something to do with the environment. So actually, this whole thing work got started more and more. And then one day I was thinking about Zero Waste. Why shouldn't I have a zero waste lifestyle. So I brought the philosophy into my life. And I thought I should also shed more light on that. So spread this knowledge. So for me it was start and then it was important for me to continue.

Isabelle: Did you do any zero waste practices, or did you try to already be sustainable in the catering business?

David: Yes, that was the idea as well. Everything started to be more sustainable in the catering company as well, so the next step for me was to achieve this kind of goal the kitchen. And it was kind of easy. I don't want to take home loads after work. So I thought more about what I cook, how I cook and what do I take home from work. The next step was really just to find a solution for a restaurant. And I found Silo in Brighton and I went there and worked from there for 10 days and this was already enough for me to already understand the system and just go back to Berlin and take our head chef with me and just create you know. Just create every day.

Karlotta: So during that time was Silo or anyone that you looked for or that inspired you with these practices?

David: Not really. We are the first restaurant in Germany working like this. I'd say with a loud communication. Most other restaurants they don't even know that we are

sustainable. Yeah I mean it's just trial and error. I mean we have had enough time to try it out. One year we had like huge caterings with big companies. We tried out to fight with suppliers and then we found this amazing space. My girlfriend joined decided to join and we were like her and me. Before we found our head chef.

Karlotta: So while you were still doing the catering, you were already looking for potential spaces for a restaurant.

David: Exactly.

Karlotta: And it was clear for you from the beginning it should be a zero waste business?

David: Yeah you know I didn't want to do anything else. So then the vegan idea came on my mind as well. We are having a zero waste restaurant it is supposed to be vegan as well, it just makes sense. For me it was just a next step. Zero waste needs to be plant based.

Karlotta: And you found a really beautiful place there to do it.

David: Look, by the end of the day it's all love and attraction. It just a matter of what you really want and if you really want something you can do it. If you find the right people to follow you..

Isabelle: What is it that motivates you? Like what motivated you from the start to go in this direction?

David: I mean, just look at the TV, I mean I don't have one but if you just look at your Facebook it is reason enough to change something. So for me it was very clear. If I want a company, it has to be the most sustainable thing I can do in this kind of gastronomy. I mean just look around.. all gastronomy don't really work very sustainable. There is so much air to develop and so much air to be successful. For me it was just in my heart, it was the right way to go.

Isabelle: Do you have anyone that inspires you or anywhere where you get inspiration from? On a daily basis or in general for your restaurant and practices?

David: No, not that I follow somebody else and think everything is just so great they do, but basically if you have it in you then you just go for it. And you don't look to the right or to the left. When you feel it's right and it's pretty obvious that we do something right.

Isabelle: Yeah. But is it like if you would walk out and talk to other entrepreneurs or eat at other restaurants and you see something that is in the direction of zero waste, would that be something that could inspire your food or your experience at your restaurant as well? Or is it usually just that you come up with ideas?



- David: I mean, it's just different. If I see something that I'd like yeah but I wouldn't say we copy something. We are all kind of in our little bubble and we just create every day instead of looking somewhere else. If other restaurants were doing something right, we wouldn't have the situation we have right now. And we wouldn't get so much PR. I mean don't get me wrong, I like other restaurants but it's not like I am going there to inspire me.
- Karlotta: So you are rather taking the innovation approach in house.
- David: Yeah we have about 20 employees, that is already like 20 brains working together. So there is a lot of the creativity in it already.
- Karlotta: And does the creating and innovation usually happen during opening hours or do you specifically dedicate time to create.
- David: Both, we have closed days where we just try out food and we choose days for workshops, to just get better in the kitchen and in the service. Just being in the zone and then new ways just come up.
- Karlotta: So what do you consider the new ways of doing things at your restaurant compared to traditional restaurants.
- David: First of all we exclusively organic products. In any kind of ways, whether it is our liquors, our hazelnut milk, if it's our foods our drinks, like everything we use, everything the guests touches, smell, taste comes from organic sources. That's definitely one thing. And I also thing just being creative I think. People are not creative anymore, everybody is copying each other. Everybody is not like cooking anymore, or not really producing anymore, let it be their own bread in the restaurant.
- Karlotta: Does this actually narrow down your list of suppliers, since you make a lot in house?
- David: Of course, we just get the product and just create everything we want in house.
- Karlotta: I see, I guess it also serves the purpose that you don't have too many suppliers that you actually want to check if their way of doing things is sustainable and aligns with your mission.
- David: Of course with the farms it is a lot, but we work with raw products, not industrialized products. Our products basically come from the farm right away. So quality can be checked right away, nothing is packaged, we have it pure in our hands and we can decide what we can make out of it.
- Isabelle: Is the food very dependent on the season then?
- David: Sure, that is a zero waste aspect as well. Lower the transportation ways, lower the ecological footprint on the product.



- Isabelle: And what is regional? Is that like Germany or is it also a bit outside of Germany or just around Berlin?
- David: I would say 90 percent regional and 10 percent with stuff we use like lemon or horseradish are not from Germany right now. Of course we have coffee and cacao beans. But we have our trusted source and we know where it's coming from. Other than that, we are really focused on regionality and seasonality.
- Isabelle: Would you say it's difficult to source and find the right producers where you can get your supplies from?
- David: Most difficult is finding the ones with the right mindset. Because there is a lot of farms in Germany just not many that think the same as us.
- Karlotta: Are you more innovative on the culinary level or on the operational side of your restaurant?
- David: I would say everything that goes out of the kitchen goes through my mouth and if its good I say it's good and if it could be better done we work on it. But mostly I really like to test it and our Head Chef comes up with ideas or I tell him what I would like to see and he comes up with something. Or the team comes up with new ideas or he tells them how to cook it. So it is always like a circle of ideas that is going around.
- Karlotta: And you are kind of more in charge of finding the right ideas on the operational side?
- David: It's not like we found the new way how to cook, we still cook with water, we still have vegetables soup, it is just what we make out of them. And I think what we do make out of them is crafted and that is something not a lot other restaurants do, because otherwise we wouldn't be that booked every day.
- Isabelle: We read you are also composting the organic waste and send it back to the farmers again. Those kinds of innovation are you in charge of finding that out or who comes up with that?
- David: No, I saw the machine first at Silo in Brighton and it was the first time I saw it and it was clear that I want something like that. The waste company in Berlin is so good in recycling that even our bio-compost can be thrown in the bio-waste and they turn it into biogas. But it is also a lot of energy to get this compost into something which you can reuse so that is why it was clear that if it was energy, it was green energy and we make it out of our own compost for the farmers.
- Isabelle: So your entire restaurant is run by green energy?
- David: Yeah, so we don't have solar panels or anything on the roof but that is probably the next thing. But right now everything is green. Basically everything we do is green, sustainable and ecological friendly as possible.

- Isabelle: And does that also go into what kind of interior, furniture you have?
- David: Of course, no animal products are used in the interior. A lot of reused stuff that we did there.
- Karlotta: In what way is Frea influencing the industry especially in Germany or on a wider scope?
- David: I would the knowledge of the restaurant is authentic to have an impact. The PR we are getting is good but it could be bigger. If we would grow as a company in the next five to ten years I think then we will have a bigger impact in Germany but also politically. The more we earn, the more money we give back to the state and we can create new ways of changing something. If we reach this kind of power than it is the way to go.
- Karlotta: Have you talked to many other entrepreneurs with restaurants that come to Frea and take something back from their visit?
- David: I hope so. We are very open with our philosophy but it's like in a restaurant you work 7 days a week, we really put a lot of time and effort and if you really want to create something where you are that kind of busy you really have to spend a lot of time and also money and you don't get a lot out of it. This might keep young entrepreneurs away, because it's not really a big market in the first five years.
- Karlotta: How come you changed your opening hours to only dinner?
- David: We were too busy. Within the first 4 months we had to close down the lunch because having 120 for lunch and 150 for dinner just didn't work for the logistics. Crazy things, like 400kg of vegetables we would use every day. Kitchen is not exactly built for the amount of food. Too little storage space.. so we decided just to focus on dinner
- Karlotta: Where do you see the main challenges in running this business.
- David: Everyday challenges. You work with 20 employees. You work in a service where you are very close to your customers and you work with a product which is everyday changing. You are working with living cultures. We worked with our sour dough this past week and the bread was kind of shit. Still tasty but it didn't look like how a bread should look like. And if you work with that and people don't understand that and don't realize what it means to run a restaurant it is always difficult to explain it. But you really have to be there overcome the situation, always explain, communicate with your guests and also with your employees. That is the most important thing. They bring so much other energies from their home, from their life, their feelings they have bad days and while working so close to the clients it is very, very important to refocused on that. If you really want to work efficient you really have to have a strong

team in the first place. And gastronomy is a high fluctuant business where people come and go.

Karlotta: Was it easy for you to find the people that make up your team?

David: The attraction for the mission was there already. People that live vegetarian or vegan or sustainable in the industry it is hard for them to work in other restaurants. I wouldn't say it was super easy, but it was from what I know from other restaurants much easier.

Karlotta: So I guess they are all very united through their mission and can 100% identify themselves with your mission and vision.

Isabelle: Was it also one of the criteria for hiring them? The passion for sustainability. Is it a criteria to live this lifestyle at home?

David: Yes.

Isabelle: Do you see any challenges for the team to sustain the zero waste practices? Especially in the kitchen?

David: You always find solutions, it is not a big deal. If you talk about the stuff than everybody wants to find a solution as well.

Isabelle: How do you as a leader work to keep the team engaged? Is there a special culture that makes everyone engaged?

David: Showing them how I do it and just trying out. Trial and Error. Give them space to do and after a month's we see what we can do better.

Every day before service we have a meeting.

Karlotta: That's probably just about now, so we will let you go.. Thank you so much for your time.

### **Interview 2 – Martin Wall – Restaurant Fotografiska, Stockholm - 06.02.20**

Isabelle: We would love to know more about you and your background as a chef. Even before joining Fotografiska.

Martin: My name is Martin, obviously. I am 48 years old now and I worked since I was 14 in the restaurant industry. I worked abroad in a lot of countries and I worked in around 20 places here in Stockholm. I have always felt like it has been an incremental thing. A few years ago, I worked at Rosendal. It was the first place where everyone was working together to help the nature. Otherwise, it is often the owners who are there to try something new. But then since I met Paul Svensson at Fotografiska I could actually live out all love for mother earth.

Isabelle: And when did you start at Fotografiska?

Martin: In April now it is 3 years.

Isabelle: So cool, and did you have, you briefly touched upon it with Rosendal. But how much experience did you have in zero-waste restaurants or in restaurants trying to be sustainable?

Martin: I always tried to be plant based. I always loved the Indian way. But we all here at Fotografiska is so much faster when everyone has the same thinking and wanting the same things, it is two times faster the development of the whole thing. Standing alone against another chef.

Isabelle: Do you find there are challenges as a chef in other restaurant to propose sustainable solutions.

Martin: Yes

Isabelle: Okay, but I'm pretty curious on what you are currently experiencing in the restaurant, in terms of how you are working with zero waste and what are the first steps at Fotografiska to become more environmentally friendly?

Martin: I think most of the ground philosophy to save the world and go deep down in how to do that. And we can't eat this much meat as we do and then we obviously go to the plants and starts to go acro- or biodynamic or then there is an easy journey to take all those steps once you have decided what you want to do.

Isabelle: Exactly, but what do you see as the biggest differences for Fotografiska compared to traditional restaurants, or restaurants that don't have the same focus as you?

Martin: Normal restaurants, so to say, everyone wants to earn a lot of money. They always do what the people know, and they don't challenge the guests very much. And, what we call sustainable pleasure in our cooking, we have to challenge the guests and show them that they can have a lot of pleasure and be sustainable at the same time.

Isabelle: That is a very interesting point, that you also feel that it is your way to challenge the guests that come to you because who is creating the demand for a sustainable menu. Was it you initially? Was it the consumers? Where did you find the guest?

Martin: It was together with Paul Svensson, he is a visionary.

Isabelle: The passion?

Martin: Yes, we have known each other for a long time and find it a normal way to work together.

Isabelle: That is very cool. I mean, is it though that now when you work with it, is your passion the drive for what you do, you really want to do it or is it also then good for business to have this focus? Or do you feel that there is a trade of where you have to pay a bit more to be sustainable just to achieve something that you really want.

- Martin: No that is the cool part of the whole thing, that you earn actually more money by doing this. Because you turn around the economy for the whole restaurant business.
- Isabelle: Okay.
- Martin: If you are talking about minimum waste or zero waste, you always try the whole time what you call root to flower. And we cook them root to flower, without peeling them and selling them. You are actually using the whole product you bought. You save more money and you get more money. But on the other hand, if you buy a lot of vegetables it takes a bit more time to cut up compared to an entrecôte, so you actually need a bit more staff. But if we talk about social sustainability we win there. But if we put together the food costs with the staff costs, it is still less than a normal restaurant.
- Isabelle: And do you also feel that it drives more customers because of the sustainability and the sustainable aspect?
- Martin: Absolutely, you have no climate anxiety, it is a safe zone. When people leave here we always talk about the good aspects. Good for you, good for your neighbors, and good for the future. And you can leave, and you don't have to think about what you have done to mother nature.
- Isabelle: exactly, and I also think it was very interesting the way you approached it. The way I understand it on the menu, it is vegetarian, but you can choose to have meat if you want. But that is an additional choice you have to make.
- Martin: Yes, but we are not a vegetarian restaurant, we are a plant-based restaurant. We try to, it's new and we start hearing more people say plant based, which means that we can use some brought made with blue mussels or whatever to enhance the flavor. But the basic menu we put the protein on the side, if it is necessary you can choose it. That is a very cool sign project from Rosendal called 2000 square meters. They combine areas for each and every one on the planet for which are able to farm on.
- Isabelle: That is cool.
- Martin: 2000 for you and 2000 for me. I actually have to revise on that. But you can have a 5<sup>th</sup> of a cow, or two sheep and two chickens and then you can actually explain how the place should look like. If you fill the cell the first year you
- Isabelle: Wow, that is super cool.
- Martin: One third of our cell is for animals, another has to be vegetable grown above earth and one third underneath it. And then you have to turn those around to have the best crop. But that explains how it looks like.

- Isabelle: It becomes more understandable when it is more visually in front of you and when you understand of what it actually means. I think it is really a cool initiative, incredible. But is it, is that something that inspires you? Or how do you find motivation and inspiration for what to do next? And how to improve your practices?
- Martin: It is a lot about questioning, it is a long journey, which we just started. For me now it's feeling like you are 20 again and you are very, you don't know anything. Everything is new so you are very, what do you say, curious about everything. It is very energizing to be able to work and do everything without knowing anything. You have to be alert and curious, and question everyone, the people around you. That's gives a lot of energy.
- Isabelle: I mean, how often do you ask yourself questions? Do you have meetings every day?
- Martin: Absolutely.
- Isabelle: Is that with you all?
- Martin: At least 200 times a day.
- Isabelle: That is a lot of questions. But is it also when you try to improve, and maybe if we also talk a bit about innovation, does it come from you as an individual or do you work a lot together with the team? Or who is it that comes up with new things?
- Martin: It has to be everyone, otherwise it is too slow. It is a very open environment. It doesn't matter age or knowledge, everyone has to question everyone and be curious, otherwise we won't get anywhere.
- Isabelle: Is that a culture you try to promote. Make them feel like they can speak out about their thoughts?
- Martin: Absolutely, every day.
- Isabelle: Do you also get inspiration from the quests.
- Martin: Of course, both guests and ourselves and other staff. It is a museum, so there are a lot of people. And everyone puts in stuff, listen and try to source. To try out.
- Isabelle: Do you see any, like, struggles for the team to retain this kind of philosophy of zero waste? Where do they struggle along the process to stay on track?
- Martin: Sometimes there is heavy work. But we are quite a lot. If you have a bad week, there is always 30 people to help.
- Isabelle: That is teamwork at its finest.
- Martin: But it has to be to stay and believe in your staff. If you have a bad time, you can just still be here, and the others put in a bit extra.
- Isabelle: Is it any other challenges that you feel comes with the notion of zero waste? Which are the biggest challenges to produce as little waste as possible?

- Martin: I think we have come quite far here in Sweden. But the next thing is to get thing is to get outside of the house, try to get the farmers to understand how to grow things and how to harvest the best possible way. They also done what they think is right for so long, they don't use root to flower and put it in a box. They cut of the ends.
- Isabelle: Because people never wanted that before.
- Martin: And they throw out the bad looking carrots or cucumbers. And they use the packaging for everything. You have to stop putting things in a box. To get 100% climate positive, we have to work with the suppliers and farmers and everyone else.
- Isabelle: To get the whole society to kind of come onboard, I guess.
- Martin: On that side, we have to improve.
- Isabelle: But do you see any challenges in the team to create new dishes or to make use of the whole root to flower and is that a challenge in the culinary sense?
- Martin: Yes, I mean it is often a challenge when you have root to flower. Now that is our hardest time before we get the small onions and rams and that. It is not easy to be creative in this time.
- Isabelle: Yeah, summer is great in Sweden.
- Martin: Yeah, as a chef it is very hard at the moment to create.
- Isabelle: You only source locally?
- Martin: Yes.
- Isabelle: And is it also difficult to get inspiration for what to do next, I mean also operationally? The way you handle packaging, leftovers or food waste from the guests. Is that a challenge? Is that something you feel you are good at already?
- Martin: We are pretty good at it already. We have our own composted thing, that make compost. And then we make biogas for some waste where trucks come here to pick it up. In Sweden we are pretty good at recycling things. I think that it is pretty easy.
- Isabelle: Do you find any inspiration from other restaurants trying to do the same? I know Paul Svensson is mentioned a lot with Silo and Douglas in their kind of similar passion for what they want to do.
- Martin: Absolutely, we have a very good connection with Douglas at Silo and Blue Hill. We are open about everything.
- Isabelle: Do you look at others and do you talk to each other? And try to inspire each other?
- Martin: Absolutely
- Isabelle: That is awesome. As far as we know, it is still quite a small community in the gastronomy industry. There are that many restaurants that focus on zero waste, there

are more doing plant based and sustainability. But it is really cool that you have good connections with each other and try to help each other out.

Martin: I think the future is looking bright, and I think we are getting there pretty soon. But of course, we can't eat that amount of meat, but we are chasing the future.

Isabelle: Do you feel like your restaurant, like Fotografiska, are influencing the industry, or at least other restaurants in Sweden maybe? Do you feel like you have an impact?

Martin: Absolutely. I think there are for now the guide Micheline, they are coming up now in February, what we call the White guide, they released the last year 360 guide on sustainability. It is coming and I think the top dogs want to be there, they don't want to be last. They all want to be on top. We are forcing them to be sustainable

Isabelle: And do you feel because you get some publicity on this it has also inspired others to start the same journey?

Martin: Absolutely.

Isabelle: I was also curious to know, I mean, do you have a vision for how the food system will be in 10 to 15 years? What will be your vision to see it evolve?

Martin: What we eat or what do you mean?

Isabelle: Yeah, like how you believe the restaurants will handle food and other waste and how you see the general approach to food?

Martin: In 10 to 15 years we will have come very far, I'm sure. In 10 to 15 years I think there is some AI brain that is the supplier. It is taking your order and the AI thinks out and drives self-driving cars at night with the stock. You don't need any more to think about how to handle things. There will be absolute zero waste in 10 to 15 years. I think the AI transport is the next big thing.

Isabelle: Technology.

Martin: Yes

Isabelle: Alright. Do you apply any technology in the restaurant when you are working with zero waste?

Martin: Technology...

Isabelle: Do you use any management systems to keep track of how much waste you used?

Martin: Yeah, we are working with two different types of, we promised to be climate positive by 2023. We measure everything from ceilings to floors to what we buy, how we buy, and when we buy it. Our cooling systems and our garbage and everything. We definitely think a lot about what we do.

Isabelle: Interesting. You really have a lot in the making. That is, I really have to go to Fotografiska now when I'm back from South Africa.



Martin: You are more than welcome. We have just opened in New York.

Isabelle: Oh wow

Martin: And there is a wonderful manager from South Africa.

Isabelle: Really?

Martin: It is really cool because sustainability is not only about food. It is also about chairs and furniture and lands. Like, we cut the wine bottles in three, so the bottom one is the water glass and the middle one is a holder and the top is a vase. We buy floors from all industries to make tables, and doors from schools to make cutting boards. We make plates from plastic waste. In South Africa they are really good at reusing, in the favelas, no what are they called, no not favelas.

Isabelle: No, like the slums.

Martin: If you want to talk about sustainability and zero waste, they are amazing at reusing everything.

Isabelle: Yes.

Karlotta: Sorry, where was that?

Martin: Pardon

Karlotta: Where is that?

Martin: In New York

Karlotta: In New York you said. But the manager he is South African.

Martin: Yes, she is South African.

Karlotta: Are they in the process of opening it?

Martin: They are already opened.

Karlotta: Oh, I see. What are they called?

Martin: Fotografiska New York.

Karlotta: I am in New York in March; I'm definitely going to stop by.

Isabelle: Do you have any additional questions?

Karlotta: No, not now. Sorry for being so silent. I have been busy taking notes.

Isabelle: Our teamwork.

Martin: If you feel like, you can always call me or send me an email if you have any more questions.

Karlotta: Thank you so much!

Isabelle: Yeah, thank you so much!

**Interview 3 – Blair Hammond –SILO, Brighton – 09.02.20**

Karlotta: Where do you take the creativity from to change a lot of practices?

Blair: Now versus five years ago you are almost spoiled for options. Because everyone has really taken a lot of action quiet recently and there will always be the aspect of a 'trend' but that is okay. I have since left Silo but when I was working with Doug (Douglas McMaster) I kind of identified that of course it is a profitable market but for the people that I kind of believe in it we use this metaphor with a tree, a tree of sustainability and responsibility was planted however long ago from people who have been tending to it and now that it is this big beautiful thing bearing fruit, people just want to kind of take the fruit to the market and sell it, but as long as they tend to the tree and contribute it in a responsible and sustainable fashion then it is one of those, everyone can win with this. So if there is going to be a trend, it might as well be something like this. And then there is loads and loads of restaurant that just slaps the 'sustainable tag' on it and it doesn't go as far. But you know it is still kind of early days for something like this. So, what I have always said, if this is something you want to contribute to, don't stop at, oh we don't produce any waste in the kitchen, but keep going deeper, looking into more responsible suppliers and everything. Don't just stop and be content at what level. Keep going and trying to innovate because everyone is got to find something new to address.

Karlotta: That is definitely what you have been doing with Silo over all the years right, and you never stopped you kind of kept going.

Blair: Yeah and this is.. I might not be with Silo anymore, but it is something I still truly endorse and it is something that I obviously believe in and it has now shaped me you know.. much more responsible, much more aware and it forces you to be creative. You know as chefs, we already are creative people and its in the nature of the business, but it kind of takes a bit more of a working effort to make something go even further and get something more out of it and then you find yourself now looking at every possible aspect because before you were just looking at a waste cut from a vegetable and say 'what can I do with that?; can I ferment it, can I dehydrate it, can I make it into a crisp or something like that. 'You take that kind mindset and you look at coffee and you look at what when I create a drink look at all the aspect of that beverage-. Where does it come from? How did they produce it? Is there someone before the producer? And it kind of turns into a big spider web. You are not just

looking at you and the product in front of you, but outside of the restaurant. Where did it come from and how do they produce it and what is involved in their operation. And it allows you to be as responsible as possible, by including producers that share the same ethos as you. When there is more demand for that, the industry changes. People are looking for responsible producers, as opposed to irresponsible ones. That makes people change their business model. If people want green or organic, as opposed to traditional that forces other industries to reevaluate where they are and kind of change to reflect the market, which is great!

Karlotta: Yeah and eventually it moves up the value chain.

Blair: Right. On the other side of that though there is the dark side of it, where because of this stuff is still not properly regulated, there is very loose regulations on what is organic. At least in the UK. To be organic you pay your certain amount a year to the soil association and that's it. You got your 'organic seal' and now you can opt your prize when in reality all you have done is just pay for your year membership. So there is the side, where they might just have the label but you will see that how their work don't change at all, and it is the same old little company just with a tag on. But you know it is a way to add a couple of extra dollars on to your operation. It works and it doesn't. There will always be the positive and the negative aspect of it. Like anything it just forces us to be more aware of who we are working with and what we are doing. Forces you to be responsible.

Karlotta: Where are you now, since you have left Silo?

Blair: Still in London, I plan on being here for a while. I am working with a group called the 'Conduit', very forward thinking and progressive as part of sustainability and eco-friendly. Private members club, hotel.. they hold a lot of conferences, panels, where philanthropists can invest in future endeavors. It works for right now. There is always stuff on the go. I will always be in the kitchen, this is where I belong at the end of the day.

Karlotta: You never know I could have also seen you holding speeches.

Blair: There is always that aspect of it. I think it is important and the most important underlying word is RESPONSIBLE. And maintaining that responsible of giving the best representation of where we are. Now chefs have this great spotlight, which is kind of a weird one. Out of nowhere we are now the spokespeople for kind of the food system for everything moving forward. While it should rather be the people at the beginning of the cycle, the farmers, that should dictate and tell the people where to go. I think it needs a balance.

Karlotta: After all, you guys are the ones closest to the consumer.

Blair: True, that makes total sense. If you see it from the consumer side. But if you talk to any responsible chef, he will say what we want to listen to is what the farmer has to say. So it kind of moves down the chain. I have always enjoyed speaking about this. It is easy, it comes from a genuine place. Instead of kind of fear mongering and say how everything is in danger. I don't think that works. Food is still a celebration and I don't think it should be scary in any sense. I think the more important saying is: and this has been a massive talk. More and more people are moving away from food. We are eating 5 varieties throughout the whole year. The kind of understanding how diverse and understanding what food is, We have moved away. Food is this commodity and it is there and we don't appreciate how important that is. And I think the more we kind of bring that back into restaurants and food culture, you start to seeing it become more important. Something you do need to learn about, and you quickly see how that market shifts when it is right in front of your face. There is so much misinformation floating around, what food is available. It would be a really shitty time if I wasn't a chef and, in a way, educated towards food.

Karlotta: What were you doing before joining SILO?

Blair: I came on board with SILO when they just opened for a couple of months. I have been a chef for 5 or 6 years before that and moved to the UK together with my partner from my Canada. Doug and I worked together in another restaurant before SILO opened. When Doug explained to me the concept it was so far out at that time. I couldn't kind of visualize what he was talking about. I moved to SILO only because it was a bigger space. I was having a hard time with the restaurant that I was at because it was so small.

But then I started to see all these things at SILO. Veggies coming in crates as supposed to be plastic boxes. Us giving the crates back to the guys who were dropping it off. Then it switched from wholesale suppliers to direct from the farm. We know what we need and communicate that to the farmers, instead of ordering from a warehouse. A farm going direct, you getting exactly what you need from that, so there is very minimum waste on that. Not only was the produce phenomenal but we won't have stuff sitting in the fridge for weeks. More quickly turning over. And then there is all these aspects coming in. Things feeling very genuine and real and a wholesome feel about the food and the approach. And that was SILO, the whole thing. So I was there on and off for 2 years and then I moved back to Toronto. Toronto wasn't what I hoped it would be. I wanted to kind of replicate something close to

SILO in Toronto, but it was still way too early for that. Toronto always seems to be a couple of years behind some other places. It was doable, but still very early for a city like Toronto. So I ended up moving to Copenhagen and worked at AMASS. In my opinion is another one that is championing responsible and sustainable food, in a very top matter. Matt Orlando is another person that boozes that genuine passion for it. When he speaks its coming from such a heartfelt place, it is so believable. The epidemic of transparency. And Kim the chef, is the smartest human being I have every met. He can be difficult to talk to because he is on this plane of intelligence, that you can easily get left behind when he goes into his explanation. But he has a lot of great things to say. My time at AMASS was unfortunately short because I have had a back injury. I ended up moving back to England where I reconnected with Doug and said look, SILO has been a real thing that I have felt for a while so we have spent the entire last year together working on the new space in London as partners.

Karlotta: So you were kind of his partner in this opening and new concept for the new place. But you were still working in Brighton together?

Blair: Brighton closed in June 19 and the team in Brighton was operating as normal while Doug and I went back and forth. Then we went full-time on London. It was hard work. Opening something with sustainability and responsibility in mind, you work in reverse. You work with what the suppliers are able to do. First you address which suppliers align with what you think and are willing to collaborate with you on these ideologies and then you work back into the restaurant. You figure out what is available. Because they take us, not the other way around. It has to be sustainable for the farmer and the supplier, not what is sustainable for the restaurant. This is where we need to use our creativity, to still create a menu. Because it is easy to fall into this mindset, well worse comes to worse I can just get it shipped in from somewhere else. Just not say anything about it. And that is a very common thing. You say one thing towards the guest and then what is actually happening in the back of the restaurant you would not want to say to people. Challenge: We want to maintain that transparency all the way through. This forces you to be creative. Creative to adapt. To not compromise that belief. The moment we fish from North of France just because we need it on the menu, just because we promised it on the menu, then that's it. We need to adapt and say it is not available and you need to figure out the language on how to say this to the guests, but in a way that makes them go 'ok I am glad'. I think the industry or the consumer mindset will slowly start to change and that will

be the norm. We can expect that fruit or that fish on the menu all year around anymore because it is just not realistic.

Karlotta: And I guess this is the main difference to traditional restaurants?

Blair: There is restaurants that say they have a seasonal menu and they change it every month. But in reality, seasons don't always follow the same time of the year, Right now we have forced rhubarb in the UK which usually does not come for a couple of weeks. Menus should be changing weekly, daily, aspects of it.

Karlotta: But the challenges for you guys is not really making something out of it, but rather addressing it to the customer?

Blair: Challenges for us one week you buy everything at this price and you have your forecast of the week based on X amount of these dishes. But then a couple of those things have to change, prices go up, so costs change... and those challenges, but you know that is a restaurant. Challenges you would always face. There is benefits of it as well, if you are smart about it and you are able to kind of utilize things, you are able to take 90 % of the product instead of just 60% you maximize your profits. You are utilizing more of the product instead of just taking that perfect chump and getting rid of the rest.

Karlotta: So it is a good business case to be sustainable?

Blair: Definitely. It very much can be. There are things you have to accommodate for because it is not always going to be straight forward. There is a lot of liberties with traditional restaurants, that you can't take, because it becomes someone else's problem. At SILO the wage costs were always higher, because it required more processing on our behalf. We were able to get things, whole foods as you refer to them, and then break them down as something else. Every time that is going to be more affordable and cheaper, but you just have to fluctuate with the wage costs that are coming in. But if you find that sweet spot, you will laugh. From a business standpoint it is successful. But it is just about finding that balance.

Karlotta: When it comes to the consumer. Do you think they come to the restaurant they know about your mission? Because they find it exciting and want to learn? Or are they already kind of educated? Having zero waste practices at home?

Blair: You get every walk of consumer. We are not in the infant stage anymore because people are definitely more educated than five years ago. Five years ago, people would come in and just want food. For a lot of people it would come across preachy, but now it is more conceived as educating. Some people would still find it preachy, but people want this type of information now. We set ourselves out there, as a restaurant

with quite a strong goals and mission so we were maybe a bit of a special case because people already had an idea what SILO was about, so people already come by with some knowledge and then again you will have people that just want to eat. So you still got to be able to read your audience. Some are quite quizzative and then there are others that just want the meal. They come in and want to know that they eat something environmentally friendly, delicious and then go home. But we need to be transparent. There is nothing you can hide. If we say we got this 100% figured out, to me this is not believable. But if you are say, this is something we are still failing, we are still working on, that is authentic. That makes us human. You are just like me. We don't get everything perfect every time. Often enough it takes 9 times out of 10 we fail and then we finally got something right. So being transparent, having things available to show people and welcome them into an environment where it is not just 'we have it figured out' you need to learn from us. No, this is a collaborative approach. There is aspect of it you will be able to see us learning. This is what we focus our whole day on. And I think there is people coming in, with constant questions we are being ask. We make it part of our job that we are there to ask the question. And there is no shame in saying I don't know. Once people hear that, it becomes believable and it becomes something that they can feel comfortable to trust and believe, because it becomes human.

Karlotta: So how much time did you spend on finding new ways of doing things and running the business as usual, when you were still at SILO in the early stages. Did it go hand in hand? Did you plan specific times?

Blair: Because of the environment that we are creative, we were always in a very curious state. There was always this idea that you are always alert to something that you could possibly change or do better. And you would identify things throughout the week. I would see it with a certain product or something that we can't seem to use. It stands out and we say, let's invest a bit of time so we can figure something out. It is not always something that is edible. At one point we turned the frying oil into candles. Something like that. But when we were frying cauliflower the candles ended up smelling like cauliflower. So it wasn't the greatest thing. But it was that exact thing. It does not need to be edible. You are already in an environment where we encourage that type of creativity and keep thinking, keep question, keep pushing everything and see where it goes with that. So it is not that we dedicated any particular time to experiment.. it just kind of fit into where it was. And say, you are working with a supplier and it is a great product, but you know this aspect about a cleaning chemical.

Can we get this cleaning chemical? Because we still have to follow guidelines and clean things to a certain level. How can we improve our cleaning situation? And we ended up finding a really small company at that time, but they had all the cleaning products that were completely green and came in little corn starch capsules that can be put in a bucket or a spray bottle and it would dissolve. So there is no packaging, no plastic container that you pour into something else. There you have your cleaning spray, floor cleaner and they shipped everything in cardboard boxes so we can break them down and compost it. So you slowly but surely look at every small aspect of the restaurant and kind of improve as you move along. And things will always pop up. The job is never done. There is always that kind of curious nature where you are constantly identifying everything. And sometimes it might even be guest that come in and ask good questions. Now you kind of switched me on to adjust it. And right there we bridged the gap between consumer and us. Now they are part of the operation and I think people get excited about that. They have an opinion and that opinion added.

Karlotta: And I guess you also get very curious people at your restaurant. So what about the team? How do they get involved in the process of being creative?

Blair: Well there is not just one kind of person in charge, because that would be foolish to allow one person that privilege. You get everyone in and especially with SILO and other of these restaurants, you get people who are genuine about it and you get people who want to share their opinion. And that is great. You can definitely adopt a lot if it and after some time you have some thought that you are just so convinced with and then a new employee comes in from the outside and goes: Did you ever think about this? And see something with such fresh eyes. And to me that is the beauty of collaboration. We all have strong ideas, but it just takes that new opinion to build on it or to reshape something you might be missing. So you have to keep that open to everyone because it shows that they are part of the team, just as much as you are. Once you give people that kind of open road to run on it is incredible. They really can push something.

Karlotta: It is creating a culture where everything is possible.

Blair: It has to be inclusive. The moment you make it special or not so, then you are coming up with a demographic. This has to be something where everyone can get involved, so it feels like that everyone can in the room make a difference.

Karlotta: What are the struggles with retaining the team? Is it harder work in the kitchen? There is usually a lot of fluctuation in the restaurant industry.



**Blair:** There is always going to be that typical restaurant aspect of where you have someone who has something in mind and when they got it, it was different in what they thought. It tends to be harder work at times because like I said, there is a lot of products that you can bring in that do most of the work for you, so there is a lot more involvement. And it is difficult. It is tough, so some people it is not exactly what they want. They like the idea but then achieving the idea is quite challenging. Or other people just move on. There is always going to be that, but for the most part, the way we engage people and the way I enjoy working in the way that we understand sustainable food, but it has to go hand in hand with sustainable staff. We can't just treat people like a robot, like some restaurants do. You need to get them involved, keep them excited and need to help build them. They are the ones that build the restaurant bigger. You need to build them, it has to be a partnership. If you keep that in mind you create a relationship and people always going to move on. People kind of always want to see something, but I think the passion can stoke them and spurring them on and keeping them engage. It tends to have a better period. You get a bit more out of people and they stay a bit longer because they feel invested. They are not just there for a paycheck.

**Karlotta:** When you think back now, at the times at SILO, you were pretty much the only ones doing it. Where did you get the inspiration from? Was there anyone already out there? Any role models? Or did you look at different industries how they would do things?

**Blair:** There was always people doing it. There was always people who were working directly with farmers, you know. Christian Puglisi in Copenhagen, he was a great example of working direct and that was focusing on that kind of that direct relationship with the farmer. And then it triggers into every other aspect. You get that first tick, that feels real and genuine. Not only that, it is delicious and creative. That curiosity is just starting bleeding everything else and before you look it just goes into everything else. I can only speak on my behalf on this, I am always influenced by someone else. You always take positive inspiration from everyone else. Because that is that collaborative aspect of it. To say that anyone just did it on their own. This is false. If someone claims that, they are selling you a lie. As long as it's not one single person that is doing everything alone, it will always be influenced by someone else. Your team, your guests, the people who come in and finish the whole plate, the people who only eat half of it. Everything tells you what you need to know and I think now we have Instagram and all these outlets for information with food, that nobody is just doing it on their own. We were the first to do it the way SILO did it, but Blue Hill

was the first to do it the way Blue Hill did it. But all of them were very similar, because all of us just wanted to do something genuine. Take a product and making the best out of it, while not destroying the land it is all with good intentions. So it is the inspiration side, as long as you are aware and kind of observing others, its endless inspiration.

Karlotta: And to what extend do you think SILO is influencing the industry or other restaurants like Amass? Do they have a big impact on the entire gastronomy?

Blair: I would definitely say so. This is really interesting for me, because I have stepped away from SILO because going home, but I always saw them at the time having that outside opinion. And seeing SILO from the outside I saw in the beginning that people were starting talking about it. I would be back in Canada and hear people say that people talk about this restaurant in England. Some conversation popping up and they were kind of at the forefront of this whole thing. So it was actually really cool. We did a dinner in Sao Paulo and some of the people were coming from, some employees from this restaurant Cortella – again a great one to get in touch with. And they were coming up to us and said, the reason I am in the food industry is because of SILO. And that is simply, it does not get better than that.

Karlotta: And that is on the other side of the world as well.

Blair: Right, but this only shows that it might be Brazil, where the climate is different, politics, etc. might be very different from England but the desires are still the same. People just want to eat good food that is not killing the planet.

So when we sit down at a table with people like Matt Orlando and have a conversation, where you are swapping these ideas back and forth and then you go back to your respective places and work on them. That is some of the best stuff. People that you look up to looking up to you. And it just becomes this big collaborative effort. Like what I said. It doesn't matter where you are in the world, there is still this same underlying issue that everyone is trying to tackle. No one is going to do it on their own. Everyone wants to learn from everyone because there is just so much to learn nowadays.

Karlotta: And what do you think is kind of a misconception about the whole zero waste movement?

Blair: There is always going to be that aspect about people thinking it is just healthy food. It is one specific style that you have your one clientele. But sustainable and responsible food can be anything from Michelin star quality restaurant to a burger shop on the corner. It is not just one style of food. It has the capacity to be everything.

And I think that is important. It doesn't have just one outfit. It has a wardrobe of outfits. It can kind of shape and be moved. It is not just one thing.

Karlotta: What do you see is the biggest obstacles of moving this zero waste movement forward?

Blair: I can see pride with some of it, I can see ego being something that kind of stops people from doing this. People can be quite short sighted with it. Looking at it as just a trend. This cannot afford to be just a trend that comes and goes. It just has to be something that has to be adopted. The way we learn back in culinary school, with the foundations of cooking, this has to be now implemented in it. And this needs to go further than just professional chefs. This shouldn't just be for us. This should be in education from an elementary school level to grade school this needs to be taught, People need to understand seasonality again. And I also fear that people kind of just slap the label on it without people putting in the work to actually earn that label. They just using it as a selling point.

Karlotta: And my last question for you. What is your vision for the food system for 10 to 15 years. What do you think will come what will change?

Blair: I would like to see people being more open and able to fluctuate. I'd like to see people accommodating what is available as opposed to demanding what is not available. I hope more education. It is a big response. Trends for education in restaurants but truly endorse this type of responsibility. I see there being drastic changes. I see locality becoming a very important aspect of what it is we use. Especially now with Britain and the Brexit I would like to see more investment in local farming. A more organic approach. Wow that is such a loaded question. It is good, it makes me think. It is hard for me, I have never been good at calling the future.

It is hard to say where it is going to go. You start to already see it which is great. A lot of the buying power is in that younger generation which is now becoming much more aware. The market is shifting. We vote with our money and we start to see that vote shift. Now we just need people to embrace it, more advocacy for this type of food. And just as I said. It doesn't have to be a restaurant like SILO, it can be a café or a burger shop. They demand responsible products. Things are shifting and I think it is going to be much more available and it will give people the choice. And this isn't just for the big cities. We need to give people everywhere that option.

**Interview 4 – Sam Chambers – Nourish’d, Cape town – 25.02.20**

- Isabelle:       Actually, I’m just very curious about your background. How long have you been working here? What did you do before? Who are you?
- Sam:             Okay, so my name is Sam and I have been working in Nourish’d for a year and a half. So I studied media psychology and religion at UCT. And I had cancer at the age of 18.
- Isabelle:       I’m sorry to hear.
- Sam:             That’s okay. So that was kind of the whole starting point.
- Isabelle:       Have you recovered?
- Sam:             Yes, but it was the start of my health food journey. Started then, and my general healthy living and appreciation of life and appreciation of the earth. I mean having cancer, and facing death makes you appreciate things.
- Isabelle:       Did you go on a special diet when you were sick?
- Sam:             Actually, like while I had cancer I was the freest I have ever been in terms of food. Cancer actually cured my depression. Before I had bad depression and anxiety and that completely changed that. It became more afterwards that I realized I had to change the way I was living. It made me appreciate my body a lot.
- Isabelle:       You went through a lot.
- Sam:             Being sick really makes you appreciate your body and makes you care for your body. So I cut out sugar completely for a year, I went completely vegan. I cut out gluten. I basically was only eating organic food. So, for about a year I was living, I wasn’t drinking any alcohol, I wasn’t smoking. I used a lot of cannabis oil. I took many supplements.
- Isabelle:       After you got healthy again?
- Sam:             I was very intense with that and then I found my balance. Because you can’t, or at least I couldn’t live like that forever. So yeah then that inspired me to study psychology and religion, because it was a way to try and make sense of my experience. And then I joined Nourish’d halfway through the last year of my university. I started off initially writing blogs. Both my parents are journalists. I started writing blogs on health food topics, I knew a lot about natural health at that stage.
- Isabelle:       You had been through a few other blogposts before. How long has Nourish’d been operating?

Sam: They have been operating for 3 years now, so they had been operating for a year and a half. It doesn't feel like, it kind of feels like we have been going longer than that. And yeah I started writing blogs and then I got more and more responsibility until the point where I am now the marketing manager and I oversee all of our developments and marketing tactics and campaigns and I do all of our customer relationships.

Isabelle: Which are great by the way. I have been following you for a long time. It is cool because you stand out in that way because you really show what you stand for, your values and mission is very available. So, when you started, how much has changed since then? What were the steps then and what has it grown into now? Has it always been the same waste management?

Sam: So, the owner, Tash, used to work in the super yacht industry. Which is like one of the most wasteful and resource heavy industries in the world. And for her the breaking point was, she was working on the super yacht, and the wife of the owner of the yacht send her out to buy one hundred orchids. So, she went out and bought a 100 of the most divine, you know, stunning fresh orchids. Brought them back to the yacht and the woman said: I don't like the color, throw them away.

Isabelle: Yeah, that makes sense...

Sam: So, that was kind of the breaking point for her. She then went to stay in an eco-village in Costa Rica and she traveled around a lot in Europe. Going to a lot of countries and festivals, going to festivals such as the Boom festival. Visiting eco-villages and going to other festivals where they are doing a lot of recycling. You know Europe was quite far ahead of South Africa at that time you know. From the moment she started Nourish'd, she wanted it to be a zero-waste café. So, you know, not much has changed. From the beginning we always used glass instead of plastic, we only use compostable take away containers. Some PET but it is very minimal, it is recycled. It is numbered and can be recycled and it is only on our salad bowl take away, so there is only one take-away item that has PET piece on it. And if you bring that back we will recycle it for you.

Isabelle: Because you also that with the take-away cups.

Sam: So we only have compostable take away cups or you can take a glass jar and pay a deposit on the glass jar, a 10 zar deposit, and if you bring the jar back you get a 10 zar credit. You can either give the jar and get 10 zar of at your next jar or you can get 10 zar in store credit on any item of your choice. Really, we are very unique in that way. So we are the only café in Cape Town that offers this return system so I think

we are very unique in that way, it is very expensive. We have actually, that 10 zar deposit, our bottles actually cost around 14.50 zar. We are losing 4.50 zar for every take away. Which is pretty significant, because the plastic take-away containers you will pay 30 cents for each one, and we do a lot of take away. I mean uber eats is exploding so, we have not been willing to compromise on that core value. And that is something that sets us apart. Do you want to go question by question?

Isabelle: No keep going, it is super interesting to hear what you guys are doing.

Sam: So, we also have, we recycle all of our vegetable waste from the Observatory store because this is where we make all our juices. People don't realize how much pulp is left over after juicing, which is one of the main criticisms about juicing, that you kind of are...

Isabelle: Yeah, you are just using a fraction of it.

Sam: So, we recycle all of the vegetable pulp and we send it to the composter, very fast recycling system with a company called WhyWaste. So that is amazing.

Isabelle: So, they come and pick it up?

Sam: So, we got four different bins at the back, so we recycle all of our, or I actually think we have more, one of the bin is exclusively for organic waste, we have a plastic recycling bin for the small amount of plastic we get. One of our main challenges to overcome is actually been the supply chain and getting our suppliers to supply us in compostable or recyclable containers. Because, you know, it is quite easy for us in our system to recycle ourselves, but to get our suppliers into those systems.

Isabelle: The whole supply chain.

Sam: Yeah it is very difficult

Isabelle: Is it because they are not willing to or because they don't know how to?

Sam: I think a lot of them are a quite old school. Like fruit and vegetable suppliers in Cape town are family businesses that have been around for years so they got their systems and they are stuck in their ways. But we have been able to form relationships of our key suppliers, like, our key supplier superfoods deliver in buckets and collect those buckets again, so we are working on a refill system with them. We get a lot of our fresh produce from the market, and when you go to the market they have plastic take-ways things, but we bring our own things. So, we try to wherever possible to get our suppliers on the zero waste system. So we recycle all the vegetable pulp, and we have four to five bins and we separate all our plastic, tins, cardboards and everything is recycled except for the small amount of non-recyclable plastic that we basically get from our suppliers.

- Isabelle: So cool. Is it like, because it sounds like it is just a lot of work, extra work because you choose to do it this way? But is it also a good business case to be a zero-waste café, do you feel like that is what consumers start demanding? Is it easy to get people to understand what you are doing?
- Sam: I think it is definitely one of our key differentiators of our business is that we are zero waste. When Nourish'd first started we used to do a lot of beach clean ups. So, we really set ourselves up and we do a lot of, we host events where we actually teach people about recycling. We also use our platform, because we have quite a wide reach on our Social Media, our email list and our blog, we spend a lot of time and effort to actually create an education because we want other people to do it this way. Also, because we need to educate our customers about the way in which our business works. And all of them to understand our pricing. Because a lot of people complain that we are very expensive, but you know when you can start to understand the true costs of the products they purchasing you start realizing what you are paying for and you are paying for environmental responsibility.
- Isabelle: It should be that way. But, how, I mean do you see any challenges in terms of like, with the staff and stuff to get them onboard and to get them to follow the waste practices? Like, do you see any challenges team wise?
- Sam: To be honest, no. I don't know, it is not hard. It is really not. We have four different bins; you can see when something is a tin, and something is a glass. You don't need that much education. It is not like our staff need to recycle it themselves, the recycle company comes, they do twice a week pick up at the store and that's it.
- Isabelle: So, how does it work in terms of innovation or when you come up with new ideas of what you want to do? Is it mainly you and Tash and some other people or is it the whole team that is in the whole team that are involved in generating ideas? Oh, guys I think we should try this etc.
- Sam: So, I think there is a challenge in South Africa, where you have a service-based economy, where you have a large portion of the population that are quite unprivileged and what comes with that is lack of education. So, it's sad but it's a challenge. We do put quite a lot of effort into educating our staff. Because a lot of our staff have never heard of recycling.
- Isabelle: Exactly.
- Sam: They have never heard of veganism and never heard of vegetarianism. So, I would say, getting the staff to understand why we are doing it is a challenge. Getting them to execute is not. But it's about making them feel passionate about what we are doing.

Because for them it is extra work, they could just throw everything in one bin. It's their job, that is what they have to do, so it is not like they are not going to do it, but to get them to feel passionate about what they are doing is the challenge.

Isabelle: And do you, like, work, do you have when you do the education, do you have the whole team together or do you do it one and one when they start? Is it a continuous process? Or is it easier when they start to get them onboard?

Sam: So, we have, bi-annual big staff meeting where I basically present the core philosophy of Nourish'd and I explain. Because a lot of our staff are not long term and a lot of new that come in, there is always new staff. So, we have these, like, bi-annual meetings where I present philosophy and I explain why we do what we do and why recycle etc. There is actually amazing, we just had one in January, where you saw Bruce that just walked by, I gave Bruce a lift home and he was talking to him about it and he was super excited about it. He felt really positive about it. And no one had ever explained recycling to him before, you know. So, we do that and when we can we try to organize staff wellness activities. Run up the mountain or just go to the park and play a sport, something to get the staff active. It's like all about well-being, you know it is about the well-being of your body and the well-being of your mind and the well-being of the planet. And we try to bring all those elements throughout the year. It can be challenging because we are open seven days a week. So, it's challenging to find those opportunities to create education, but just being in the environment is a rub off.

Isabelle: Yeah, like kind of creating a culture which everyday reminds you of what you are doing and why you are doing it.

Sam: And when our staff is feeling sick, they can have hotshots out of the fridge. If you feel like you are getting a cold, let us know, because we rather that you don't get sick and it is better for you and better for our business. So, it's like, if you feel sick, have a hotshot, we have a fruit bowl, the staff eats fruit every day and we make a big pot of stew every week and then the staff can eat stew. So, it is like, we trying to educate the staff about the health of their own body. Because what is happening in South Africa is the lack of education, and income as well as access to fresh food and healthy food. People don't understand the impact of food and lifestyle has on their health.

Isabelle: They have never heard about it.

Sam: Yes, that and we have our staff often lose weight. They are coming to us and one of our staff members Angel, who just left, she bought a smoothie maker and she makes smoothies at home now. So, it is cool. Definitely, has an impact.



- Isabelle: Actually people are not always applying for jobs here because of the zero-waste notion? They don't always know about it. Because I talked to a girl inside who told me she applied because of the zero-waste, but interesting to hear that other people apply.
- Sam: It is that divide in South Africa, you kind of..
- Isabelle: But who do you see is the audience that comes here? Is it people that want do better, or do they just come because they love your food, or is it all kinds of people?
- Sam: We play on quite a lot of niche, on a lot of different niches. On one hand you have people who just come for their health, and they'll come for the health aspect of our food. And you get vegans who just not want to eat animal products for compassionate reasons. And you get people that are vegans for environmental reasons and you also just get people who try to live for the environment. And then we also have the crowd that comes because it is trendy. Because sustainability has become trendy and Instagram has facilitated that, the spread of eco-conscious and sustainability, to be honest, because it is beautiful. Who do not want to drink a bright red beautiful juice as opposed to concentrate?
- Isabelle: What do you see is the biggest obstacles to the zero-waste movement? As you said, you are kind of the only café in South Africa that are fully zero waste.
- Sam: I think there are a lot of cafés that are doing a lot. I think we are unique in our zero-waste operating capacity, but I think there are a lot of cafés that are making the effort. I think there are different ways to act on the sustainable thing. Like, you know, there is a new café that just opened in town, they serve meat, but they only sell very sustainably sourced meat. You know, I think there is definitely a movement, especially in Cape Town it is a very conscious city and a very environmentally conscious city, and I think it is because we have such beautiful environment. The people want to look after it, it is a very close connection with the ocean, and you see the lit on the beaches. I think that the more we start getting into it, the easier it will become. There are, I would say that the biggest obstacles are in the supply chain. It is very challenging to find affordable solutions and that comes because it is small scale. If it was operating on a bigger scale it would become easier for everyone. So the more we can grow this movement..., we don't view other vegan restaurants or sustainable restaurants opened as competition, we actually view them as a beneficial thing because they are creating more demand for the products we want and the more demand the bigger pool and the cheaper it will be. And also, the awareness spread, so once you become aware of sustainable practices in the food system, then you want

to visit more restaurants that are acting on that. I think it is happening and I can only see it be exponential.

Isabelle: So, you don't, I mean, so your biggest obstacles are actually external? It is just difficult to get hold of what you want, or to make it affordable basically?

Sam: It is especially now when we are expanding into retail space now, and that is extremely challenging because then we are dealing with shelf-life, and that is why plastic is so incredible. Plastic is an incredible material, it is super lightweight, it is completely air-tight it can keep goods fresh for a very long time, it is very cheap to make. Moving more into the retail space you have to package goods. It is almost close to impossible for us to find zero waste solutions.

Isabelle: What are you going to offer, or what are you going to do?

Sam: Can't tell. But the only solution out there is basically glass because everything else is porous. Like everything, you know, plant-cellulose packaging is extremely porous, and the shelf life just get decimated. So, it is not sustainable, and it is not economically viable. There is no, there aren't any factory facilities that are using this stuff so if you want to have zero-waste products you often have to package yourself or find a very small packaging plant and make a special deal with them. It has been very frustrating for us because we have a whole bunch of really incredible ideas of healthy vegan wholefood products, and it would be so great for people to increase the health of their body but not we have not been able to launch the products because of the packaging.

Isabelle: It is sad in that sense when you have a vision and you can't go through with it. So, you have scaled a bit, you scaled because you have two cafés now rather than one, but do you see that there are difficulties in scaling a business like this, zero waste restaurant? What are the obstacles for doing that?

Sam: It's weird like, I wouldn't say, although there is a trend, a zero-waste trend, it is still actually extremely niche you know. If you are looking at the percentage of people that would be able to spend more on sustainable solutions and are interested in spending more on sustainable solutions, it is very very low percentage of the market. So I would say that is a big obstacles, finding areas where this would work and I think, I don't think the sustainability aspect of it, besides finding the right niche and expanding the audience, I don't think this is any more complicated than any other restaurant to scale.

Isabelle: Like operationally?

- Sam: There are obvious things such as glass, glass is very heavy so shipping glass from our manufacturing facilities to Johannesburg would be a huge task, as oppose to shipping plastic. So, the transportation costs would be an obstacle as well as breakage with glass. There is also finding recycling suppliers and composting suppliers at different locations in order to open, so I would say those are probably the biggest obstacles.
- Isabelle: Is there any restaurants that you get inspired from, or where do you find inspiration or what you want to do and how you want to improve?
- Sam: We mostly take inspiration from overseas, particularly in Amsterdam and LA.
- Isabelle: Do you have any specific ones that you like?
- Sam: And also, in Australia. Australia actually has some really amazing cafés. You can look at Greenhouse and Little Bird organics. I cannot remember them all now, but yeah we, oh there is another one that is so cool..., but yeah we take a lot of inspiration from America, Canada, and Amsterdam.
- Isabelle: How cool. So, like what is kind of your vision for the zero-waste, or like the restaurant industry in 10 to 15 years? Is there something you would like to see happen? Where do you think you will go?
- Sam: I think we really want to, we always come back to the circular economy. We really want to contribute to create a global circular economy, with food. It is like, we want our produce to come from organic farms. We want to send the pulp or the leftovers or the stems of that produce back to a composter to send that composted back to that farm to create really rich soil so that they have the variety of different micro-organisms, so they don't need to use fertilizers. And then we want our glass, that is a huge obstacle actually, to get people to bring back our obstacles. People just don't bring back our bottles. I don't think they understand what we are trying to do and the impact it is having on us. A lot of people like to reuse our bottles as glasses in their home.
- Isabelle: they are pretty nice though. But then, do you feel like having a high deposit would kind of make them not buy it?
- Sam: We have considered to opt the deposit up to fully cover our costs.
- Isabelle: What is the reason you don't?
- Sam: Because already complain so much that our stuff is so expensive, it is really frustrating for me because we are actually not too expensive. It's like, if you go to Kauai, Kauai is actually the biggest chain of health food restaurants of South Africa and they have a smoothie on the menu called the Nutmilk smoothie. All of our

smoothies have superfoods in them. Kauai only has a few smoothies where they use superfoods in them, one of them are called The Nutmilk. Their nutmilk smoothie is the exact same price as our Naughty nutty smoothie. They package everything in plastic, we see no corporate communication about recycling, and they use half of the smoothie is ice. And we don't use any ice in our smoothie, so you are basically getting double the nutrition and ingredients as oppose to Kauai for the same price. We have all the additional environmental, and social impact. So, when people tell us we are expensive, I'm just like... I feel like they are comparing us to a McDonalds milkshake. And this is not a McDonalds milkshake and there is so much more you buy into when you buy a product from us. There is where the education needs to come in and that is why we put a lot of effort and energy to education to also justify our price point essentially. That is why we don't put the deposit up, and also, we get a lot of tourists. And Tourists are likely to never come back, so they don't want to pay a 15 zar deposit if they are never going to come again. So yeah, those are the reason why we haven't.

Isabelle: What do you feel are the biggest misconceptions about zero-waste and sustainability in general? That people think you are paying more for less.

Sam: I think people don't understand the value of what they are buying into. Yeah, I think that is the biggest obstacle, people don't understand the system that we are trying to create. And then they don't understand our product, they don't understand our price point, they don't appreciate what we are trying to do as a brand. The ignorance.

#### **Interview 5 – Sophia Hoffmann – Isla Coffee, Berlin – 10.03.20**

Karlotta: So maybe we can start with you telling us a bit about your journey and your background?

Sophia: It is interesting, I mean I wrote two other cook books before the last one and I have been working in food for the last ten years or mainly. The topic of food waste or food value, I kind of only..., I started concentrating on that maybe four years ago or something and it was mainly because I was socialized in a very sustainable way, the how I grew up, my family and my parents so for a long time I didn't realize that it wasn't normal for everyone to consume like that. It took an outside impulse, kind of, through my readers, through my followers basically to understand that there is a need to talk more about this. One example, left over cooking – you have something at

home and you kind of improvise from what you have and for me it is the most normal thing in the world, that was my dad who kind of told me to do and I often when I posted something on social media and people always asked me: What is the recipe? And I was like; well, there is no recipe. So, I slowly realized that this is a huge topic. Coming from my base, which is plant-based cooking, like vegan cooking, I also got to a point where I just connected more and more dots and I realized it is not only about cooking vegan, we have to look at organic production, we have to look at Fairtrade, and you know all this, the whole and the meaning of value of food, it all belongs together. I just realized this bigger thing and I want to talk more about this, and in the end, and I a few years ago started to include that in my work in a way that I would do cooking classes about this, I would, you know, have some certain events, I would talk about it on stage, I would do cooking presentations and cooking shows on stage at events. I started working with NGOs that also work with this topic, for example WWF do a lot of studies on food waste in Germany and yeah so this just got my main topic and at some point the idea for a book was there and then I kind of realized while writing it it's to a big extend it is also about food knowledge. I realized that a lot of the, how to put it, the loss of value through food I think also comes through a lack of knowledge. You know like, on one hand how much energy goes..., how our food is produced and how much energy goes into the whole process, people are not aware of that and also I feel creating knowledge about food also might help create a bigger value. But then it is also just practical knowledge, how long can I eat this and this food, what cut-offs, which parts of the vegetable can I eat, you know these leaves to root and also tail kind of information, they just got lost.

Karlotta: And then you, is it now your first time working with Isla that you are in a restaurant kind of working full time or is it...?

Sophia: No no no, I have been working in the gastronomy since I was 17. I am just not a trained chef because I at some point I was just too vegetarian and too vegan to go to culinary school, so I am kind of self-trained. But I have been doing this professionally for the last ten years and I also worked in other restaurants.

Karlotta: But Isla is the first one that has this direction?

Sophia: Yes, yes. Definitely also made different experiences.

Karlotta: What is your current experience with Isla? Like, how is it working in such a restaurant? How is the restaurant or café different to the traditional?

Sophia: I have to say, and I always have to say that. Isla, I mean Peter once said: we don't say we are zero-waste, he speaks more of a circular economy, so trying to include

everything. But we do produce waste, you know, Silo says they don't have a trash bin, but we are not that radical, we do have trash bins, we just try to reduce it as much as possible but it just goes through, I mean I would say, for me working at the kitchen the main focus is the food of course, so for us all the people working in the kitchen it is like a philosophy, it is really like we try to do better, we always try to use more and try to make something out of something. We kind of use up everything, so that is just the daily process. If we, recently, the bread we are using at the café, I don't know... should I go into examples?

Karlotta: Yeah, definitely.

Sophia: I mean, we already do a lot of things. It's a vegetarian place so we also use dairy products and eggs and the example at the café, you know a lot of places, the milk, the left-over milk when you foam the milk has always a little bit of milk leftover and a lot of places just throw this away. A lot of people are not aware of that, but it is just thrown into the sink basically, we collect that milk and make yoghurt with that milk and use it on the menu. We have a lot of customers that are plant-based, we use oat milk, it is also collected and used for baking for example or for our porridge. And then like, in the kitchen of course the veggies we try to use all of the bits and parts of the veggies and with the fruit we do a lot of fermentation and dehydration. You know, things similar to other places but just different recipes. We have bread from the bakery, of course there are cutoffs and bread-ends and recently we had that, we always have certain dishes where we could use a bit of bread crumbs here and there but at some point it is just really this systematic thing, if we see that we have a lot of breadcrumbs we need to think of what we could do to use it more, what can we put it in? So we just recently created a new recipe of chocolate tart and the crust is made from breadcrumb pastry. It is very nice, with sea salt. And for example, we also try to use more side products so from the bakery we get breadcrumb, we also get pastries that we sell every day at the café like croissants and cinnamon rolls and such. And over the week we also get old pastries that they don't sell, and we turn that into French toast, like a bread pudding for our brunch menu. This is examples of products we basically get for free because they would throw them away otherwise, they don't sell them anymore. This is something, and we have a other things, those are the main things, but we really...

Karlotta: How often do you change and come up with new ideas for the menu? And who is involved in that innovation process.

- Sophia: I have to be very clear, I am only working there part time. We have a head chef, that's my colleague Mass, and she is the mainly the creator of the dishes. As it is very seasonal, so of course it is around every few weeks, not the whole menu is changing but certain components are changing that is kind of her method to do that. So for example, we have this bread pudding on the weekend brunch menu but then the toppings change or we have a porridge and then the toppings change or in summer we do more dishes where we have the yoghurt that we make ourselves with the granola we always have a sweet breakfast dish and we always have, our menu is 50% vegetarian and 50% vegan I would say, some bits have changed due to seasonal ingredient change.
- Karlotta: And then, the more operational side, so how do you do it with composting and stuff? Is it all Peter, or is it..?
- Sophia: We use the German trash recycling system, we don't compost.
- Karlotta: Which is still pretty good, at least in Berlin.
- Sophia: We separate the trash and you know we, how to put it, and the thing that is the main challenge which also probably is something that could be a goal for other restaurants and gastronomy businesses, we just try to constantly be aware how to make it better. We are probably not as radical as other places, as I said before, to be honest this is not my place. I am planning on a place and are writing a business plan now together with my partner, my place will be more radical. I will be honest with you. It's also constant balance of what can you manage to do in your everyday workload and I really see the challenges there a lot. For example, we get most of our fresh products from a delivery service in Berlin and they work with local farmers, so we get the veggies and everything in boxes which is a system where most things are unpackages. But for example, there are cases where then, we had it last summer where we get some berries and they are from one farmer we always get them in little plastic boxes, and then I get into communication and say it is not cool. Is there any other way we can get this? At a certain point we got the herbs we ordered we got packed into separate little plastic bags, I was like, can we just, is it possible that we just put them in a box without the plastic? We actively trying to reduce that. We get tempeh, we get tempeh from local producers here in Berlin and also with them we managed to find a way so they delivered the tempeh with as little package as possible. But you know, we actively asked for it. If you just accept how it is, the conventional way, then there is a lot of packaging.

Karlotta: Yeah, then anything gets changed. But then, was it Peter that coming up with using the rest of the milk as the yoghurt or is it more from the kitchen?

Sophia: He started the café with his partner. Now in everyday business, Peter is mainly running it but Philip is also involved in the roastery, where we get the coffee from. That is also another aspect of Isla of this specific business. It is about the sustainability idea but also about social sustainability. The coffee and they work with the roastery, we pay a way higher price for this coffee than most people do. We always have a little, how do you call it, like a sign like a board in the café where it explains very transparent what conventional kilo of coffee costs, what a Fairtrade kilo costs and how much we pay for the coffee, to explain to people why it is a bit more expensive. It is still, and this is interesting aspect that I talked with Peter about today, so how to put it. A lot of cafés earn a lot of money on the coffee, because there is a big margin. Ours is lower because we decide to pay more for the coffee. So I think one aspect that is really important for every kind of sustainable gastronomy business model is that these margins are probably different to conventional businesses. So, for example, you will be able and I know that from Silo, and also last year I did an apprenticeship at Amass in Copenhagen, the fine dining restaurant that has this zero-waste concept. They have a very low percentage of food waste, but then you need more people to process the product, more time goes into that. I think, the model is different financially also.

Karlotta: That is super interesting. Is that something which you also now looking into when you are writing your business plan?

Sophia: Yes. And this is also something we are experiencing at Isla, that is an important point. If we try to use up as much as possible in the kitchen, and process, what with all the side products and stuff we have certain boundaries. We are a very small team, you know, we are not fine dining. We have a certain price range, what the dishes costs. We have limitations to work with what we can do. And sometimes we really have to say; this would now take two or three more hours it's not worth it, we have to put it in the compost or something. These are limitations to what we can do and I think this is very important.

Karlotta: Another question we are very much looking into, the question of is it scalable? All the places we talked to now are restaurants it is not chains or canteens, any kind of bigger scale food providers, so it is really interesting to see if it is scalable or not?

Sophia: I think it really depends. It influences your decisions, it influences your decisions on what you put on the menu, how complex the dishes are. You know, you get very



analytic. Which is okay, it is just a different approach because you think of more aspects.

Karlotta: So, can you think about any other big challenges you have to take into account, also know when you think about opening a business?

Sophia: How to put it, so fresh products is one thing. A challenge we really have, and I think for example that Silo and FREA tackle in a different way, you know you want everything at the same time. For example, we have 90% of products organic, but we don't have a certification but have a high focus on organic and our plan for my own business is to get an organic certification which is still very rare in Germany, it is not very popular so today. Or a bit, yeah I don't know, in Denmark it is way more places that have it. And there are for example challenges with trying products, if you work with the classical gas service, some products you only get in tiny packages. These very practical things, where do you get your products from? This whole system and you have to spend a lot of effort to figure out. Same with package food, like bulk stores, shops they needed to build up the whole system where they get their stuff from, their products from and this involves and whole other level of work and it basically includes that you also have to simplify the pallet of products you want to use, because you are going more and more complex with more and more deliveries with more packaging. It also has a big influence, and I'm, we had these cases where Isla had something on the menu and the only way you can get it, there is not a specific size, because you want the organic quality and then you get 200g packages and each individual pack, and this is something I don't want to do. Of course, you can reach out to these companies and see if they can deliver directly and in bulk for example, that is definitely a challenge. Also, of course another challenge is the financial part, how can you manage to, it is always a fine line. In Berlin there is this whole mentality where the food cannot be too expensive, but then you have a lot of work force involved, you have organic products. I truly believe that the key to this is communication, the way we do it with the coffee at Isla or also the way our bakery did it recently. They posted something on social media where they explained why the bread price went up. Explain how they pay their people, that they had had a raise for their rent and such. I think transparency and communication can really help to explain to people the costs of things. And also what, I mean, but that's also connected to the aspect of sustainability for my business partner and me, sustainability does not end with the product or the packaging. For us it is really, it includes everything and that is way more work. That would include where do you get your energy from, who is

your internet provider, what is the social sustainability which is a big important topic in the gastronomy, like how can you make that sustainable for yourself. That is a big challenge.

Karlotta: A way more holistic approach that you are looking at.

Sophia: Yes.

Karlotta: What is your motivation to start this new business? And going into that direction?

Sophia: Well, to be honest. There is a personal motivation, and my personal motivation is just on one hand I for the last years travelled a lot and I kind of cooked everywhere and I learned a lot and it is nice to be in different kitchens with different people but I kind of longed to have one place to go to but also to create a place, and I also think for my personal development as a chef it is important to have a proper, like my own kitchen, one place where I know I can go every day and create something. We have the same vision, it is really important to us to actually also create a place that maybe can be role model for other place. As I said, one of our focuses are the organic certification which is still very rare in Germany and it is kind of like, there are a few places that have it but it is kind of unsexy and kind of like this 70's not cool kind of, so people don't associate it with something cool. We want to make it cool because a lot of people, there is this big discrepancy between a lot of people I know going to organic grocery stores, buying only organic food and then if they go to restaurants they do not ask where the food is from. Me, also as a customer, I know so much about organic farming and organic production, I want to have this quality for my food. There is no way I could compromise by buying shitty products. I have this experience from working at other places, you know people that were my friends that were running restaurants because of this financial pressure, they just bought shitty products. You know, I don't compromise with this. I think my partner and me, we just, we have, to open this place there are so many more things involved than just being sustainable. For us it is also important to show that it is a female-run place, that there can be different approaches on gastronomy, that we can make this work with a work-life balance, it is an important point. My partner had a baby last year, we were planning on this project before she got pregnant, it is a different challenge now and we want to make it work. We are coming from the situation where we have to include that situation, she has a small child and we have to make this work. We also discussed a lot like alternative work models, new work models. For example, we think about, I think what our vision is. Do you want to know our vision?

Karlotta: We would love to for sure.

- Sophia: We get away from the idea, what I experienced mostly in places I worked it is that the bigger you make the machine, the more it eats. For example, Isla is also open seven days a week, you have to always have more staff, more people. We want to minimize that a little bit. We want to have a life outside, of course it will be an important part of our life, but we also want to have another life, we actually want to have a weekend. Planning on doing lunch business, like that is the main business is lunch on weekdays and then on top we want to do events in the evening. The events are only going to be pre-bookings, like ticket booking. I just to do supper clubs for a lot of years, so that is basically what I am doing, to also have more sustainability because then you know how many tickets were booked and then you can work with that. A very interesting idea that we just got recently is that, oh I don't know how to say it in English, there are a lot of models coming up like that were people would for example, where other people would rent out a place for the weekend and do a brunch pop-up or something like that. Then we can minimize our costs a bit and our risk by sharing our place. Honestly, I think that is the future, more stuff like this is going to happen, because also rents go up and we see that a lot for other places where the rent is very high. I also know people in Munich that do that because it is super expensive to rent a place. So yeah, for us it really makes sense.
- Karlotta: Also, it kind of brings more into the space, more life, more different things and different people. A broader stand of people is going to hear about it.
- Sophia: We just want to think outside the box and think; how can we create something that is different? Also, for the people that know my work they know it is not just going to be another lunch place. We are going to have unisex toilets and are going to be political. I want to put my parents old piano in the place because I think it is always a good idea to have a piano, because you can invite all kinds of people to play on the piano, you just have to be cool with the neighbors. We have a lot of ideas.
- Karlotta: Is there someone that is inspiring you? Do you have any role models? You said you have been to Amass and I know Silo and those kind of other restaurants. Is it where you also get the inspiration from?
- Sophia: Let me think about this. I mean no, I find it super interesting and I worked at Amass, I was only there for one week. And of course, I met Douglas and I, of course, these people inspire me but I was already involved. I have my own ideas and it's always nice to see what others are doing but for example, one person that really inspired me. I am looking for the book, but I cannot find it. I think she is called Judie Wicks, and I got her book from my business partner and I think it is called 'Good morning,

beautiful business'. You really should check out that book, it is not about zero-waste, but she kind of stumble into this into this industry through like, you know, not planning to own a restaurant and in the end she had a very big restaurant. She was in the 90's, I think she started 1990's. She was one of the first in the U.S. to also work with local farmers. She got involved into like barista, the coffee producers in Mexico, she was very, she is still, she is alive, a political woman. She was the one with the piano in the restaurant. I would really say she is a role model, definitely. Puzzle part, but she is like the one that comes to my mind. But you know, with cooking and food every person I think I cook with inspired me. I can really not say that it is this chef or this chef, there are so many people and so many great ideas. It is the whole networking of people that I met and meet.

Karlotta: Maybe coming back to Isla, when you now work with the team there, do you see any kind of struggles or any kind of different work environment compared to conventional restaurants you have been involved with? How is a culture for being creative or is it mainly, like you said, coming from the head chef?

Sophia: I must say, I think we are very lucky because we are a very great team. Peter says, Isla is now open for 2,5-3 years, and he says now is the time with the perfect team. Sometimes it takes a bit longer. We are five women running the kitchen, we have no men in the kitchen and it's, how to put it, the only limitation that we have... we are very lucky, we got an immersive growth in the last year, like how much we started selling. I think in the beginning, the coffee, like the café thing was way more important and there was no, and I think when they started they didn't start out with a proper concept of how the menu should be and so on. And I would totally say that it is my colleague that runs the kitchen, when she started I mean the kitchen changed drastically, and that was like one and a half years ago. She kind of started, you know, there were like ideas it was those things that Peter tried before, like the yoghurt and stuff, but she kind of streamlined it. Since then we really started, I have been working there for a year now, so I came like half a year after her, and since then it really started growing. We've just, I mean, I always say, we are sometimes happy if we have a slow day, which is amazing. We are making a lot of food, we are sometimes sold out. So our problems are more, we have pressure to produce. You always have limits because of course as I said we cannot let people just pay a certain sum for the money, so we cannot employ three more people. We just have these limits, more from, we would probably be able to be more creative even if we would have more time or if we would have more space. Space, also a limitation. Space and time are

our main limitations. I think it is also important to understand in this construct of what a café is, the playground is endless. I truly say that all of us working now in the kitchen are also very passionate about this concept. It's funny because my colleague that runs the kitchen, she comes from conventional kitchens, you know like, Isla was her first contact with a concept like that. Through starting to work here and running this kitchen it was a demand that she would work like that, and she of course got into it and now it is natural to her. I'm sometimes more extreme than her, but it's okay. We talk, I give an impulse, it is not like she is creating the menu and we don't have anything to say, it is really like a team-work approach, but she is the main creator. I'm also the vegan impulse a lot.

Karlotta: So do you say that there is definitely culture created to kind of give space for suggestions?

Sophia: Absolutely. I think it's also complex, non-hierarchical. There is no hierarchy in that sense, it is just that she has a bit more responsibility, she does the orders mostly. For me it is also important to point that out, because I'm known for my work and a lot of people that I'm the head chef, people even think it's my café. So I just want to make clear that she creates these dishes because she is amazing. I don't want to take that away from her, and she is 25 and she is really doing a great job.

Karlotta: Have you experienced that some suggestions or inspirations come from the guests as well? It is also a unique clientele that comes there.

Sophia: I am not so much in... in a way I would say more from the network. So what we sometimes have is that sometimes producers that Peter knows, can sometimes suggest byproducts to us. For a while we had a cake that was like a strawberry IPA beer cake. It was really good. So we got from a local craft beer brewery, we got some beer that they couldn't use to sell, or cake or recently we had from a kombucha manufactory, we haven't tried it yet but they want to bring us some fruits that have been fermented with the kombucha to try to bake with and stuff like that. There are offers where we through conversations and due to people knowing that we have this concept that people approach us, but with the customers I don't know. I think it's really divided; some customers know that we do these things and we also share stuff consciously on Instagram and so on. You explain and so on, so people either don't give a shit and just like the food, and people don't care. Which is also okay. If they just like the food, okay fine.

Karlotta: People should also come for the food right.

- Sophia: Of course, people are also curious, and they would ask, what is this powder, what is made from and stuff.
- Karlotta: Awesome. The last question and then we can let you go. Do you think it is possible to run, to completely go zero-waste free hospitality venue, restaurant? What do you think?
- Sophia: Well, you know I'm always skeptical with the 100%. I think it's very positive with these people that live a zero-waste lifestyle, I think to live a zero-waste life is like a full-time job so to say. I think it is very impressive if places manage to do that, for me it's more a goal. For me it is definitely more a goal. I always try, also privately, to do best. We should not stop trying but also I think if some places would just change a little bit, that would already mean a lot. Sometimes very simple things, like this whole packaging of food, transported food and so on, these things. I have to come back to the value of food itself, if you look into conventional gastronomy, and I know Douglas McMaster also tells this story where he worked at this Australian restaurant. I don't know if he told you that story or if you have heard this story? They used some animals head and then they only used the cheek and they boiled it for three days, such a waste. He always points it out as the worst example of how not to do it. Last year I was invited to teach at the culinary school here in Berlin where they do the apprenticeship to become a chef about zero-waste and it was so interesting and also horrible to hear these stories from conventional, from big gastronomy, like hotels and such. This whole cherry-picking culture. One girl told me that when they have grapes and they fall off the bunch, they don't use them anymore. So like, because they are not representative for the buffet or something. You can do so many other things with these grapes, but they just throw it away. For this I have to say the only solution is that food is too cheap, sorry. As long it is that cheap and with that much subvention, people will throw it away, a lot of people will. Food value, I think that is very important.
- Karlotta: And lastly, is there any more people you would recommend us to talk to? Anyone else we should reach out to that could be interesting to us?
- Sophia: I have to think about that. But maybe I just write you and email. I am always really bad if someone asks me those recommendation questions right away.
- Karlotta: Yeah, just if you think about someone. Honestly, it doesn't have to be someone that has already final concept in place. Because I also think, it was super valuable to talk to you and having your business in mind that you are going to make and create. Then

thinking about the challenges it is really valuable as well, that is also what our research should be addressing, future entrepreneurs.

**Sophia:** What I find very interesting, but is less gastronomy, but more food production is that I find myself more and more in conversation with people that produce food and side products. I think the whole topic of side products is such... its waste products and sometimes it is not used for anything, and I see a lot of potential in that. It is definitely also something we want to implement in our restaurant, to consciously use yeah more of these things. I'm actually going to dinner tonight with people from a tofu company. They are in Berlin for business, it is very good organic tofu and for example a side product in the tofu production is Okara, and it's the pressed beans, like the soybeans left over. In Japan, the side product is used, because I mean they just eat a lot of tofu, so it is known. You can use...it is used in baking, you can, it is not very flavorful but still has quite a high protein amount and you can also use it in creating patties, you know, you can make spreads with it. It is a filler I would say, a protein high filler and that is something I also try working with a lot. These things are very interesting.

**Karlotta:** Yeah for sure, so much potential.

**Isabelle:** Sorry for jumping in a little bit, but I just have one question as well. It was so many valuable insights and I have really written a lot of notes now, but I'm still kind of wondering what you think is the biggest obstacle for the zero-waste movement? Or why isn't there more restaurant implementing more stuff? Why does it take so long for this movement to get started and why are there still so many traditional restaurants?

**Sophia:** I think this is probably a problem that we have in the restaurant business, but also in other businesses that people, humans have habits and they always think they can only do it in a certain way and everything that is different urges for a new way of thinking. I think people are just shying away from that. It is really, to a certain extent, it is also that they are not aware of this. I can only tell that story...I didn't know Peter that much. Two years ago I was in the jury of this German award, it is called Gastro Gründerpreis, it is for people that just got started with a restaurant. Isla was among the finalists and they had to do a pitch, and they did a pitch and the people in the jury, some people have been working in the gastronomy for 20-30 years, they own a lot of restaurants and stuff. It was really like jaw-dropping, they had never heard of this before – circular economy, you can actually save money by using less food? So I think a big part, if you can explain to people that they might be able to save money, maybe that works. Yeah, I just really think there is a lack of knowledge to be honest.



Habits. You know, you can do something about it but classical structures in gastronomy, you know the whole hierarchic thing, first kitchen bullshit. People really, some people really think that there is only one way to run a kitchen, but it is just not. I have the experience that it works differently and that you can be nice to each other and not be assholes, and some people really think you can only put out high quality if you work in that hierarchy. It's about going different ways. But maybe money is a good reason to think more about that.

Isabelle: Alright thank you so much, it was really great.

Karlotta: We let you go off to dinner now, sounds exciting.

#### **Interview 6 - Kim Wjendorp – Amass and Broaden & Built, Copenhagen – 18.03.20**

Isabelle: We like to start off, we would just love to hear more about your motivation for joining Amass and also for going in the zero-waste direction?

Kim: There was no motivation to join Amass at the beginning, it didn't exist you know. I had been living in Japan for a while, and my ex-partner got a job at Noma, so we just kind of moved to Copenhagen. I am actually Danish, even though I don't sound like it. I have a passport and everything, I have no problem living here. It just happened that as we were moving here, Matt was opening a new place and I kind of did a casual job interview and got a job here. There was no sort of main motivation behind it besides finding an employment and somewhere that would also better my CV, as Matt is the ex-head chef at Noma. But when Amass first open it was also just a restaurant, it wasn't anything to do with sustainability or anything to do with anything. It was simply just being a restaurant and cooking food. There were tons of not very friendly products and we weren't really thinking about it at all. It is a progression that happened. Each year that we go into we become more and more sort of militant. It hasn't every been a straight change to everything being, it is a total slow curve and I guess the reason for that is, I mean it is still a business and it has to be financially viable. Unfortunately, a lot of things that aren't sustainable is very viable compared to the alternatives at the moment. Unless there are some really nice investors that want to give us a lot of cash to make drastic changes, we have to work constantly rather than just change everything immediately. I think the biggest changes started when we got our organic certification. And getting your organic



certification is a lot of work, you have to pick and choose between some of the people you are working with. Some of them you have to say goodbye to because they don't have the necessary certification you need for your business. With that change you start thinking about why you are doing it and what you are doing, is being an organic restaurant enough? To be anything, and the answers kind of came through, no it is not, it is not enough to just be an organic restaurant if everything you order is being shipped from all over the world in plastic. You're all organic beef all the time as your protein it does not make a difference if it is organic or not, you need to make more of a difference. That is kind of how it started and slowly we just found a way of things we can do and kind of changing every year and as we change, also our staff started to change and you get more and more people working with you that also are believing in the same thing, you sort of start gaining a momentum to make more drastic changes.

Isabelle: Is what you then say, that it was the consumers that started demanding this sort of way?

Kim: No, the consumers have never demanded it. It is really interesting, it is not something that, I would still say that the majority of the people that dine at Amass are not dining there for their belief, they are dining there for having a meal or they are dining there because we are among the top 100 restaurants on the world list. Or things like that you know, I think the people who choose to dine at us because of our sustainability is very tiny. It is part of the education process I guess for consumers.

Isabelle: Do you think, yeah like, you said before, it's so much more financially viable to not focus on sustainability? Do you still think it is still kind of a good business case to be sustainable or is there much more you have to pay in order to be sustainable?

Kim: You know, it doesn't cost any more to run sustainably. It cost a lot of business change, it does cost a lot to change. It is one of the reasons we just haven't scrapped everything we knew and changed everything, we couldn't afford to do that sort of thing. But running sustainably, it is actually, cost wise it is like running a traditional restaurant. Organic produce costs more, it does cost more. The demand is not there for it to cost the same amount of money, so that is one thing that does cost more, the organic produce. But in terms of systems and running restaurants and all that sort of things the cost is fairly similar. It all comes into the actual change. And I mean at the moment, the consumer demand is saying that the products we want to use costs more than just buying conventional ingredients some of the times.

- Isabelle: Like, is there challenges thinking about like how you work with the supply chain? Is it more difficult doing what you are doing compared to traditional restaurants?
- Kim: Not really, Denmark is great because it is tiny. And there are a huge amount of suppliers that live very close to us. When we do our CO2 footprint every year, there is always the thing, we would always say there is substantially more like in our CO2 if we weren't having an electric vehicle having our good delivered or we were having one, since we are buying from many small suppliers, each one of them has an individual delivery and if we would have one optimized delivery. So like a vehicle that has an optimized route and could pick up everything in one go and it was electrical, we would substantially cut down on our CO2 costs, but other than that we are really solid supply chain here.
- Isabelle: I guess Denmark is also in the forefront of trying to have more sustainable and local produce, and more close connections to the farmers.
- Kim: Yeah, I guess, but there is still in the forefront of industrial pig farming as well. It is kind of like they are trying to do both at the same time.
- Isabelle: Like a transition period?
- Kim: You definitely, actually no. If you were to go into bigger countries, so like America and things like that, you know that the abundance of organic produce is so much more. It is a huge variety and it is a real, Denmark has been a really late adopter in a lot of things and I think it comes down to sort of the strength of their culture and their association to their cuisine. Which hold them back from somehow adopting, but we are all laughing at it because the cuisine isn't that fantastic but when you are locked into a solid pork diet and with a very basic sort of cheese variety and you have a huge dairy industry it does make it difficult. If you go to places like the States or Australia or UK and you go into the supermarket, there are just aisles and aisles of organic produce and variety and just so much more available. To also think Denmark is on the edge of pushing change to that sort of thing.. but yeah.
- Isabelle: Yeah, I can only speak for my side of it but even Sweden do have quite a lot more of organic produce and vegetarian/vegan supply. It is quite interesting since it is just across the bridge. But I think Denmark has quite a lot of interesting restaurants like Amass, which is very cool but it would also be quite cool to hear what Amass is currently experiencing in terms of challenges and obstacles of what you are trying to pursue?
- Kim: You mean, like apart from complete financial collapse?
- Isabelle: (Laughing) Yes.

Kim: I mean, I guess the obstacles for us are, we feel like we are part of the education process to most of our guests. Most people have a light interest, and a lot of people just don't care at all, they just come and have a meal. You know, it's incredible the amount of action that has gone into this virus that potentially is only going to kill 3% of us in the world, when you have like climate change which is pretty much guaranteed to kill all of us and people are just standing around with the arms in their pockets, going that is nice, you know. So getting people to think about this as a reality is really difficult. Because we are always, to walk this line between doing what is really right and getting people a really good deal and not trying to be preaching at them, because a lot of people don't want to be preached at. I think we are also fighting a huge amount of misinformation and also appropriation of terms and things like that, in much in the way to say that organic is more and more meaningless as a term because the way that it is been taken on by the industrial complex and you can manner crops, you know, organic plants and harvest them in a really unsustainable ways and still deplete the soil and everything just got an organic label on them. Now, in a lot of senses things like sustainable are also becoming appropriated to restaurants that don't have any connection to either of that, and either have enough money to pay for the certification or signing on to schemes that are deliberately designed to misinform to make you look really good, but it doesn't change anything and there is no accountability to all these places of what sustainability really means. I mean for example, we do our CO2 report every year and ours is about, we say that it is about 14kg per guest, whereas every average fine dining restaurant is around 25. But the thing is we judge ours on our full of things that are not required by law for you to judge your CO2 footprint on. If you are a restaurant you only have to count it on your food and your expenditure on heating and things like that. But we also put in our transport and the decomposition of our waste, the lack of forest where our farms are growing. We put all those things in, and we are still 50% less than of a normal fine dining restaurant. You could a restaurant that just goes in and takes just the food and your energy and look at us our restaurant is fantastic, but ours is so much lower and there is a relevance to it. There is no consistency between anything and there is nobody making the system where people can be judged on the same thing. So, we're really struggle a lot with people making comparisons with us to other restaurants that simply are just not doing as much as we are but you see the right kind of advertising or the right kind of gimmicks, then you can sound fantastic. I think that is one of the

biggest things for us, still bothering to do this when so many people are just taking the easy part and making it sound great without any real change.

Isabelle: Exactly. I think it is still a bit behind, because it is so easy to say things you are not doing and get away with it. It is really interesting, I mean Amass is very innovative in a lot of ways. It would be also nice to hear a little bit more about what you consider a new way of doing things in Amass compared to traditional restaurants?

Kim: I mean, the newest thing that we have is that we really reinvented what people or what chefs can define as food. Or what chefs can define food of value. Which is probably a better description because in everything with food we just choose to not eat a lot of it. So for us, and a lot of what I have been doing is create ingredients of value from the secondary parts of things that are not used ever or not really thought about it and automatically disposed of. I think that has probably been the biggest thing for us, to redefine the value of food.

Isabelle: Do you have any examples of what you have done?

Kim: Yes, we use 100% of the fish that we order in the restaurant. Most people would take the fillets and things like that and maybe they would use the bones or some parts of the bones to make a stock. But that is probably only somewhere 25-40% of the fish if you think about it in terms of use. So we use all of the flesh, we developed a process where we liquidize the bones so you can use this liquid used of bones and everything in making doughs or noodles or puddings. We make a lot of sauces, like fish sauce and things like that from the guts. And anything we don't use we throw it into as fish food for our aquaponic system, our aquaponic system is completely closed loop because we don't need to buy anything for it. So we use a 100% of the fish which means, not only, it is in some senses very cost effective because you all of a sudden get 60% more of your money's worth but it's also, it means that it doesn't go in the trash, it doesn't go anywhere else, it simply stays within the restaurant. In terms of like CO2 and that sort of thing, that is really important as well.

Isabelle: Where do you find the inspiration for what to do and for what to create next?

Kim: In terms what to do next it is always based around what the restaurant is producing at the moment. We kind of look in whatever the restaurant is producing, and a lot of the things is like, to look at the stuff that is available to use at the moment and just play around with it and see what we think can happen and try some things. Okay that was terrible and then try something else, and okay that was terrible but maybe we can use this for that instead. There is a lot of error and a lot of stuff that doesn't taste delicious and maybe we found something out of how we can use it until the end of

the season but then we will wait to use it until the next season. It is really this trial and error and now also these six years of learning it is also kind of knowing which directions things can go already. We kind of already have ideas of where things could go and where they could be.

Isabelle: Do you take any external inspiration at all from other restaurants or from other sources?

Kim: Yes, of course you are always learning. You should never not be learning. We take a lot of inspiration from... or maybe not necessarily from other restaurants but from other cultures. Because, food waste is traditionally a first world problem right. Hungry countries don't have food waste because it is food that can feed you. You have to look to cultures like that to remind you that other people have been doing things like this for a really long time. The world has a history of using everything and we are just forgetting about it. So there is a lot of studying older cultures and older recipes and other ideas, and things that have been forgotten and stuff like that. There is a lot of things, for example, Sudan is a really hungry nation and they have a huge history of fermented produce because they say, they even grind the bones of their cattle and powder it and fermenting in these solid bowls to make soup base and you know, there is a lot of stuff there that the world has kind of forgotten. Then it is about taking these recipes or taking these years and thoughts to making them relevant for today. So, I mean, I know you are kind of leading the innovation or the R&D at Amass. But is it also, is it you that mainly come with the direction or is the team, like where does the inputs come from when you innovate?

Kim: In terms of like, I always like to say that I am providing building blocks. I don't make the final dishes, those things need to be created within the restaurant, so that they are created within an environment where the people working around it have an ownership of them as well. It is really important that the creativity of the final plates and things happen with the people that are actually doing those sorts of things rather than just giving them a bunch of stuff and telling them; this is what you are doing now. But there are a lot of conversations between myself and the head-chef and sous-chef and things about they either are producing a lot of or things that they like, and what sort of flavor profile they would like and things like that. Especially with the things that might take 6 months to a year to be ready. We kind of talk about these things and so they can have things that they know are coming up as well.

Isabelle: How is kind of the innovation process take place? Are you gathering once a week or every day?

- Kim: I mean, once a week, at least once a week I talk to the head-chef about what is going on and what is changing and all of that sort of things. But in terms of what I am doing, I am telling them what I have as well. We have huge shipping container packed with tried goods or ferments and things like that and a huge freezer full of like amino sources and liquids and we have different things. They always get a list of all of the things that are available to them as well so that they can kind of shopping from that list of what they want to use.
- Isabelle: Do you see that there are any struggles for the team to think in this zero-waste direction?
- Kim: Yes, sure. It is not everybody's way of life and the new staff it is always a bit of a chock, especially if they come from a traditional kitchen and then they come to on that doesn't have just one general bin for trash but has eight different bins where everything needs to be separated and put in the right place, and where someone is asking what they are doing and how they are thinking. It is more a process of that and a process of starting to think. Looking at what you are doing and not to say; Okay, well I got to do this so I have to have food ready to put on plates in four hours, but I have this left over, and what can I do with this? can it be saved or can I do this with it? Can I talk to someone about it? It is about thinking. It is the process of starting to work at Amass, but everybody really gets into it. We don't know how people's life are outside of work, we don't really ask them, because it is their decision what they do outside of work, but hopefully they take some of it with them outside of work. It is not just a 9-5 off switch.
- Isabelle: How do you keep your employees engaged in this mission?
- Kim: So, like I said we are always developing new dishes in the restaurant so everybody has a chance to be involved. They can feel like they can have an input, everybody is welcome to bring ideas. We also have a huge whiteboard in the kitchen, where maybe an ingredient go up and then people are free to write what they like around it and ideas and thoughts and all of that and dishes kind of develop from everyone's input. Every two weeks we have a project night where one of the members of the kitchen is teamed up with one of the members from the front of the house and they have to find a project based on a byproducts. So they get together and they talk and the chef usually makes something out of byproducts and then the staff, the front-house usually either makes drinks with byproducts or matches it with wines or make their own wine and things like that. Those products can be really interesting. They can be food based or we had one guy that made a new metal polish for us, that we weren't using an

industrial metal polish. So he was using like byproducts to make this kitchen polish for us and that was his project you know, so that is really interesting. It kind of keeps people free, there are no rules, there are no rules of it and they can make whatever they want. It gives them a bit of freedom to also explore anything that they might have been thinking about that might not even be relevant to the restaurant.

Isabelle: That is very cool actually, like really interesting outcomes as well. Do you think what you are doing at Amass, now you have Broaden and build as well, and I know you use things from Amass to produce there as well. Do you think what you are doing at Amass is scalable?

Kim: Yes.

Isabelle: What are or not challenges to it?

Kim: There are huge amounts of challenges. And that is part of why we started Broaden & Build apart from that there wasn't an organic brewery that brewed beer the way we wanted. A lot of people were always asking if we could kind of do this on a cheaper level. You don't always want to go to a fancy restaurant where people spend a lot of money to eat. But can you do this cheaper? And part of having the restaurant Broaden & Build is to be like; look, you can also do this on a very cheap level as well. We have been getting a lot of requests from people who are from international companies being like; look, we want to do this and we got 300 canteens across the world. We want to change that. We have to try to figure out if we can do it on that sort of level as well. I do think it is scalable, the great thing about it is that the more people doing it the cheaper it becomes to do it. If everybody all of a sudden only wants organic food, then organic food becomes very cheap. Or if everybody only wants stuff delivered in certain ways or by certain vehicle then those things will happen. The more people doing it, the more scalable it becomes.

Isabelle: Do you think that Amass is influencing the industry?

Kim: Yes, absolutely. You see things all over the industry that we are doing and that people have adopted. Sometimes fairly quickly and sometimes things we have been doing for a long time that people have started to adopt. But again, I also think it comes down to that it is really fashionable, it is fashionable to be sustainable. You know, right now, people are adopting a lot of things because it looks really good and they want to be part of the conversation and be relevant still. I guess in some ways it is beneficial because it means that the conversation is about sustainability with the people doing it right or not.



Isabelle: It opens the conversations at least. What do you think is the biggest obstacle to the whole zero-waste movement?

Kim: The biggest obstacles.

Isabelle: Of like, what are the challenges of why not more restaurants already doing it?

Kim: Why they are not doing it? Because it costs money to change. And if you are making money on the status quo, why are you going to spend money on changing? I think that is one of the biggest obstacles. There is no real genuine government support, despite all things about countries wanting to be carbon neutral. There is no genuine support about this sort of thing. If governments were genuine about this then they would say; okay, within five years we are going to change to all organic farming across Denmark, or ten years or something like that. But they are more like; we want to be carbon neutral, but we will just let you carry on doing what you want and kind of wishing it to be true. I still don't believe that there are governments behind these improvements. It's probably going to end up being a case of like it is right now, where something really drastic is going to happen and all of a sudden everyone is like; this is how we are doing things. Because that is what it takes, for a government to put in place to be able to change everybody. It is just sometimes a bit too much freedom and people's choices to not do the right thing. So I think those are two things that really stay in everybody's way that it does cost to change and there is no real backing to it yet. People have to do it themselves and build their own systems.

Isabelle: Do you think there are any misconceptions about the zero-waste as well?

Kim: Yeah, for sure. There are loads. For example, there is no such thing as zero-waste. It is a really cool term but there is no zero-waste restaurant in the world. Like you start creating waste as soon as you turn the lights on and you turn up in the morning. I think that is kind of a misconception that there are a lot of restaurants that are really responsible and genuinely sustainable but in terms of zero-waste I don't think that is...but it sounds really good. But I think one of the misconceptions that we are really trying to fight as well is that you have to sacrifice something to be sustainable. You have to give up on things that you really enjoy to be really sustainable or to be zero-waste. That is not reality, you know. The point of coming to Amass is that you can come there and have a really good meal and being really responsible about going out to dine somewhere and not feel like you sacrifice anything by making some sort of contribution to sustainability. But there is a real strong sort of conception that you have to give up a lot to make these changes. I guess, maybe if you are the kind of person that want to eat a 300g steak every day, then you have to give up a lot to be



sustainable but that's just not really the right thing to be doing. No one says you cannot eat anything, it is just about how much you eat or where it comes from that's the real issue.

Isabelle: I think it is very interesting what you talk about, that the whole virus thing now, when the government sort of just insert something very drastic they change a lot, everything changes. But when it comes to the climate and how bad the effect it could have, and will affect us all in higher numbers. Then we just stand very paralyzed and continuous or normal lives because we cannot see the direct effects, or we do but most of us don't see the effects.

Kim: The problem is we do see the direct effects of it, except nobody is willing to do something. We have seen direct effects of it for several years in a row. In Germany, this year it didn't get cold enough to freeze the grapes to make ice wine. The winters are just not that cold and it's a direct effect of things happening in the world, but no one's is willing to do anything, and we see it too many times. It is always interesting, there are always places like, I think it is Rwanda, pretty sure it is Rwanda, where they have a great policy that single use plastic is illegal everywhere. And that is everywhere, not just bags or straws, nothing is wrapped in plastic and it is super illegal. And once a month the entire population has to go out on the street and pick up the rubbish and there is no trash and no litter because the people have taken responsibility. The catch is, they have a dictator and the dictator is saying; this is how it is going to be now. It is hard to argue with dictatorship when it works like that. They have a lot of human violations and stuff going on, but they have a really clean country.

Isabelle: I think it kind of ties back to what you were saying before, if the laws or if you are backed up by the government then that is what is going to happen.

Kim: Also, the factors if the laws are changing people will just go along with it anyways. I think sometimes the government are a little too paralyzed in the thought that there might be an uprising if somehow a law changes, but most people don't care. Most people are just existing you know, and most people will just adapt and change and carry on with their life and such an things will just be the same. It's really a small amount of the population that makes a really loud noise.

Isabelle: You start it, and then the mass will follow.

Kim: Yes maybe. You need extinction revolution. You only need 3% of the population to force change. You just need a really vocal 3% and that is generally deep enough to start forcing change. Which goes again to the fact that most people just don't care,

they are just existing. They are existing whether the laws change or not change, they will use the plastic if it is there and not use it if it is not there. If the food is organic or not organic they will still buy it, what is there is what they will buy and what they'll have and life will just carry on. It won't make a difference for most of the population.

Isabelle: I guess it is also what you talked about in the beginning, the education part. A bit that you try to educate people to understand food value.

Kim: That is always going to be a hard thing to understand the value of food. Especially as we spend less and less on it every year. We really, we spend less now than ever before and less of our disposable income on food. And what sustains us and what keeps us whole and running but we spend thousands and thousands on ear pods that we lose in a month or new shoes or these sorts of things. It is an amazing cult about these collectable nothings, and nothing really about one of the basis of our existence.

Isabelle: I must say thank you so much for all the great inputs and it's super interesting to hear like where you guys are coming from and how you see the whole big picture actually. I don't know if you Karlotta have any more questions?

Karlotta: I think it is pretty complete but I have one single one that I am curious about. You say now that you have your set of suppliers and everything is going quite smooth. And that is not a big issue for you with the supply chain. But I am curious if that was always the case, even when you got started?

Kim: We had to find people or also as we have gone along, people have found us. One of the great things about Amass is that where we are completely free and open to changing menu items whenever something is not there or something else comes along that is really interesting. If someone comes with a box of 30kg of mushrooms, we can buy them and put them on the menu tomorrow, we are not so dictated by having to serve the same things every day for every meal all year or for periods of time and we go along the season for what is actually available. Because of that freedom we are really able to buy things from a lot of people who already have small amounts of stuff. If you have a lot of people with a small amount of stuff you will have a lot of stuff. It works well for us. But of course, it makes it a challenge for bigger places, that aren't so free if they have to move so much. It doesn't mean it can't be done but for us it has always been a matter of us finding suppliers that are organic and we would just build on them with more and more people that we have been introduced to or they found us or we found them. It is always growing. It is definitely one of the

freedoms we have, that we are available and take advantage of these things not matter what the size of supply they have.

Karlotta: That is pretty cool.

Isabelle: So the last question would be if you would recommend us any to talk to? Anyone else?

Kim: I mean if you can get a conversation with, I don't know if you have spoken to Dough McMasters?

Isabelle: We tried (laughing).

Karlotta: We talked to Blair.

Kim: He is so militant with everything they do. But what is really impressive about Silo is that behind the scenes so much more advanced than anything we do at Amass. They are more advanced than anyone else in these things. They have amazing network of people doing these cool things for them. Amass is sort of forefront that we are much more advanced in the food area, they definitely have an advantage of being based in London where they have a population where they are able to access those sort of things. Where there might be one or none of those things in Copenhagen it tends to be 10 things of that in London. If you could talk to him, he is super interesting. I guess you could try to talk to Nolla, with the guys in Helsinki.

Isabelle: We were supposed to have an interview with them yesterday, but because of the whole situation they had to cancel.

Karlotta: Yeah I guess it is not the best time to reach out right now.

## C) Company Document

### **Company Document - Fotografiska Handbook – Fotografiska – 06.02.2020**

*[Translated from Swedish to English]*

#### **Expectations**

As a company, we continuously strive to create a dynamic workplace in new and creative ways. We hope to be able to influence and be influenced by all the people who contribute to our existence. By getting new eyes that take part in our work and contribute with new ideas we improve day by day, and our daily purpose extends beyond the experiences we offer our guests. Even before you arrive at the tiled building in Stadsgårdshamnen, we believe that your time with us started. It is as important

to know what expectations you have for us as to share our expectations with you. Our goal is for you to feel a value in what you do here at Fotografiska, independently of your professional background and how long you will be here. Our success is first a fact when you can bring knowledge from your time with us and help make the world better.

### **What do we do?**

Our goal is to offer our guests sustainable enjoyment, a goal that permeates everything we do. So it is enjoyable experiences that in every way should also be sustainable. We usually use a linguistic picture of sowing seeds of inspiration. We seed the seeds around us every day by choosing sustainable solutions. Our hope is that these seeds will start to germinate, with our employees as well as with our guests. In that way we can help raise the public interest and spread all the knowledge that is here at the house. We try to arouse interest by giving our guests experiences they remember. Our vision is to change the world and make it better, and we need you to realize this! We depend on a strong a business culture where all our employees think it is fun and challenging to be with us. You are who take part in our business that will be out in the world and spread the knowledge you have picked up here. You, in other words, when becoming a part of Fotografiska's team is a key player in our work, in return we want to give you have a positive and educational experience.

### **People, planet & profit**

Here at Fotografiska we always work based on the concept of the three p; people, planet and profit. The concept derives from a well-known business economic principle and the concepts can be translated into the social, the outside world and the economic. The idea is to include the company-related in all aspects of the business (the economic), that which concerns employees and guests (the social) as well as everything that affects the world (the outside world). We never take new initiatives without taking all three of these into consideration. That way assures We care that what we care most about is the work we do. When we talk about sustainability within the business obviously refers to the environmental aspect that falls under the plane but also if social sustainability and economic sustainability. For example, we make sure our employees are sustainable working hours and schedules that do not go against the laws and regulations that exist today. We also look after that our partners share our value base to further assure us of being able to deliver experiences for our guests that are 100% Photographic.

### **Love to earth and water**

Fundamental to everything we do is love for earth and water. Of course, it's about Mother Earth, but by soil we mean actually that brown that you trample on when you are out in the woods. With water we mean what you throw out in a summer day after lying in the sun.

It is simply that if we avoid adding things to the earth and the water that do not really belong at home there, the raw materials we harvest will taste good. Nature is complex, but it does not have to be complicated. When we choose our raw materials, we insure ourselves that the farmers have genuine love for nature, that the fish swim in water that is purely out of a love for just the surroundings. And this love of earth and water affects everything we choose to serve, yes all of them choices we make. It is simply about setting requirements. The meat from the cattle tastes good if the grass it eats not sprayed with chemicals. The wine we serve to the meat will be right if the wine grower has took care of the creeks and gave love to the earth. We are convinced that love of earth and water is the key to good and sustainable raw materials.

### **Knowledge as a tool**

"If a person you speak to doesn't seem to be listening, be patient. It may simply be that he has some fluff in one ear. " Quite uncomplicated and friendly sounds the quote from Winnie the Puh, but it carries an important message for all of us who want to spread our ideas. We live in an information society and are exposed each day to influences from all over the world in the form of different impressions. The ability to communicate our thoughts and ideas can be said to be one of man's foremost gifts, the problem is that we are often "lost in" translation ". Spreading messages is about communication; about understanding and being understood, and always includes at least two parties. But it can be quite difficult to formulate their thoughts in a way that means that the recipient not only understands what is being said, but actually understands the content and essence of one's self message. In addition, we get tired of endless snack, because in the end are words just words? We say pictures say more than a thousand words, but nothing speaks a clearer language than our actual actions. The interesting question therefore lies in how we can act in a way that arouses the interest of our fellow human beings.

So far, we have been told that we want to grow seeds of inspiration in everyone we come in contact with. In order to to clarify this picture we now want to explain what these seeds should include. For us, that is knowledge why we do as we make the key to becoming more sustainable. The interesting question lies in why and not in how; why we recycle, why we choose biogas, why we work after the seasons. Knowledge of why is relevant in all forms of learning.

### **What does knowledge sharing look like in reality?**

There are many ways to spread a message, and here at Fotografiska we believe in clarity and transparency. We do not want to be a lecturer, but whatever we do daily, we share knowledge. We have solid knowledge in the spinal cord, it is our foundation. With us it means partly that they cooperate which happens in the house; workshops and lectures include sustainability. But by knowledge transfer we do not want all our guests to attend lectures to understand sustainable enjoyment. It is through the daily work we conduct this knowledge dissemination. What drives us forward is our constant curiosity about testing boundaries and challenging to think new. Therefore, it is essential that we everyone can and understand why we work as we do and what it means for our guests.

### **A cultural destination**

We have the ambition to be a destination for cultural experiences. The first thing that meets the guests is the art of the museum. There is always at least one exhibition that highlights an important political or societal issue question, and the artistic selection is highly conscious. The impressions from the exhibitions contribute to that stimulate the brain and initiate an intellectual thought process. We hope this thought process can help guests bring in more of the knowledge we want to convey. You could say that the exhibits on level 0 and 1 are like a brain gym that prepares one for the impressions that then meet the guests on floor 2. Anyway, a symbiosis is created between the artistic impressions and that gastronomic supply.

### **Hosting**

Hosting is about seeing people and making them feel welcome. It's easy to think of service only includes the hours we put up plates or spilled wine. The truth is that at Fotografiska goes service hand in hand with host. We attach great importance to the meeting between us and our guests. From and by changing to work clothes and stamping for the day, you share the common areas with Fotografiska's visitors. Your service role is far from limited to the tasks you are supposed to perform that day, it's all about being an ambassador for what we do. We wish that every one of our employees should feel proud to be part of the team and welcome our guests with pleasure. Therefore, it is necessary that you have insight into how we work and an overview of what is going on in the house.

### **To meet the guest**

How much impact we have on our guests is based on everyone coming here with different expectations and expectations prerequisites. Central to the guest's experience is the meeting between the guest and all of us who work here. great parts of the knowledge about sustainability are

communicated directly from the staff to the guests. Our service should, therefore, be unpretentious, personal and accurate. We do not want the threshold to come to us to be experienced that high. We strive to be friendly and inclusive and hope to provide a relaxed service where we challenge our guests in a positive way. Although many of those who come to Fotografiska are already read and interested in sustainability, so it does not apply to everyone. We aim to be open and accessible to the public. For that reason, we appreciate that our guests are different. But we still try as new seeds of inspiration in all ours visiting. Because our guests are different, this means that we have to adapt the amount of information based on the outside every guest. An extremely important feature of our dining rooms is therefore responsiveness and the ability to feel heard. We must be humble in our work and understand that people's interest in what we advocate will vary. Hopefully this can be achieved by treating the guests with warmth so that they feel seen and understood.

### **Extent**

Crucial to include in the story is the extent of serving at Fotografiska. We can totally receive 4000 visitors in one day and serves just over 300 guests in the restaurant when it is full both lunch and dinner. Sometimes there are conferences in the event dining room, a packed dinner in the restaurant, guests both in the cafe and in the bar. This means that a great number of individuals enjoy sustainable enjoyment at one and the same time, and that the overall picture the guests receive will be different based on the guests' specific needs and needs experience. We want all the guests who come here to feel an added value, which makes the service work here requires commitment and will.

### **Gastronomy**

Gastro is short for gastronomy and aims at the level of all food and drink at Fotografiska. Gastronomy is about the connection between food and culture. The word describes high quality food, love for raw materials and precision. We offer our guests sustainable enjoyment and even though we want to challenge our guests, we will never go at the expense of taste. The food as well as the drink is always well thought out, innovative and correct good. The Nordic cuisine and the ingredients that are in our vicinity are our starting point, but we get it inspiration from all over the world. It is the same philosophy and consideration that goes into making drinks in the bar as well as tasty pastries in the cafe, a five-course dinner in the dining room and a family brunch at Chamber event.

### **Plant-based**

From a sustainability perspective and out of love for the earth, we are plant-based. It does not mean we are vegetarian, or you can't get meat or fish with us. On the contrary, it is about building menus

based on what the plant kingdom has to offer us. One of the biggest challenges with the climate is about its huge meat consumption in the world. In addition, we find it exciting to challenge people's image of what protein can be. We personally think that grilled root celery is as good as grilled beef, nevertheless, do not want to deny our guests the opportunity to add meat in their own right.

### **The full experience**

In order to sow the seeds of curiosity of our guests we must somehow awaken their interest. The meal becomes a tool that, for us, covers far more than the food on the plate. The meal experience as a whole is composed and what the guest experiences is a complex combination of impressions. Sustainable enjoyment extends beyond compost, carrots and home-grown basil. Although the carrot may convey a story of being biodynamic or nurtured by its crooked form or highly concentrated taste, the guests do not come here solely for the sake of the carrot. It is the overall picture we want; people, planet and profit. By creating really good food with ingredients that cultivated with love we take into account the planet. Bistro takes people into consideration; happy employees and happy guests are an important goal. We achieve profits when our work can inspire others to act more sustainably.

### **Drink**

Working on small-scale, sustainable and locally produced also influences the beverage here at Fotografiska. The means that the beverage served is in correlation with the rest of the gastronomic offering. To think sustainable when it comes to the beverage offerings at a restaurant affects many different stages of the work. Everything from transportation and packaging of ingredients and production methods can affect the degree of the beverage sustainability. Since we are not involved in the production of the beverage we buy, it is more difficult to affect how it is produced. Precisely for this simple reason, it is even more important that we set high standards on what we choose to include in the restaurant. The work that goes into creating a sustainable beverage menu is about knowledge and awareness. To be able to make demands, we must know how and why we make these demands and have close relationships with our providers. The products we can buy from Swedish suppliers mean we should be Swedish, which a lot of the non-alcoholic offer. If there are two types of apple juice, we choose the must from Dalarna in front of a must from Normandy. If we continue with the example of the apple must, there are more factors that matters when we choose a product. Among other things, it is of great importance how apples are grown, harvested and how the producer of the must works with sustainability. The whole production should be honest and transparent. For example, we work with various juice companies and museums that work exclusively with fall fruit, thus fruit that is otherwise treated as rubbish.



### **Kombucha**

As long as the restaurant Fotografiska existed, we have made our own kombucha. Besides being tasty and health-promoting it is also simple and inexpensive to produce. The Kombucha is a perfect example of how we include people, the planet and profit in the production of our own products. The only thing required to make the fermented beverage is tea (black, red or green), sugar, water and bacteria. The simple manufacturing process allows us to manufacture large quantities on the house and bottle it in reusable glass bottles. By doing kombucha ourselves, we avoid emissions and costs related to transport which is a big climate gain. Another bonus with kombucha is that the beverage is very versatile in terms of seasoning and seasoning. This leaves room for creative freedom for those who feel urged to take care of the production. In the end, food and drink combined are all about that create the absolute best combination where the components lift each other.

### **Team at Fotografiska**

Building a strong and solid corporate culture is fundamental to all companies. We talk a lot about it about sustainable enjoyment and about our goals and visions that we work from. But to achieve these goals it is important that everyone owns and is involved in our culture and knows what the goals entail in practice. To work with people and food, no working day is like the previous one, and despite high ambitions it is important to remember that we are never better than our worst service. It sounds like a matter of course but that is how we develop as employees and as a company, through mistakes and constant improvements. For example, we cannot sell sustainable enjoyment to our guests if we who work at Fotografiska do not experience the workplace as sustainable. We want to offer a long-term perspective and the opportunity to develop our employees, something we hope to achieve by being responsive, clear and committed.

### **"Fine or ugly"?**

How is the difference between the nice and the ugly defined? And not least, who defines this the difference? We have been trying to ask ourselves these two questions for a number of years. Within the restaurant industry the practical work is combined with aesthetics. How do we deal with this? Just as with the art on Fotografiska's walls, with our dining experiences we want to arouse feelings our guests. We are storytellers and craftsmen, and our art is judged daily by our visitors. But our goal is not to serve just what society thinks is fine, for us it includes the creative the process more. Interwoven with the aesthetic lies the desire to be faithful to nature. For us it is unattractive to only use straight carrots or toss apples with brown marks. Working closely nature presupposes that we

understand how complex it is. We talked earlier about the love of earth and water, and it is precisely this love that defines for us what is fine.

### **Examples of sustainable projects in the house**

#### **Upcycling in the dining room**

Upcycling is a central expression here and can be explained as the ability to take something old that has lost its original function and give it new life. We are simply transforming what some consider to be rubbish into new and useful items with new value or higher value that tell tasteful stories. To communicate sustainability with a holistic perspective is very much about telling stories. We believe in the importance of a good one history, and stories should not only be spoken orally but sustainability should permeate the entire house. That can, for example, apply to the rooms at Fotografiska which breathe sustainability with each breath. We combine zero-waste and upcycling with stories of creativity. For example, packaging around our butter is not discarded after being used in the cooking. On the contrary, we preserve the paper and use it as aluminum foil inter alia when we cook fish. In the work of reducing our climate impact and trying to achieve it zero-waste to the extent permitted, upcycling is a useful tool. In the dining rooms, an old industrial floor has been given new life and transformed into solid wooden tables. Water bottles, water glasses, heat lamp holders and vases made on wine bottles testify to innovation and a desire to recycle useful material.

### **Examples from the café**

#### **200% taste (experience)**

At Fotografiska we do not want to sell products that are 50% as good as they were originally intended; therefore, we have created the concept 200% taste.

1. The starting point is a product that has 100% good taste, say for example a cinnamon bun.
2. When the cinnamon bun is no longer fresh, we turn it into a new product.
3. The cinnamon bun is dried and turned into flour which is then mixed with butter -> a new smooth bun occurs.
4. The new smooth bun consists of the cinnamon bun which tasted 100% good, furthermore, is the smooth the bun 100% good in itself.
5. The result of 100% taste + 100% taste = 200% taste experience.

An example from 2019 was Fotografiska's 200% bran which consisted of a smooth bun made on recycled cardamom rolls, a pea cream flavored with caramel sauce and whipped cream. The pea cream replaced it traditional almond pulp. It was an example of how we can use Swedish through innovative thinking product with lower climate impact as an alternative to more climate hostile imported product that almonds. Other examples of 200% flavor from Fotografiska are our Croissant flour, cardamom

crusts and toska buns. From yesterday's Croissants, the bakers grind flour used in everything from cakes to bread. The cardamom balls that are not recycled into smooth butterballs or which bran can be turned into

cardamom crusts with close to eternal lifespan, or possibly they can be added a click toscadough and are redone into crispy good Tusballa. The restaurant serves 200% pasta made with sourdough bread from the night before as well as swirl flour; the bread gets a new use and the pasta becomes extra tasty.

### **Compost**

For us, compost and circularity go hand in hand. But what does that mean in practice? We work towards that be zero-waste to the greatest extent possible. As far as food waste is concerned, we have already come a long way. We buy whole animals and serve, among other things, shells, roots and buds. But despite new creative efforts there are some ingredients that cannot be created new food. One such example is onion shell from funds and broths. To show what circularity is about, we created a dish that reflects the onion's journey from earth to table. Onion peel ends up in the compost where it is converted into soil with the remaining food waste. Mixing the soil and some salt we bake new onions in the oven. The result is our compost-baked onion, one signature dish at the restaurant. The soil from the compost that is left over is given to Rosendal's garden and in return it gives us crops. The composting process also produces a kind of juice that goes as a fertilizer for our indoor cultivation.

### **Recycling**

The most important component of zero-waste is not zero except waste. We produce waste and rubbish daily, and we handle waste and debris daily. We strive to be zero waste, but until that day comes we must have a conscious way to take care of our junk. Although it sometimes feels meaningless having to sort garbage, recycling represents another step on the road to one more sustainable future. It is said that many small streams make great streams, and for us the waste management is at the house largely a river consisting of many small streams. When we emphasize the importance of handling colored and unpainted glass in various containers, for example, has to do with the fact that the bottles are then used for one purpose. The reason why we cannot mix plastics and food waste is given when you know that food waste ends up compost. The daily energy that is spent on waste management appears less extensive if we see garbage for what it might be better than it once was. According to the website "Recycling Stockholm" every Swedish throws more than 500 kg of garbage a year, let's not help that figure rise.

## **Collaborations**

### **Värmdö + Fotografiska = true**

As a guest at Fotografiska you can enjoy a variety of beers, one of which goes by the name "Salad beer". Behind the creative name hides the last version of the beer that is brewed collaboration between Värmdö and Fotografiska. Just as the name suggests, the beer has been brewed other salad and other leftover products from refrigerators and freezers at Fotografiska.

### **Creativity and knowledge = Innovation**

The amount of choices beer brewing provides has led to innovative breweries such as Värmdö starting to think outside the conventional framework when it comes to ingredients and beer. The first beer they produced together with Fotografiska was a beer brewed with recycled bread from the restaurant. That bread that left over from the restaurant was dried and sent to Värmdö where they used the bread as a replacement to parts of the grain in the mash. The cool thing about the beer lies in the circular manufacture. Bread that would otherwise be thrown was revived, smaller grains were required in the production and finally the trellis also went into the next dough. When the salad beer runs out, a new beer is rumored where the hops have been grown by the staff at Fotografiska. The possibilities for working with close-knit products and sustainability are endless, as long as the right initiative and the right knowledge is basically there.

### **Anna's Pottery**

Fotografiska's collection is characterized by skilled craftsmanship and a creative sustainability approach. Our wish was to try to find a way of using different waste products from the kitchen, and therefore sent compost and shells from mussels and oysters to Anna. The result was a unique porcelain where there is no plate other corpses. "The original idea was to use the residual products together with the clay itself the design of the stoneware, but it proved difficult. Instead, the compost was burned to ashes and a powder was made on the shell. This was then converted into glaze and a decorative powder which was to cover plates. Since classic glaze is often made with birch ashes, it was not difficult to replace it with ash from the compost. The powder on mussel and oyster shells gave an almost enchanting color effect, when used studying porcelain in sunlight shines it in all the colors of the rainbow. "

### **Aquaponics**

In the time ahead it will be possible to tailor the aquaponic systems based on needs such as climate or desire about specific species. At Gårdsfisk they grow freshwater fish that can be raised at a higher proportion vegetables. The result is a climate positive, nutritious and tasty fish grown in Sweden.

## **Hydroponics**

Growing indoors is a trend that has grown tremendously in recent years, and big cities like London and New York is at the forefront of global development. The systems used, and that Sandra and Fredrik uses called hydroponic cultivation. A system that requires 90% less water and 70% less fertilizer than conventional cultivation. In addition, they can grow both horizontally and vertically indoors, in other words, the available surface is fully utilized. Then, you water and use organic fertilizer (in the case of Photographic residue from the compost is used as fertilizer). Finally, the LED lights contribute to the efficiency photosynthesis as natural sunlight. The opportunities hydroponics provide are enormous and research is ongoing. It is speculated, among other things, in whether large cities should be able to become self-sufficient for vegetables in the future. Cultivations are on the roof, in the basement and abandoned industrial premises. At Fotografiska, hydroponics means among other things fresh plants as well such as reductions in emissions and costs related to transport. What potentials hydroponics can provide the future has time to show.