



SCHOOL OF
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Getting the Ingredients Right

Drivers and Hindrances for Food Sustainability Transitions

by

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Abstract: In Sweden, what we eat accounts for about a third of the consumption-based greenhouse gas emissions, and there is strong evidence that the most effective way to reduce emissions is to switch to a more plant-based diet. A shift is currently underway in the Swedish food system; the market for plant-based products is showing an exponential growth, coupled with, for the first time since the 1950s, a decrease of meat consumption. The thesis explores this emerging transition, with the aim to understand and outline the developments that have influenced it. Consequently, the research questions concern what *drives* respectively *hinders* the emerging transition. Guided by the aim, the thesis is constructed as a qualitative case study, where the theoretical framework of a Multi-Level Perspective modified for food systems, structure the case. To provide answers to the research questions stated, a range of text documents is sourced online and subject to content analysis. Results suggest that, affected by aligned developments that have shifted consumer preferences, the consumers are the driving forces of the emerging transition, with their everyday choices. The hindrances are connected to inadequate conditions in the industry and political domains, prolonging the transition. This thesis concludes that there is a contemporary consumer pressure for a transition of the food system, however, in order for the emerging transition to be successful, the right conditions need to be in place.

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1 Introduction

How will our future food systems be able to deliver sustainable and nutritious food to feed a growing world population without further risking the health of our planet?

The above question summarizes the debate in society regarding the relationship of our current food system and its environmental consequences. It stems from the dichotomy of the need for food security and availability for all, and the environmental consequences this presents, known as “the great balancing act” (Hinrichs, 2014).

The current food systems are responsible for one third of all global, human-caused, greenhouse gas (GHG) emissions (Crippa, Solazzo, Guizzardi, Monforti-Ferrario, Tubiello & Leip, 2021) and global food production represents the single largest driver of environmental degradation (EAT, 2019). Moreover, in their latest assessment report, IPCC emphasize the importance of a transition in the food systems if the UN’s climate goals are to be achieved (IPCC, 2019). The food system is a complex mega system, encompassing everything from the production stage to the consumption stage (Fanzo, 2019), and environmental pressures occur at every stage, process and from every actor (Gordon, Bignet, Crona, Henriksson, Van Holt, Jonell, Lindahl, Troell, Barthel, Deutsch, Folke, Haider, Rockström & Queiroz, 2017).

Hence, the great balancing act will require a fundamental shift in food production and consumption practices (Notarnicola, Sala, Anton, McLaren, Saouter & Sonesson, 2017). A food sustainability transition is thus urgently needed; one that requires action and changes in all parts of the system (Röös, Bajželj, Smith, Patel, Little & Garnett, 2017). While there is great potential to reduce emissions at the earlier stages, with improvements in production, reduced use of fossil fuels and sustainable agriculture, the largest reductions can be made from changes in the later stages, with changed dietary and consumption habits (Poore & Nemecek, 2018), as it is the kind of products we buy, and the wasted food, that causes the largest environmental impact (Guyomard, Darcy-Vrillon, Esnouf, Marin, Russel & Guillou, 2012).

A transition toward less resource-demanding diets, that is, reduced use of animal-based protein sources and increased use of plant-based protein sources, has become one of the most discussed mitigation strategies in food sustainability transitions to reduce food systems’ environmental impact (Clark, Macdiarmid, Jones, Ranganathan, Herrero & Franzo, 2020). The objective is not to stop consuming meat completely, it is rather about consuming less quantity, choosing the right kind, and instead replacing a part with plant-based protein sources (EAT, 2019). However, few scholars believe that this shift will come easy for the larger masses; that it is unlikely that most consumers will alter their food habits to consume substantially more unprocessed plain

plant-based alternatives (e.g. lentils or beans) (Röös, Carlsson, Ferawati, Hefni, Stephan, Tidåker & Witthöft, 2020).

Instead, the solution is to lower the thresholds by making the food people already love and eat, more sustainable (Stoll-Kleemann & Schmidt, 2017). For many animal-based products today, there are plant-based alternatives that mimic them, in the form of plant-based protein (henceforth aggregated as PBP) products that are processed into convenience foods. These PBPs constitute as niche-innovations, and offer an easy way for those who want to reduce their consumption of meat without having to change their consumption pattern to a greater extent, and herein lies the importance of them; making the consumption and dietary transition easier for the larger masses (Saari, Herstatt, Tiwari, Dedehayir & Mäkinen, 2021).

It is argued that developed, high-income countries, such as Sweden, should lead the way in the transitions for two reasons; 1) they are often characterized by resource-intensive diets high in meat, causing an a disproportionate environmental burden (Moberg, Karlsson Potter, Wood, Hansson & Röös, 2020), and 2) diets globally are postulated to continue changing within the next few decades, especially in lower income regions, which are likely to follow similar trends to those consumed in higher income regions (Clark et al., 2020; Röös et al., 2020).

In Sweden, a country characterized by high degrees of meat consumption and resource-intensive diets, but also by a high degree of climate change awareness and willingness to adapt and try new products among consumers, something is starting to change (Mistra, 2019). Some observers believe that we are at the beginning of an extensive protein shift, and that a consumer-driven transition is taking place (Macklean, n.d.). At the same time as the consumption of meat is, for the first time in almost 70 years, decreasing, the consumption of PBPs is increasing (Mynewsdesk, 2021), coupled with an exceptional PBP-market growth and rapid development in the past years (LRF, 2020). Taken together, they show signs of a food system change. The exceptional PBP growth is thereby seen as an emerging transition.

1.1 Research Problem

Turning to academia, scholars argue that research on food system sustainability transitions was long neglected, especially regarding dietary- and consumption transitions, even though there is a consensus that a fundamental transition is needed to address several sustainability challenges (Markard, Raven & Truffer, 2012). As the challenges have become more pressing, the field has attracted more focus. However, research still remains theoretically and empirically fragmented (El Bilali, 2020), motivating further research.

Additionally, scholars stress that an emerging transition's success is dependent on the process of scaling up and out, spreading the niche-innovations (El Bilali, 2019). Scaling up and out, defined

in food sustainability transitions as reaching more or larger consumer groups, and being adapted by different or larger producers, can alter practices and thereby have greater impact and change the existing system (Pitt & Jones, 2016). However, food sustainability transitions are challenging, and the process of scaling is difficult, especially when it involves shifts in consumption and dietary patterns as well as market changes, (Graça, Godinho & Truninger, 2019). This is because food habits are notoriously hard to break (Vermeir, Weijters, De Houwer, Geuens, Slabbinck, Spruyt, Van Kerckhove, Van Lippevelde, De Steur & Verbeke, 2020) and strong market forces are present in the system, wanting to maintain *status quo* and resist the transition (Geels, 2019). Hence, different hindrances and lock-ins are present where some elements in the transition may be more important than others, thus, research is needed to identify these (Weber, Poeggel, Eakin, Fischer, Lang, Wehrden & Wiek, 2020).

Moreover, trends in key societal domains, such as the cultural-, social-, economic- and political ones, determine the development of the food system and the scaling process (Geels, 2019) and any transition is the outcome of the alignments of the domains' developments (Spaargaren, Oosterveer & Loeber, 2012). Hence, the emerging transition, the diffusion and societal embedding of PBPs, is dependent on developments in these domains. Furthermore, scholars stress that there is a need to study contemporary emerging transitions, to understand its driving or hindering mechanisms influencing the direction of the transition (Spaargaren, Oosterveer & Loeber, 2012). By studying emerging transitions, one can detect different lock-ins and hindrances, as well as drivers and possible solutions, to develop tools to steer it in the right direction (Sutherland, 2014). As argued by Spaargaren, Oosterveer and Loeber (2012), all ongoing, emerging transitions, should be researched for the trends in key societal domains that go along with them.

We are experiencing an emerging shift in the food system, where there is currently a very rapid development of both the Swedish and global PBP-markets. Even so, there is no guarantee that the transition will be successful. Therefore, knowledge about the developments in the societal domains influencing the emerging transition is perceived to be of greatest importance, to be able to steer it. However, the very notion of an emerging transition implies that it is ongoing, hence research about it is nascent. To identify which elements are driving the transitions and which are hindering it, which developments have influenced the direction and what hindrances there may be, more research is needed.

1.2 Aims & Research Questions

Given this introduction and problematization, three insights arise; (1) the need of a consumption and dietary transition and protein shift as a part of a larger food sustainability transition, (2) the emerging transition in Sweden regarding the fast PBP-market development, and (3) the need for more research on the developments influencing the transition to steer it in a wanted direction.

Thus, this thesis aims to investigate and provide an understanding of the developments that have influenced the transition, and outline the factors which slow down or prevent transition processes.

Based on these aims, the thesis will address the following questions:

- *What are the drivers for the emerging transition?*
- *What are the hindrances for the emerging transition?*

In order to explore this issue, this thesis utilizes a modified food system Multi-Level Perspective (henceforth MLP) framework as a descriptive and analytical framework, and tool for structuring a narrative about the emerging transition processes. To achieve the aims, a qualitative case study approach is deemed to be the most fitting, as it is considered to be suitable for understanding real-life, ongoing and complex phenomena (Yin, 2014). Furthermore, to be able to answer the research questions, the empirical material is gathered from online data sources, and analyzed by conducting content analysis. The analysis is based on a range of text documents, such as market and stakeholder reports, news articles and media sources, as well as trend surveys concerning the food system in Sweden, to understand the dynamics behind the transition, its drivers and hindrances.

1.3 Scope & Contribution

The scope of this thesis is limited to the Swedish food system, more specifically, the development of the PBP-market and emerging transition. It thereby primarily concerns the consumption and dietary perspective of a food sustainability transition. Previous studies have examined transitions in the Swedish food system, where the majority focuses on the agricultural (Eksvärd & Marquardt, 2018) or retail (Chkanikova & Mont, 2015) perspective, or on the ecological and local consumption perspective (von Oelreich & Milestad, 2017). Therefore, this thesis seeks to provide an insight to the dietary and consumption perspective of transitions. The focus on the ongoing transition, with a narrow time frame involving the developments in the past years, is chosen and motivated because there is a need to investigate contemporary trends to understand the different pathways it can take.

The outcomes from this thesis contribute to a wider empirical understanding of emerging food sustainability transitions and shape-mechanisms, particularly transitions involving changed diets and consumption patterns. The author's hope is to contribute to existing research with new perspectives and updated findings, by emphasising the emerging transition and positioning PBPs as a key enabler. Since the thesis is of a qualitative nature, the findings cannot be directly generalized to other contexts. However, the Swedish case can be an example for other countries facing a similar situation of an emerging transition and scaling process, motivating further research on the issue.

Given that changing consumption patterns in high-income countries is an important part in the larger food sustainability transition, this thesis' key contribution is providing an overview of the emerging transition in the Swedish food system, its drivers, hindrances and shape-mechanism, to foster the transition process. Understanding why and how these developments influence the direction, is a fundamental step to make in order to understand where action should be taken, which hindrances need to be addressed and which should be strengthened, to induce the scaling process and foster a sustainability transition. Hence, the results generate practical implications and can be of interest to several stakeholders in the transition, such as policy makers.

1.4 Outline of the Thesis

This thesis is organized as follows: In Chapter 2, the first section introduces a review of previous research conducted in the field, followed by the second section that presents the theoretical framework utilized throughout the thesis. Chapter 3 presents the methodological approach and design, the data collection method and finishes with a discussion about limitations. Chapter 4 is dedicated to presenting the case. It begins with a short overview of the context in which the case takes place, followed by a presentation of the empirical findings generated from the data collection. Chapter 5 is solely devoted to the analysis and discussion of the empirical findings. Finally, Chapter 6 is dedicated to the conclusion, it summarizes the main findings and finishes with a discussion of suggestions for future research.

2 Theory

This chapter introduces previous literature on food sustainability transitions as well as the chosen theoretical framework. It begins by discussing previous research, giving the reader a presentation of research on aspects such as barriers, plant-based products as well as different forces present, as these themes are interlinked in the emerging transition. Then, the theoretical framework, which will serve as a guiding tool throughout the thesis, is presented, discussed and motivated.

2.1 Previous Research

As previously mentioned, food sustainability transitions regarding- dietary and consumption changes are perceived as extra challenging, as it implies changing daily, often oblivious choices, routinized habits, embedded cultural values and strong incumbents wanting to retain market shares. Therefore, a plethora of scholars have begun to investigate these challenges and different developments in society that can impact the transition.

2.2.1 Consumer & Barriers

A number of studies have focused on the consumer angle, their role in a transition and what hindrances and driving forces there are for shifting consumption- and dietary habits. In their article about the potential for expanding plant-based diets in Western societies, Jallinoja, Niva and Latvala (2016) stress that there are economical, political, social and cultural forces that oppose a transition from meat to plant-based proteins, where some forces are still strong and difficult to change. Plant-based protein consumption is low compared to meat consumption in many European countries. Meat has had a central place in many households' meals and food purchases for several decades now, and still holds a high status in Western cultures. Food habits and preferences are often shaped by socioeconomic backgrounds, prevailing societal norms, attitudes, traditions and trends, and these are difficult to change. The authors state that a shift towards more plant-based diets is dependent on it being perceived as culturally acceptable, good-tasting, and requiring knowledge and competencies on how to prepare the dishes. It is essential that the consumption of plant-based protein becomes routine, and not perceived as something odd consumed only by sub-groups (e.g. vegans).

Similarly, Stoll-Kleemann and Schmidt (2017), in their review on the need of a dietary transition in developed and transition countries, identified influential factors, barriers and opportunities for the transition. They reason that social and cultural forces and its barriers are often interdependent on each other, and consumer habits tend to be routine, repetitive and reinforcing practices, creating behavioural lock-ins. Moreover, from the consumers' perspective, preferences, time, values as well as product availability, accessibility and affordability create constraints influencing food choices (Reisch, Eberle & Lorek, 2013).

However, scholars argue that new attitudes and trends are taking shape, especially focusing on the term flexitarianism (i.e. a diet that is primarily plant-based but where the individuals still consume animal-based products in moderation). Promoting flexitarianism is a way of relaxing the attitude towards reducing meat consumption and increasing plant-based proteins (Stoll-Kleemann & Schmidt, 2017). The argument is that it is not as drastic as when promoting veganism or vegetarianism, and that the fact that it is not so strict makes the transition easier for many, which can lead to more people getting into the habit of eating more plant-based (Jallinoja, Niva & Latvala, 2016). When more people change their food habits and preferences, prevailing societal norms can change (Saari et al., 2021). The importance of trends and attitudes is something that Spaargaren, Oosterveer and Loeber (2012) also argue is important, and that food consumption has become a symbol of status, a way to express social identity and lifestyle and an indicator of class and group belonging.

In a Swedish setting, Rööös et al. (2020) examined the opportunities and challenges in the transition toward sustainable diets, focusing on less meat, and more legumes. The authors bring forth that there is a worry among many consumers that a dietary change with reduced meat and increased plant-based foods would lead to a protein deficiency. Moreover, they show that the likelihood for the larger masses to choose plant-based protein alternatives is small when they are in non-processed forms (i.e. when the consumers have to boil, prepare, and cook, for example lentils, into a burger themselves). They conclude that a successful transition requires the development of plant-based products, attractive for the consumers as meat substitutes.

There are several types of lock-ins present in the food system, some directly regarding the consumers (e.g. social, cultural and cognitive) and others indirectly, regarding industry and market aspects (e.g. techno-economic and institutional and political). Together, these lock-in mechanisms create hindrances for food sustainability transitions. Social, cultural, economical and political processes can thus either impede or catalyse transitions, and the alignment of the processes is essential for the deployment of emerging transitions (Herrero et al., 2020).

Vinnari and Vinnari (2014) underlines that policy measures that regulate the advertising sectors could be taken to influence consumer values and decision making. This to prevent misinformation about products and to clarify the environmental burden of certain food groups. However, critiques are brought up by Dagevos and Voordouw (2013), where they stress that policy makers have shown little interest in strategies to encourage a shift in dietary patterns and a food sustainability transition. Further, meaningful political attention is absent and the question seems to be politically taboo for many European politicians.

2.2.2 Innovations & Developments

As previously stated, to ease the dietary transition, many scholars highlight the need for new innovations, that is, plant-based alternatives in the form of finished products, functioning as substitutes replacing part of the meat consumption share (Stoll-Kleemann & Schmidt, 2017). By creating products similar in taste and texture while being nutrient-rich, the objective is to provide opportunities to the consumers, making the change towards more plant-based products easier (Saari et al., 2021). Meat substitutes, vegan products, fake-meat, plant-based meat; the names are many yet they can be grouped together as PBP-products. In general it can be explained as a product containing ingredients derived from plants, processed into a finished product, constituting easy and convenient alternatives to meat products. PBP products can be regarded as a form of technological product niche-innovation (Jallinoja, Niva & Latvala, 2016). The growing variety of niche-innovations, ranging from more traditional bean patties, to tempeh and “meat” products such as “bleeding” burgers are creating a niche-segment (Saari et al., 2021).

Recently, studies have been conducted on the market of plant-based meat alternatives and its significant growth globally. In a study about plant-based innovations and their challenges, Alcorta, Porta, Tárrega, Alvarez and Vaquero (2021), stress that in order for plant-based alternatives to be able to replace animal-based products, more than just nutrition and environmental arguments are required. The new food must also be tasty and we must have knowledge of how to cook it. To attract new consumer groups, the plant-based products must be developed and refined and certain product characteristics need to be fulfilled. Rööös et al. (2020), reason in a similar way, that a successful transition requires product development, where plant-based sources need to be incorporated into processed, convenience products, attractive for the consumers. However, PBPs tend to be more expensive than meat products (Poore & Nemecek, 2018). Reisch, Eberle and Lorek (2013) argue that from a consumer perspective, economical considerations (i.e. prices), strongly influence consumers’ consumption behaviour and food choices. A market where meat products are cheap and the sustainable alternatives expensive, creates a barrier to switching (Saari et al., 2021).

In their review about challenges and opportunities for the emerging plant-based market, Aschemann-Witzel, Gantriis, Fraga and Perez-Cueto (2020), take a business perspective and identify several developments and trends that have influenced the growth of the market. The market trends reveal increasing business opportunities, led by increasing consumer demand where preferences have shifted towards more plant-based protein products instead of meat. More players have thus started to tap into this consumer trend. The authors highlight that the greatest drivers for the market are connected to certain global developments (e.g. climate change) and this creates opportunities for market growth. Regarding the largest barriers, most of them are connected to the consumers’ lack of knowledge on how to prepare the products, and a lack of familiarity. Consequently, taste preferences, habits, cost and convenience factors stand out as barriers for novel plant-based alternatives.

Similarly, Tziva, Negro, Kalfagianni and Hekkert (2020) studied the emerging protein transition and the rise of PBPs in the Netherlands. The authors stress that, contrary to many other transitions, consumers are the driving force behind food sustainability transitions, and the success of the transition requires a cognitive and normative legitimacy of the PBPs. Further, several developments have occurred that have strengthened the legitimacy. For example, crises and disease outbreaks connected to meat and an increasing connection between meat (over) consumption and planetary and personal health awareness, and these have triggered the market growth of PBPs. Related to this is the study of Saari et al. (2021) about food producers focusing on developing PBPs' innovation and expansion journeys in Europe. Companies with different backgrounds have adapted to consumer demand and have similar practices and strategies for providing products that are satisfactory for the consumers. A diverse set of food producers, new entrants, and even traditional “meat companies” (incumbents) are now present in the PBP market and releasing innovative PBPs. The authors argue that this shows that niche-innovations can be taken up by incumbents that traditionally have been viewed as resistant to change, as they have realized the PBP market potential.

2.2.3 Actors & Opposing Forces

There are several actors within a food system that all play a role in a food sustainability transition, and through various practices, they either enable it or hinder it. Spaargaren, Oosterveer and Loeber (2012) stress that the consumers should not be perceived as powerless actors in a food sustainability transition. On the contrary, they are the focal point in the food sustainability transition as their practices can drive the transition; their demand, preferences and willingness to pay for the products can influence the development and its directions. Therefore, the consumers can “vote with their valets”, and demand change. By their consumption practices, they can alter the market and what is deemed profitable, as producers usually answer to consumer demand and invest where the money is. Furthermore, PBPs need to be adopted by a larger number of people worldwide; the success of the PBP-niche depends on its adoption at scale, requiring the process of scaling up and out (Saari et al., 2021).

Pitt and Jones (2016) analyzed the role of policies for a successful transition in food systems. The authors state that in order for niche-innovations to influence transitions, they need to be more widespread. Successful transitions are dependent on policy makers, and supporting policies are key for leveling the playing field and ensuring fair competition. However, policy is one element where the incumbents maintain influential decisive power. Vinnari and Vinnari (2014) reason in a similar way, that a large-scale transition is possible, if technological developments and market trends enable the transition. This is a point brought up by Aschemann-Witzel et al. (2020) as well. The authors argue that current policy structures are still favouring many incumbents, such as meat and dairy producers, which is demonstrated by subsidies and taxes supporting animal-based products over plant-based innovations. Consequently, political forces

can either work to prevent a transition by favourable policies directed to meat, or simplify the transition through removing meat subsidies and instead providing subsidies, financial support and research initiatives aimed towards plant-based alternatives and sustainable diets.

Reisch, Eberle and Lorek (2013) argue that a transition towards more sustainable food practices is dependent on political will and that the government provides incentives, supporting infrastructure and an enabling environment. Likewise arguments can be found from Stoll-Kleemann and Schmidt (2017), where the authors state that economical barriers are often connected with political barriers, as there are powerful lobbies in the agro-food industry. High subsidies for producing animal-based food together with the low prices of animal-based products creates incentives to both continue to produce and consume animal-based products. Thus, high levels of subsidies can lead to market distortions and misallocations.

It is thus clear that there are powerful actors embedded in food systems with strong economic incentives and vested interests, wanting to protect their current market share (Herrero et al., 2020). Bui, Costa, De Schutter, Dedeurwaerdere, Hudon and Feyereisen (2019) argue that corporate food retailers are powerful actors in the food system as they distribute products to the consumers. Hence, they play a pivotal role in the market and can shape and influence both the production and consumption practices. The authors argue that food retailers trade on a business-as-usual basis and with their market practices they exert strong lock-in effects. Through shaping practices and controlling supply chains, they use their power and influence to create economical barriers for new entrants, thereby excluding new alternative products.

2.2 Theoretical Framework

2.2.1 Sustainability Transitions & The Multi-Level Perspective

Sustainability transition studies have received increasing attention lately, as they are needed in arguably almost every system in order to cope with sustainability challenges (Grin, Rotmans & Schot, 2010). As defined by Markard, Raven and Truffer (2012, p. 956), sustainability transitions are “long-term, multi-dimensional, and fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption”. Transition studies thus seek to understand *how* systems change and *what* hinders or enables this change (Geels, 2010). Over time, a number of conceptual frameworks have emerged to study these transition processes, and the most prominent used is the Multi-Level Perspective (Markard, Raven & Truffer, 2012).

The MLP is largely derived from Geels (2002), who, over time, elaborated on the framework, with later extensions, modifications and additions. It is a framework used for analyzing sustainability transitions in complex systems, which is done by looking at the interaction of elements on three analytical levels; the socio-technical landscape, socio-technical regime, and

niche-innovations. The MLP posits that transitions are the result of changes and interplays on these levels (Geels, 2002).

The landscape refers to the overarching level; it is the larger context that forms the environment in which the regimes and niches exist within (Geels, 2002). Landscape factors are often global phenomena such as international trends and agreements, environmental and demographic change, and macro-economic patterns (Geels, 2011). The regime consists of the established networks, incumbents and practices, creating the existing system. Regimes are characterized by lock-ins and path dependencies, hence transitions, defined as regime shifts, do not come about easily (Geels, 2011). Moreover, the regime is often reluctant to change since they are already the leading force, hence they represent the status quo (Geels, 2002). Niches can be explained as incubation rooms where innovations are free to occur. Radical innovations are important factors for transitions and within niches they are protected from “normal” market selection in the regime. Thus, niches are crucial for transitions, constituting places where the essential elements for change can emerge (Geels, 2002).

Transitions are non-linear processes of interactions and developments among these levels (Figure 1 shows an ideal-typical representation of socio-technical transitions), and according to MLP, transitions are largely dependent on alignments between landscape developments and niche activities (Geels & Schot, 2007). There is no single cause or driver in transitions, however, in a short and stylized manner, transitions can be actualized by the process of (a) developments at the landscape create pressure on the existing regime, (b) destabilization of the regime open up windows of opportunities for the niches, and (c) niches develop internal momentum and strength, thereby forcing transitions and change in the regime (Geels, 2002; Geels & Schot, 2007).

Concerning food sustainability transition, MLP has been criticized for its rigid definition of the levels, presenting a “bottom-up” view on change, as well as for the lack of agency and civil society, neglecting the roles of agency, consumer, politics and culture (El Bilali, 2020; Spaargaren, Oosterveer & Loeber, 2012). Thus, scholars have extended and modified MLP over time, to better fit the complexity of food systems (i.e. being consumer driven, multi-dimensional, and the significance of cultural and social aspects).

Increasing structuration
of activities in local practices

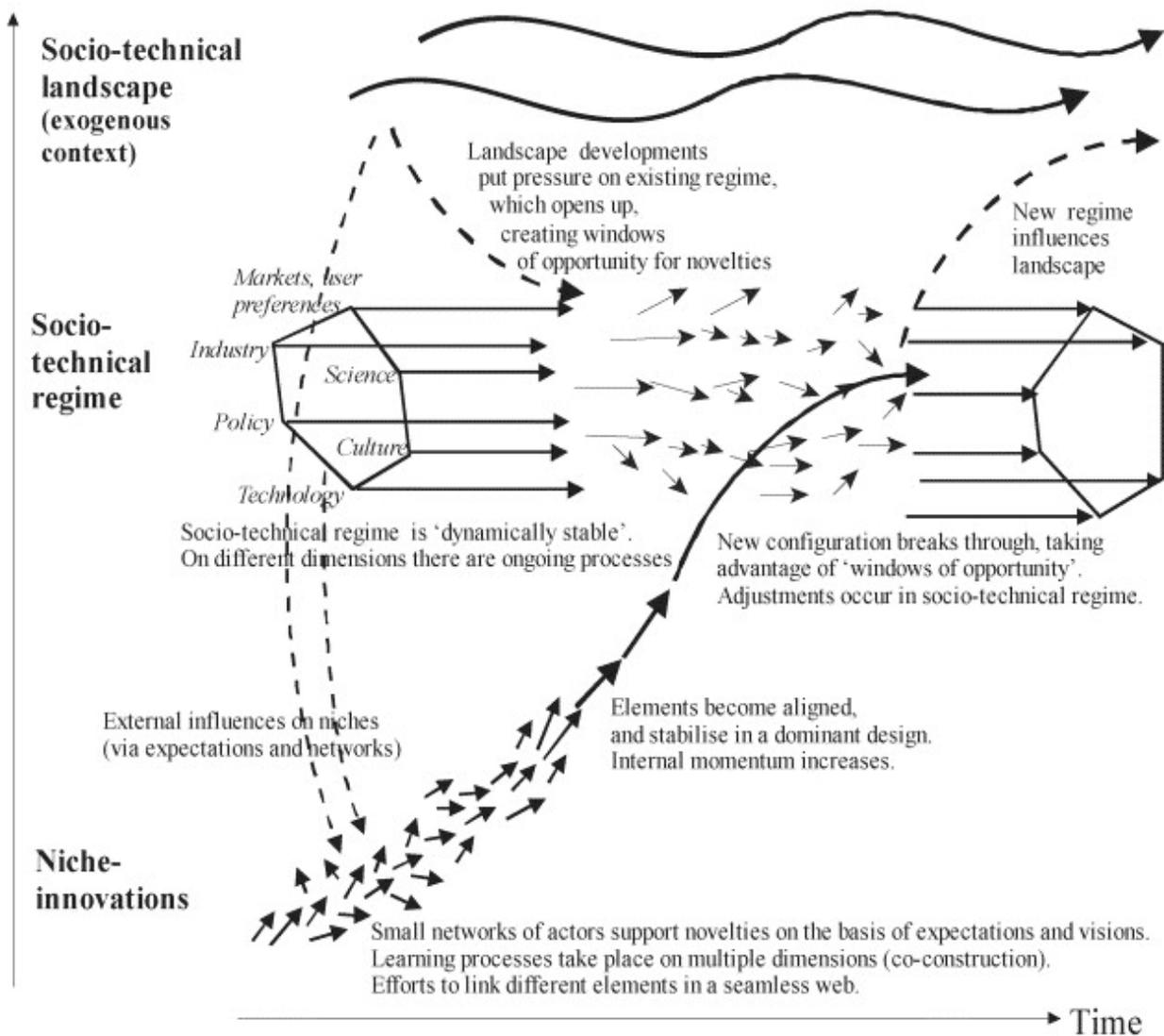


Figure 1. The Multi-Level Perspective (Geels & Schot, 2007, p.401)

2.2.2 Applying the Multi-Level Perspective on Food Systems

A number of researchers modified MLP to better fit the specific contextual factors that food systems are characterized by. However, the one chosen in this thesis is the one provided by Mylan, Morris, Beech and Geels (2019). Mylan et al. (2019) state that, when analyzing sustainability transitions in food systems, one has to make some adjustments on how to apply the MLP framework, due to the particularities of food systems. The authors applied their MLP on the plant-based milk niche and dairy regime in the UK and examined how interactions in key societal domains play out in a sustainability transition. The analysis of emerging transitions can reveal lock-in mechanisms; how they have been shaped and which solutions are best suited. The

framework largely builds on the MLP framework, however presents a more nuanced picture of transition processes in food systems, arguing that a too rigid bottom-up view on transitions is not suitable for food systems. Instead, the authors conceptualize transitions as processes of societal embedding and niche-regime interactions.

Contrary to Geels (2002), who distinguishes seven dimensions in the regime, Mylan et al. (2019) modify it and shrink it down to four and use the notion of environments instead of dimensions. Mylan et al. (2019) categorize the environments into consumer and market, industry, culture and policy (illustrated in Figure 2). The framework suggests that sustainability transitions come about through niche-innovations embedding themselves in four pre-existing environments. Thereby changing the established regimes and, ultimately, creating a more sustainable food system. That is, niche-innovations have to find their place in these pre-existing environments, changing parts of the system in the process. The relative importance of the four environments, their characteristics and causal mechanism varies, which is why one needs to examine changes and interactions in all four. Within every environment, different regime-incumbents may respond to the niche-innovations in different ways, depending on how they impact them.

The framework suggests analyzing processes of transformational changes on landscape, regime and niche level in the environments. Hence, Mylan et al. (2019) state that, to understand food system transitions, all processes can and should in principle be investigated for (1) the new consumer preferences and market dynamics, (2) the industry characteristics and socio-technological innovations they depend on, (3) the cultural dimensions and traditional changes that need to go along with the development, and (4) the new forms of policy and governance supporting transitions.

Consumer preferences and market dynamics

There are many factors influencing consumer preferences, and in turn, preferences influence demand and consumption patterns, and play a significant role in food sustainability transitions. Market dynamics refers to how well the niches are perceived and received by the consumers and regime incumbents, within the market. Market shares and consumer demand can give indications of how the transition is going and indicate which type of hindrance that may be present (Mylan et al. 2019).

Industry

Technical improvements and business and marketing strategies are significant elements in the industry environment. Transitions pivot on innovations, as they are seen as driving mechanisms for transitions. The proportion of product diversification and acquisitions can give hints to how some regime incumbents react to the transition and niches, either manifested through defensive responses and strategies, incremental improvement strategies, or engagement with the niche market (Mylan et al. 2019).

Culture

Cultural factors influence consumption patterns and play a large role in food transitions, as food and eating habits are deeply intertwined with traditions as well as with everyday life and habits, creating a form of regime. The cultural significance, normative trends and public debate thus affect whether or not a transition will be successful as well as the speed of it. However, when innovations (e.g. technical, institutional, social) reach the wider publics, and roots in culture, it can destabilize the cultural legitimacy of prevailing regimes (Mylan et al. 2019).

Policy

Policy plays a crucial role in the transition, as they can either enable and accelerate or prolong and prevent transitions. It is this environment that sets the scene, rules and “playing field” of the transition, affecting primary production and market regulations. Policy instruments occur in different forms and variations, for example, regulatory, economic, financial and as soft instruments, constituting as regime factors. Niches can emerge without the support of policy. However, for the scaling and societal embedding of them, supporting government policies and formal institutions are of utmost importance (Mylan et al. 2019).



Figure 2. Four environments relevant for niche-innovations (adapted from Mylan et al., 2019, p.235)

2.2.3 The Theoretical Lens: Motivation & Application

The modified MLP by Mylan et al. (2019) is chosen as it best tries to incorporate the peculiarities of niche-innovation development in the setting of complex food systems transitions, and operated well when it was conducted in a research with a similar setting as the one in this thesis. Hence, it is from this specific framework that this thesis will draw upon, and utilize throughout the case study, with the aim to uncover the dynamic patterns, the hindrances and forces, of emerging food sustainability transitions. The modified MLP is applied and frames the examination of the food system, making it possible to pinpoint the developments to a specific environment and causal mechanisms. As such, this thesis applies the modified MLP as a descriptive and analytical framework and uses it as a tool for structuring a narrative about the niche-regime-landscape interactions, revealing and analyzing the transition processes.

It is important to clarify the different levels in the MLP, as they can have different interpretations depending on the focus of the analytical level (El Bilali, 2019; Geels, 2011). Therefore, in this thesis the niches are to be understood as the PBP-innovations forming a market niche, the landscape level is defined as the overarching structure, with global societal developments and trends (e.g. climate change and changes in attitudes in society). The regime level is made up of pre-existing factors; the regime in user/market is made up of preferences and market structure, the industry regime of technological and cognitive factors, the cultural regime of habits, values, norms and trends (i.e. a dietary regime), whereas the policy regime consists of regulations and policy goals.

3 Methodology & Data

This chapter is divided into three parts. The first part presents the chosen methodology and research design. The second part presents the method of source collection and analysis, and provides an overview of the sources and a discussion about the criteria for quality. The third and final part discusses the limitations of the thesis.

3.1 Methodology

3.1.1 The Approach

To achieve the aim; to examine and provide an understanding of how key developments influence emerging sustainability transitions, and to answer the research questions, a qualitative approach was deemed as the most suitable. According to Yin (2014), when a study's purpose is to obtain a better comprehension of processes over time by examining motives and drivers, a qualitative approach is most appropriate. A qualitative approach enables exploration, description and interpretation of a phenomenon (Creswell, 2014), and is thus preferred when examining and understanding a social phenomenon involving several different actors who are embedded in a particular context (Ritchie & Lewis, 2003). Since the focus of this thesis is on developments and dynamics that occur in a specific context, a qualitative approach was chosen as it facilitated a context-sensitive analysis, to interpret the transition processes.

3.1.2 Research Design

A case study design was chosen as the most beneficial research design in order to acquire an in-depth understanding of the emerging sustainability transition in the Swedish food system. According to Yin (2014) and Creswell (2014), a case study is appropriate when the aim of the research is to understand a complex social phenomenon and investigate it in-depth. Moreover, it is appropriate when the researcher wants to investigate multi-faceted factors and issues in its real-life context, and when using multiple sources of evidence (Yin, 2014). Additionally, a case study design is suitable for investigating early diffusion and an emerging transition in food systems (Spaargaren, Oosterveer & Loeber, 2012). Therefore, a qualitative case study was chosen as the most useful research design in order to acquire a deep understanding of the emerging transition. Further, Yin (2012) states that theory is an important aid when doing case study research; it is beneficial to guide and design the case study, the data collection process as well as serve as a vehicle for generating the results. Therefore, the role of the theoretical framework in this thesis was to guide, structure, categorize and analyze the case and research process.

3.2 Data

3.2.1 Data Collection Method & Sources

When conducting a case study to gather empirical material, different types of data sources can be used, and it is the aim and research questions that determine which method and type that is the most suitable (Yin, 2014). With this in mind, the case study's empirical material was collected through online searches, focusing on several types of text documents available on the Internet, with the purpose of investigating and understanding the emerging transition. This was deemed fitting, as it is an effective and suitable method for collecting many accounts, sources and perspectives in a resource-effective way (Creswell, 2014). Moreover, it is a method that has already been used by similar previous studies (e.g. Aschemann-Witzel et al., 2020; Mylan et al., 2019; Tziva et al., 2020).

The first step of the data collection was conducted through online searches. The sources were drawn from search engines (e.g. Google, industry publications and magazines) in order to obtain various types of text documents that are available online. The sources included news articles, market and stakeholder reports, media news and other text documents relevant for the topic of the thesis. The theoretical framework was used to structure the search process of the sources. Therefore, in order to identify relevant sources, a set of search terms (keywords) related to the four environments (i.e. categories) were used, including for example “plant-based market”, “plant-based products/protein/innovation”, “consumer trend”, “meat substitutes” (translated in Swedish as well). The use of keywords is something Creswell (2014) argues is beneficial for identifying sources online, to narrow the search down. Thereafter, particular leads and themes were followed up on, by using more keywords, for example on trends such as “flexitarianism”, and policy developments such as “plant-based labelling/marketing”.

Further, this process was conducted until a point of theoretical saturation was deemed to have been reached. Gathering as many different sources and perspectives as possible until the sources start to repeat themselves, with few new insights (thus reaching saturation), can serve as a guiding indicator for the researcher to stop gathering information (Bryman, 2016; Creswell, 2014). Therefore, the sampling strategy conducted in the thesis can be explained as theoretical sampling; a form of purposive sampling where sources are selected guided by the research topic and aim, and where sources are collected until no new insights are generated by more samples (Ritchie & Lewis, 2003). As stated, several types of text documents were used to construct the thesis' empirical material. An aggregated overview of the different sources can be found in Table 1 (divided into the four conceptual categories), and all sources constructing the empirical material can be found in the reference list. In total, the sample consisted of 54 text documents.

Table 1. Summary of the main types of sources for the empirical material

Conceptual Category	Type of Source	Objective
Consumer Preferences & Market	Market and stakeholder reports, trend surveys, news articles	Detect changes in preferences and market structures
Industry	Industry news and reports, news articles, company websites	Detect general trends in the industry, business strategies, different innovations
Culture	Industry reports and polls, media news and articles, trend surveys	Detect cultural and social changes, normative trends and the conversation in the public debate
Policy	Industry and stakeholder reports, news articles	Detect contemporary policy goals and objectives and lobbying activities

3.2.2 Data Analysis

The second step of the process included the analysis of the gathered empirical sources. A qualitative, directed content analysis was deemed as the most suitable analysis method to analyze the data. It allows the researcher to focus on the content and context in a document, to study it in-depth and identify key themes, main consistencies and meanings (Ritchie & Lewis, 2003), structured by the theoretical framework (Bryman, 2016). Relying on the theoretical framework to guide the data analysis is a common strategy to obtain analytical priorities in information-rich material (Yin, 2014), hence, the framework served as an initial coding scheme. Consequently, the various text documents gathered from the online searches were subject to content analysis, structured by the theoretical framework, where the data were categorized according to the analytical categories (i.e. environments). The documents were read, and parts that were identified as an associated causal mechanism relating to the one of the analytical environments were highlighted and grouped together as themes. Within each theme, certain repetitions, similarities and differences were distinguished, thus, sub-themes were identified, created and grouped together. This process enabled the creation of a re-construction picture of the emerging transition and an interpretation of the developments, drivers and hindrances.

3.2.3 Validity, Reliability & Reflexivity

Throughout the research process, certain strategies were utilized with the purpose of strengthening the quality. There are different criteria for defining the strength of the data and determining the quality of the research, and the most prominent in qualitative research are validity, reliability and reflexivity (Ritchie & Lewis, 2003). Qualitative validity regards the accuracy of the findings, where trustworthiness and credibility are guiding terms to attain validity, and multiple strategies can be used to enhance it (Creswell, 2014). The primary strategies applied throughout the research process were the use of a detailed description when conveying the findings to enhance trustworthiness, and accounting for the researchers' bias to create self-reflection. For qualitative reliability, meaning consistency and stability of the research

approach, Creswell (2014) and Yin (2012) recommend documenting as many steps of the research process as possible. Therefore, throughout the thesis process, a case protocol was used to document all the steps in detail, to be able to trace the process and go back and follow it. The researcher's personal background, culture and history may introduce bias to the research (Creswell, 2014), and therefore compel an unidirectional perspective in the thesis. Reflexivity thus refers to the researcher reflecting about his/her own role in the study, and the potential biases, and remains critical of the interpretations (Creswell, 2014). Having this in mind, the researcher is aware of the biases, both the researcher's own role and the bias this introduces, and the researcher's methodological and data collection choices, which is discussed in the next section.

3.3 Limitations

The applied research approach, design, data collection method, as well as the sources used, bears inherently some limitations and bias, which is important to remain observant of and relate to. Firstly, the findings of qualitative research and of single case studies are not directly generalizable, as several factors are context specific and thereby differ from the specificity of each context (Creswell, 2014; Yin, 2014). Hence, the findings from this thesis, derived from the analysis of the Swedish food system, are context specific. Therefore, they cannot be generalized, as the system is characterized by, and determinant on, certain developments and market- and governance structures. However, generalization is not always a key goal outcome for qualitative research, as argued by Creswell (2014, p.253), "particularity rather than generalizability is the hallmark of good qualitative research". Consequently, the Swedish case can provide an indication of potential similar factors for other countries facing a similar situation of an emerging transition and scaling process.

Secondly, another limitation concerns the chosen extent and time limit. Food sustainability transitions can be prolonged processes, and they involve various developments (Mylan et al., 2019; Spaargaren, Oosterveer & Loeber, 2012). Hence, the narrow time frame that was chosen for the analysis (which includes developments in the last few years), could present a limitation. However this time frame was chosen and motivated by the thesis' aim and research questions. To fulfill the aim and answer the research questions, focus was on the emerging transition and contemporary developments, drivers and hindrances. Nevertheless, a more thorough investigation of past developments and historical perspective could detect underlying structures and causes and other influential factors.

Thirdly, using text documents from online sources as the main source of data (as in this thesis) comes with its strengths and weaknesses (Yin, 2014). This entails a critical discussion of the source material and requires a cautious and observant approach towards the gathered empirical material. The main strengths are that the sources are stable, unobtrusive, broad as well as precise.

Whereas the main weaknesses are connected to retrievability and accessibility, biased selectivity as well as reporting bias. Consequently, the limitations of the data collection method and sources may have influenced the findings of the thesis. The sampling method influenced which sources that were collected and analyzed and could be incomplete, and the use of online sources data may have introduced bias. Thus, as suggested by Creswell (2014), when analyzing documents it is important to understand that the documents were constructed for some specific purpose, with different objectives. However, by being aware of the limitations, considering the context and purpose of the documents and by converging on the same findings from different sources, the limitations may be overcome. Thus, the case study was constructed from multiple data extracted from diverse sources, to apprehend an understanding of the case from different perspectives. As several sources repeatedly stated the same thing or reported similar trends, they were deemed accurate. Yet caution was made regarding drawing too excessive conclusions from them.

4 The Case: Empirical Findings

This chapter is dedicated to the presentation of the empirical findings. It begins with a short introductory section, with the purpose to provide a summary picture and explain the context in which the case takes place. Thereafter, the findings from the documents analyzed are presented, structured by the modified MLP framework of Mylan et al. (2019). The findings are organized along the four environments, and for each environment the associated causal mechanisms and developments are presented. The time frame is narrow, focusing on the developments in the last few years, as the focus is on an emerging transition.

4.1 Introduction to the Case

4.1.1 The Swedish Food System

The Swedish food system is strictly regulated, the retail market is highly concentrated, and the agri-food sector is characterized by low antibiotic levels and sustainable agriculture (Jordbruksverket, 2021). The food industry is fragmented and consists of many small and medium-sized companies, with a few large, powerful businesses. The three largest retailers (ICA, Coop and Axfood), dominate the food market, together controlling 73% of it (Eriksson, Pano & Ghosh, 2016). In terms of production value and number of employees, the food industry is the third largest industry in Sweden. In 2019, the industry turnover was SEK 187 billion and the export SEK 60 billion (Livsmedelsföretagen, n.d.).

In the last three decades, the EU accession (1995), as well as efficiencies in the retail chain, more supermarkets and the entry of discount chains in the early 2000s, have been important political and economical factors influencing the developments in the Swedish food system (Jordbruksverket, 2015). With EU membership in 1995, an adaptation to the EU's Common Agricultural Policy (CAP) began and the previously regulated agricultural- and food sector became market-adjusted (Jordbruksverket, 2015). For example, EU accession is one of the factors that has influenced the development of meat prices, which in turn led to increased consumption (Jordbruksverket, 2012). The National Food Strategy, adopted in 2017, aims at making the Swedish food system more productive, competitive, innovative and sustainable, where the food production should respond to the consumers' demand (Sweden Food Arena, 2020).

4.1.2 Dietary Habits & Emissions

As in many other high-income countries, Sweden follows a so-called “Western diet”, where the dietary habits are characterized as being heavy in animal-based products, sugar, and processed foods (Livsmedelsverket, 2013). Swedes' dietary habits have changed drastically in the past 50 years, as the supply, variety and choice in food products have increased significantly, with a

larger share of imported food. A clear trend of higher consumption of meat, vegetables and fruit have occurred during the last 70 years and processed, refined products and “ready-to-eat-meals” are becoming more common (Mistra, 2019). Meat consumption has increased by almost 70% since the beginning of the 1960s, and the consumption of fresh, non-storage vegetables and fruits tripled (Naturvårdsverket, 2020).

In Sweden, one third of the household's total climate impacts stems from food consumption. The consumption-based emissions include emissions that occur in Sweden as well as abroad to satisfy the demand in Sweden (Livsmedelsverket, 2021). The majority of emissions comes from the consumption of animal products (Naturskyddsföreningen, 2018). Emissions from the production of animal-based food account for almost 70% of the emissions derived from the food we eat in Sweden (Sveriges Lantbruksuniversitet, 2021). Estimates show that emissions from the Swedish agriculture could be reduced by 20-25% by 2045, if technologies and improvements are implemented on a large scale. The emission reduction is not greater as the agriculture sector is already technically advanced and efficient. The emission reduction potential thus lies in reducing the emissions caused by the diets, as in high-income countries such as Sweden, the diets often have a large environmental impact (Sveriges Lantbruksuniversitet, 2021). A compilation of several studies in the field showed that it is possible to reduce GHG emissions from the diet by 50% by reducing the amount of animal-based foods (Hallström, Carlsson-Kanyama & Börjesson, 2015; Mistra, 2019; Rööös et al., 2020). According to studies conducted on Swedes’ dietary habits, we should eat about a quarter to half as much meat as today, and ten times as much nuts and legumes, both for the planetary health but also for personal health (EAT, 2019; Wood, Gordon, Rööös, Häyhä, Bignet, Rydenstam, Segerstad & Bruckner, 2019).

One important discussion is whether or not PBPs have a lower environmental impact than meat. There are differences among PBPs in their degree of emissions caused, energy required and resources used. Specifically, the processing stage requires considerable input of energy, which renders some types of PBPs to be less environmentally friendly than other, less processed, PBPs (Potter, Lundmark & Rööös, 2020). However, several studies have shown that the lowest-impact animal-based products typically cause a higher environmental burden than the highest-impact plant-based substitute (Clark et al., 2020; Davis, Sonesson, Baumgartner & Nemecek, 2010; Poore & Nemecek, 2018).

4.2 The Emerging Transition

4.2.1 Consumer Preferences & Market Dynamics

As presented by Mylan et al. (2019), emerging transitions should be examined for new forms of consumer preferences and market dynamics. The success depends on the market construction, regime actors’ attitudes, and contemporary consumer preferences and demand.

4.2.1.1 Market Dynamics

The PBP-market in Sweden consists of three main categories of PBPs; plant-based meat (i.e. products that are designed to imitate meat), meat substitutes (i.e. products that to some extent try to mimic meat, but not completely), and so-called green alternatives (products that do not primarily mimic meat but offer alternatives which are still a protein-rich component, e.g. tofu or falafel) (Macklean, 2020).

The PBP market segment is experiencing significant growth; a notable increase in demand can be seen, and sales is expected to grow significantly more than other foods in the foreseeable future (Växtbaserat Sverige, 2020). According to a market report, total sales of PBPs in the Swedish grocery trade amounted to SEK 862 million in 2019, with a growth of 15.5% per year for three years in a row (Macklean, 2020). Growth is thus rapid, and based on current market indicators and consumer trends, it is postulated that the PBP-market growth rate will continue, and perhaps increase. With a maintained growth rate, sales in 2025 will be just over SEK 2 billion (Macklean, 2020).

Consumer demand is high, and strong incentives emerge for companies to respond to this demand. This can be seen both in the increasing number of new companies entering the market, the broadening of product range, and that the launch rate of new products is high (EkoMatCentrum, 2020). Further, there are a few large and well-established brands, such as Anamma and Hälsans Kök, but new innovative players are entering the market (Macklean, 2020). At present, the proportion of Swedish raw materials (e.g. lupines, lentils, grey beans), is small in the products available on the market, instead imported soy dominates. At the same time, there is great interest in products with Swedish raw materials. In general, the price level of the products is high, especially compared to animal-based products (Macklean, 2020).

The growth is evident at the retail level, as the grocery stores are noticing the sharp increase in demand. For example, in 2018, Coop noted a growth of 50% regarding meat substitutes (Coop, 2018). ICA reports that fresh PBP-products (i.e. chilled but not frozen products) total sales have increased by 40% the last years (ICA Gruppen, 2019). Moreover, ICA's sales figures indicate that PBPs in five years' time will be as large as the chicken segment and will reach meat levels in ten years' time (ICA Gruppen, 2021).

This trend is not specific for Sweden, as the PBP-market growth reflects the pattern of market expansion globally. According to market research data, the global market for PBPs recorded high increasing demand in the past decade with postulated increasing growth rates (Mordor Intelligence, 2021). Further, according to analysts, this is just the beginning; the bank Barclays believes that the market for PBPs will show tremendous growth in the coming years (Barclays Investment Bank, 2019). As the growth forecasts show great market potential, strong growth and

increasing global demand, the market is attracting capital and new entrants (Växtbaserat Sverige, 2020), a topic that will be further dealt with in *Industry*.

4.2.1.2 Consumer Preferences

Influential factors that affect consumer preferences in Sweden are; health benefits, cost affordability, animal welfare, environmental friendly, convenience and knowledge (Axfood, 2020). These factors influence the growth of the market, where some are expected to increase demand for PBPs (e.g. environmental concerns and health benefits) and others hinder it (e.g. price and accessibility) (Macklean, 2020). A clear trend can be seen in Sweden regarding more environmentally friendly consumer preferences, where people are becoming more flexible in their choice of protein source, taking into account consumer trends (Salomonsson, 2020). This trend is evident in the statistics about meat consumption, showing that the previous steep increase in meat consumption (starting in the 1950s), stagnated in 2014, came to decrease in 2017, and has continued to decrease since then (SCB, 2019).

Consumer preferences have shifted, leading to a higher demand for PBP-products (Novus, 2021). Further, surveys have relayed that the growth of the market is largely driven by the increasing number of flexitarians, which has increased for five years in a row, from 19 to 29% (Axfood, 2020). It is no longer only those who follow a vegan or vegetarian diet that consume the PBPs, as more and more “regular” consumers are eating more plant-based food (Salomonsson, 2020). Moreover, trend surveys indicate that there is a large group of people who want to eat more plant-based, but feel that they remove something if they exclude meat. They want something that resembles meat, a taste and texture that they are accustomed to, thus choosing PBPs such as meat substitutes (Fors, 2020).

One important factor influencing consumer preference is lifestyle, where the inclining towards a more sustainable lifestyle, both in terms of personal health and environmental health, is affecting the preferences (a topic which will be further elaborated under *Culture*). Market research shows that the main reason why Swedes eat more PBPs is due to rising concern about the climate and environment, followed by increasing awareness of health benefits, thereafter for animal welfare reasons (Novus, 2021). Surveys highlight that the higher prices, low accessibility and lack of knowledge about how to prepare the products constitutes barriers for the consumers to switch (Axfood, 2020). For example, a survey by Ipsos (2019) shows that there seems to be a lack of knowledge and inspiration about how to prepare PBPs among Swedish consumers and that the high price of PBPs in the market constitutes as the main barriers.

4.2.2 Industry

The second environment brought up by Mylan et al. (2019) is the industry environment, which should be investigated for new socio-technological innovations and industry characteristics, such as the industry development, climate and strategies.

4.2.2.1 Innovations & Improvements

As previously explained, the PBPs can be defined as product innovations, often with radical elements (such as “bleeding” plant-based burgers). These innovations aim to offer an easy way for those who want to reduce their consumption of meat without having to change their consumption pattern to a greater extent (Fors, 2020). The market of PBPs is characterized by high innovative capacity, especially when compared to other food markets (Kantar Sifo, 2019). The intensifying competition in the market has led to a high rate of new releases of innovative products and more investments in innovation (Macklean, 2020). The innovation boom is largely driven by increasing customer demand, to satisfy customer needs and preferences (Kantar Sifo, 2019).

Further product innovations and improvements are considered as a key growth driver for the market, as major barriers for the consumer to switch regard the product characteristics (Macklean, 2021). Incremental innovations, for example improvements in taste, texture and smell, are needed to further improve the products in the market (Macklean, 2021). New, radical innovations, broaden the range of products, and aims to attract a larger consumer base, that is, those who do not want to give up the taste and texture of meat, but still want to consume more plant-based in their diets (Try Swedish, 2020).

Besides product innovations and improvements, further production improvements and productivity gains are important for the expansion of the market (Växtbaserat Sverige, 2020). The price of the PBP-products tends to be high, compared with meat products (Macklean, 2020), as the processing stage is currently costly, and processing facilities are currently lacking in Sweden (Fors, 2020). The high production costs are reported as barriers to both increasing the supply and for further innovation among producers (ICA Gruppen, 2021).

As previously mentioned, there is a lack of Swedish raw materials (i.e. plant-based protein sources) available for the producers, as well as a lack of infrastructure, processing capacity and factories (Linnskog Rudh, 2019a). From the producers perspective, these constitute the largest barriers for innovations (Linnskog Rudh, 2019b). At the cultivating level, there is a lack of incentives to grow legumes as well as knowledge and competence about how crops are processed and developed (Malmberg, 2021a). Moreover, lack of knowledge, expertise and financial capital are also reported to be present among producers, and an obstacle that most PBP-brands face sooner or later is difficulties in scaling up their production to meet the increased demand (Växtbaserat Sverige, 2020).

4.2.2.2 Industry Dynamics & Strategies

The industry dynamics is changing; new PBP-brands are establishing themselves while at the same time, traditional meat companies either branch out by producing their own PBPs or by investing in established brands (Obminska, 2019). Moreover, food processing companies also

start to diversify towards PBPs, providing financial resources and organizational capabilities. For example, the industrial conglomerate Orkla bought the plant-based brand Anamma and recently released the plant-based taco brand Frankful (Orkla, n.d.). Grocery trade groups (e.g. ICA, Coop and Axfood) have begun to diversify, developing their own PBPs under their private label. The own-label products from supermarkets are gaining large consumer interest and the launch rate is high (Macklean, 2020).

Moreover, diversification is a clear trend among traditional meat companies (Macklean, 2020). For example, Dafgåds, a charcuterie company, is investing SEK 300 million in plant-based charcuterie (Välj Vego, 2021), to increase the production of plant-based foods, with the aim of making the plant-based food “so good that there should be no reason to choose meat” (Malmberg, 2021b). Another example is Peas of Heaven, which is run by Herbert Karlsson Charcuterie Factory, a meat and charcuterie company (Goldhammer, 2020).

Many PBP-brands market themselves as being better for the environment, health and for the animals, and they often allude in their marketing to the similarity of the meat products, in terms of taste and texture, and function. The objective is to create awareness among consumers about the benefits and create more demand through the packaging and marketing (MarketsandMarkets, 2021a).

4.2.3 Culture

According to Mylan et al. (2019), the cultural environment and its associated causal mechanisms are of utmost importance when examining emerging transitions in food systems, as the societal embedding and the legitimacy of the niches are manifested here. Changes in societal norms, values, trends and the direction of the public debate all influence the success. Moreover, these cultural aspects underlie consumer preferences.

4.2.3.1 Public Debate

In Sweden, food has long revolved around meat, with long-established habits, traditions and perceptions about how a meal should look like and what the protein source should be. Historically, the ability to eat a great amount of meat was an inherited marker of prosperity and a symbol of status (Martin & Servera, 2019). The habit has been that meat constitutes the main protein source, hence people may not know how to replace the protein source in an adequate way (Mynewsdesk, 2020). It takes time to break old food habits and requires knowledge and efforts, but also adequate substitutes (Ipsos, 2019).

The trend of eating plant-based is getting much attention lately, however in the past the trends have developed in shifts, with varying underlying reasons and values. For example, in the 1970s focus was on hunger and global justice. In the early 2000s, vegans raised ethics and animal rights as reasons for consuming more plant-based food, whereas the debate in the last decade has been

revolving around the climate crisis. The impact that meat production and consumption has on the climate are now in the center of the public debate. It took until 2017 before Sweden reached “peak meat” and broke the upward consumption curve (Nyqvist, 2020) and a new consumer-driven shift is currently taking place, creating a new “green public trend” (ICA Gruppen, 2021).

The public debate revolves around the notion that we need to decrease the consumption of meat, for the sake of our planet’s health, but also for personal health and animal rights (Elfström, Frid & Carlund, 2019) and that we should eat smaller quantities with better quality, preferably Swedish meat (WWF, 2021). It concerns more awareness, conversations and efforts on how to reduce the environmental footprint, as climate anxiety has increased among the population (GodEl, 2021).

4.2.3.2 The Wider Public

Among the younger generations sustainability is a status marker and lifestyle indicator; sustainability characterizes their lifestyle (Martin & Servera, 2019). The Youth Barometer (Ungdomsbarometern) shows that food is the clearest identity marker for young people and that 30% to some extent opt out of meat and other animal products (Nyqvist, 2020). Many youths are experiencing climate anxiety and demand more environmentally-friendly products and foods (Martin & Servera, 2019).

The Food Barometer (Livsmedelsbarometern) addresses current trends in the sector and shows how consumers think about food and diets. In 2020, a third of the Swedish population followed a flexitarian diet. Climate and environment concerns were the most common reasons for eating more plant-based, followed by health reasons and lastly for animal welfare reasons. (Novus, 2021). The Vegobarometern (i.e. a survey of Swedish consumers' tendency to choose plant-based foods) in 2020 showed similar results and numbers, and further showed that the proportion who state that they never eat plant-based has decreased from 21% to 12% in five years, and 23% state that they plan to eat less meat in the coming year. Increased knowledge of plant-based cooking is what would make the Swede eat more plant-based (stated by 41%). Notable is that the attitudes of the outside world are also increasing in importance, from 3% in 2019 to 10% in 2020 (Axfood, 2020).

2019s Sustainable Life Barometer showed similar results; more than half of Swedish consumers state that they are concerned about climate change and almost one in three Swedish consumers reported to eat less meat due to climate concerns. The survey also showed that Swedes have a positive attitude towards plant-based food and are willing to try new products. However, 45% stated that they had not adapted their eating habits at all, either because of unawareness on how to prepare the products, unwillingness to change, or unsure of how individuals’ actions could matter (Ipsos, 2019).

There are still myths about plant-based foods; most of them regard concerns about ingesting enough protein when excluding or limiting the amount of meat in the diet (Orkla, 2020). Moreover, behaviors take a long time to change, especially daily habits, and a “green gap” has been brought up; many people say they want to eat healthy and climate-smart, but continue to shop as they always have (Linnskog Rudh, 2019c). Further, so-called “meat-free Mondays” in schools have met resistance and protests, as parents are upset when schools remove meat from their children's school lunches, and the political issue of meat tax has so far not emerged as an election winner in Sweden (Lenas, 2021).

4.2.3.3 Media, Trends & Events

Interest in plant-based diets are soaring (Onsäter, 2021a), and top media outlets are ranking plant-based diets among the contemporary top food trends (Thompson, 2019). Moreover, when industry experts and analysts are asked to predict and rank the biggest trends in the food industry for 2021, plant-based foods and diets are on the top of the lists (Byington, Doering & Poinski, 2021). For example, Forbes names sustainability, plant-based food products and veganism as top global trends to pay attention to in 2021 in the food and lifestyle industries (Turow-Paul, 2021).

Contemporary societal developments and events, which alter the way we live, affect consumers’ view of meat and its plant-based alternatives (Onsäter, 2021b). One very viral and present topic is the outbreak of COVID-19 in early 2020; it has raised awareness of the animal industry's clear connection to disease outbreaks and the spread of infection, which has influenced consumer behavior (MarketsandMarkets, 2021b). A survey by Novus shows that COVID-19 has affected Swedish consumers’ behaviour and that the interest in plant-based foods has increased during the pandemic (Simple Feast, 2021).

4.2.4 Policy

As explained by Mylan et al. (2019), the fourth environment, the one regarding policy, can vary in its degree of hindrance or enablement. The diffusion of niche-innovations is affected by government policies and formal institutions, influencing policy areas such as primary production, market regulation and legislation. An enabling environment is important for the diffusion of the niches. Consequently, emerging transitions should be investigated for if policy and governance developments are supporting or hindering the process.

4.2.4.1 Primary Production & Distortive Goals

Policies can influence primary production in many stages; from what is grown (i.e. what is financially encouraged to cultivate), to how it is used and for who (e.g. for animal feed or human consumption), to how it can be refined (i.e. access to processing facilities) and to what price (Växtbaserat Sverige, 2020).

As stated, the demand for Swedish grown plant-based protein sources (e.g. legumes) is high among both producers and consumers, however there is a shortage of it (Linnskog Rudh, 2018). Sweden has good conditions for increased production of legumes, the issue is that most of the legumes grown today are used as animal feed, and not enough is produced for the growing demand (Macklean, 2020). Regarding this, critics argue that agricultural support is misdirected, focusing on rewarding cultivation of legumes for animal feed, thereby favouring the meat farmers (Malmberg, 2021a). Moreover, The National Food Strategy, adopted in 2017, has been criticized as being “fuzzy”, with distortive and contradictory goals, by industry organizations (Växtbaserat Sverige, 2020), producers (Malmberg, 2021c) and experts (Offerman, 2017) within the industry. It is argued that the strategy and its policies are not promoting the transition to increased production and consumption of plant-based foods, instead favouring incumbents (EkoMatCentrum, 2021). What is asked for is policies stimulating a transition towards more plant-based production and consumption, in terms of, for example, investment support and supporting subsidies (Växtbaserat Sverige, 2020).

4.2.4.2 Regulations & Policy Objectives

Presently, policy objectives, regulations and instruments can stand in the way of and disadvantage plant-based expansion, as there are, or are discussions about, political measures that distort competition (Växtbaserat Sverige, 2020). There are a number of anti-competitive goals and instruments that reward animal foods over plant-based ones. Large subsidies are given, for example, within the framework of the EU's Common Agricultural Policy (CAP), to producers of animal products, disadvantageous to the development of plant-based foods (Svenska Dagbladet, 2019). A further example of anti-competitive regulations regards rules on food labelling. Questions about product labelling regarding plant-based foods falls under the EU CAP, regarding bills on agricultural products (Haglund, 2020). The debate about regulations on product labelling has gained special attention of late in Sweden and Europe (Skagerström Lindau, 2019).

In October 2020, the European Parliament voted on two legislative amendments concerning plant-based foods' rights using terms that have traditionally been used by the meat- and dairy industry (Nilsson, 2020a). The amendments would prohibit plant-based products to allude to meat- and dairy products in their marketing, making it illegal to market the products as similar to meat products, use the same labels, and describe the environmental and health comparisons (Nilsson, 2020b). Amendment 165 regards plant-based meat alternatives (i.e. PBPs), and would, for example, mean that words such as sausage and hamburger could only be used for products that contain meat (Renmark, 2020a). Amendment 165 was voted down, meaning that it is allowed to use the label sausage, burger or the like on plant-based products (Renmark, 2020b). However, Amendment 171 (regarding plant-based dairy products) was voted through and the issue will be negotiated further with the member states before it becomes law (Nilsson, 2020b).

Behind these proposals are the European meat- and dairy producers. According to them, it is about making product descriptions clearer so that consumers do not get confused. They argue that the names of the products must be related to the raw material (Buxton, 2020). Advocates for plant-based products argue that this is a clear indication that the meat- and dairy industry in Europe feels threatened by societal developments, and are actions of resistance and protectionism by incumbents worried that their market will weaken (Skagerström Lindau, 2019). These bills were heavily criticized, as they would alter the market conditions for plant-based, distort competition (Växtbaserat Sverige, n.d.), and also make it more difficult for the consumer who wants to choose plant-based products (Nilsson, 2020a).

5 Analysis & Discussion

This chapter is dedicated to the analysis and discussion of the empirical findings; the developments in the four environments described above. The findings are put into a conceptual perspective, and discussed, related and compared with findings from previous studies.

5.1 Developments in the Four Environments: Forces & Hindrances

As explained by Mylan et al. (2019), sustainability transitions come about through niche-innovations embedding themselves in four pre-existing environments and thereby changing the established regimes. Therefore, the analysis focuses on identifying the forms of embedding processes a niche goes through. By investigating developments in the four environments, one can detect both what drives the emerging transition, as well as different hindrances still present. Consequently, drawing on the modified MLP framework by Mylan et al. (2019), we can ask how a niche can drive a sustainability transition by challenging, reshaping and finding its place in four environments.

5.1.1 Consumer Preferences & Market Dynamics: The Tide is Turning

Firstly, the case reveals that changes in consumer preferences have had a significant impact on the market dynamics, incumbent actors and the spread of the PBPs. The demand for PBPs has increased simultaneously as preferences have changed due to contemporary developments in society. The preferences have shifted towards more environmentally friendly products, where climate concerns are reported to be the most influential factor for the shift. With large increasing demand, strong incentives emerge for companies to respond to this demand, which in turn have attracted investors, new entrants and regime incumbents to the PBP-market. This is in line with the arguments of Spaargaren, Oosterveer and Loeber (2012); that the consumer preferences and demands can influence the direction of the developments. By “voting with their valets”, the Swedish consumers are driving the emerging transition. This case thus finds common ground with the findings from Aschemann-Witzel et al. (2020) as well as Tziva et al. (2020), who demonstrated that consumer demand is driving the transition. The increasing demand, caused by changed preferences, opened up several business opportunities for plant-based alternatives, where certain developments (e.g. climate change) are postulated to increase market growth.

The significant market growth, where the market is expected to have tremendous further growth, and products consumed by the larger masses, signals market expansion. This is affecting and challenging the regime in the process, and starting to reshape it. Incumbent actors such as retailers, can actively engage with niches and endorse their development and diffusion in the market. Hence, the retailers are perceived as important actors for the further diffusion of the

PBPs, and for further mainstreaming the products as they make the products available for the larger masses. Thus, these findings agree with the argument brought up by Bui et al. (2019), that retailers play an important role in the market. However, the authors argued that retailers exert lock-in effects and exclude alternative products. The findings in this case show a more complex picture, that is, an incumbent regime adaptation. As sales of PBPs have increased significantly for the Swedish retailers, and as demand grew, they adapted and provided shelf space and even developed PBPs under their own label. They thereby included the PBPs in the mainstream food provisioning.

A large part of the shift concerning consumer preferences is dependent on the convenience aspect; creating easier ways and incentives for choosing PBPs. There are many consumers not used to consuming PBPs but looking for “simple” solutions; solutions that do not require you to learn how to cook in a completely new way, but which are based on a classic dish repertoire where you replace certain parts with new, plant-based alternatives. The importance of the convenience factor is something that finds common ground in previous research as well, to break the often repetitive practices (Röös et al., 2020; Saari et al., 2021; Stoll-Kleemann & Schmidt, 2017). Moreover, the findings are supported by the findings presented by Alcorta et al. (2021), that product characteristics such as taste and texture are sometimes just as important as the environmental arguments for choosing PBPs.

The case also reveals some hindrances in the consumer/market environment. The recurrent issues reported by the consumers were the high price of the products available in the market, especially compared with several meat products, together with a lack of knowledge and inspiration on how to prepare the products. Similar findings can be found in previous studies; product availability and affordability are constraining factors influencing consumers' food choices, where price is seen as the largest barrier (Aschemann-Witzel et al., 2020; Reisch, Eberle & Lorek, 2013; Saari et al., 2021). Hence, in this environment, the hindrances are mostly connected to market and product related problems, which are linked to the industry environment.

To summarize, the case shows that an embedding process of PBPs occurred, and is still occurring in this environment. The regime level, made up of preferences and market structure, has begun to change. PBPs have become a more natural choice for the larger masses, which is shown in preferences and increasing market growth, and the market now incorporates several different PBP-products. As explained by the framework of Mylan et al. (2019), these are signs of embedding processes initiating change, and a key factor for transitions.

5.1.2 Industry: Greening the Food Industry

Acceptable product characteristics for the consumers are of utmost importance to further mainstream the PBP-market. Important niche activities regard further product innovations and improvement (sometimes developing the products to be as meat-like as possible) as well as

marketing and product labelling (highlighting the benefits of PBPs compared to meat). Further, the marketing and product labelling is crucial for highlighting the positive qualities, to create awareness but also to make it easier for consumers, who feel uncertain how to shift to a more plant-based diet, as well as for justifying the often higher prices of the PBPs.

The process of reconstruction or adaptation can be seen, where regime incumbents such as retailers, meat companies and corporate groups are branching out. It can be argued that these actors, by incorporating PBPs into their portfolios, releasing the products under well-known brands and making them available for the larger masses, can make the transition easier as the PBPs become more familiar, “normalizing” them, in the consumer's eyes. As argued by Jallinoja, Niva and Latvala (2016), this normalizing process is of utmost importance for the acceptance of the products by the larger masses. Further, there should be no inherent barriers for meat companies precisely because they are meat companies, perhaps it can even create opportunities as they can mimic the taste and texture and often have large financial means. As such, these findings find common ground with the theory by Saari et al. (2021); that regime level activities are not always restrictive in a transition and companies with different backgrounds can adapt niche-innovations. Several regime incumbents thus follow the consumer demands and where the money is in the market, adapting to consumer trends and market potential.

Additionally, the case also reveals some hindrances in the industry environment. The hindrances concern several missing links in the chain; from the production stage with a lack of raw materials being grown, to insufficient production facilities that can produce the products, to knowledge about conducting business and scaling up. Consequently, significant insecurities are present in today's industry environment. This finds common ground with the arguments brought up by Vinnari and Vinnari (2014), that transitions can be enabled by market trends, however enabling developments in technological and infrastructural segments needs to go along, to achieve a large-scale transition.

To sum up, dynamics in the industry environment also show signs of regime adaptation and reconstruction. The most obvious ones are the niche-regime interactions in the form of diversification, adaptation and acquisition of several regime incumbents, which initiated change in the system. Consequently, the embedding process of PBPs have occurred in the industry environment, and this is a critical step for the further success of an emerging transition, as stressed by Mylan et al. (2019).

5.1.3 Culture: The Green Public Trend

The case reveals that certain landscape factors, such as climate change, sustainable development and the outbreak of COVID-19 has had a severe impact on the developments in the cultural environment, affecting the legitimacy and societal embedding of the PBP-niches. Moreover, a global trend where plant-based foods are becoming trendy and coveted, and perceived as the

main global food trend in 2021, can also be seen. Hence, in the cultural environment, we see both upward and downward pressure; global developments and trends, combined with consumer forces; initiating both windows of opportunities as well as incitements for PBP scaling. Consequently, this process can be explained by the arguments brought forward by Herrero et al. (2020); that the alignment of societal processes can catalyze transitions.

Additionally, the case shows that we are in the midst of a paradigm shift regarding status and lifestyle; old norms and values are starting to change and new forms of identity markers and status symbols are taking shape. The new forms are incorporating sustainability as a key indicator, and sustainable food consumption as a symbol of lifestyle and status is becoming more common. These findings support the theory presented by Spaargaren, Oosterveer and Loeber (2012), who argue that lifestyle indicators and status symbols are vital driving mechanisms for sustainability transitions in food systems.

Plant-based has gone from being an exception to becoming widely accepted. Consumer groups have expanded, incorporating everything from radical vegans, trendy flexitarians, conscious consumers and youths caring for the environment as well as status. Hence, PBPs are no longer just consumed among niche groups, but among the larger masses. Moreover, most consumers interchangeably consume meat and PBPs. This is implying that the process of mainstreaming the PBPs is underway, as people incorporate the products into their daily lives, which in turn, creates a societal embedding. These findings are supported by the arguments of Jallinoja, Niva and Latvala (2016), who demonstrated that plant-based products need to be culturally and socially acceptable in society to realize a shift in a dietary transition.

Surveys have shown that the PBP market has grown simultaneously as the number of flexitarians have increased. A flexible attitude towards increasing PBPs and decreasing meat can lower the threshold for many, hence, promoting flexitarianism is a strategy for the emerging transition. This is in line with findings from previous research (Jallinoja, Niva & Latvala, 2016; Saari et al., 2021; Stoll-Kleemann & Schmidt, 2017), who promote flexitarianism as a way of easing the shift towards more plant-based diets; it does not have to be “all or nothing”, as a strict mindset can work as a behavioural lock-in.

However, still far from everyone has changed their habits, and even though it is starting to change, meat is still the norm in Sweden. Moreover, reducing the amount of meat consumed has shown to be a sensitive and controversial topic among some. If people have the perception that a meal does not become sufficiently nutritious, they remain skeptical towards PBPs. As such, the findings corroborate with the ones argued by Rööös et al. (2020); the fear of a “protein-lack” is still present for many Swedes, and myths surrounding PBPs may create resistance to change. Additionally, there seems to be a gap between thought and action. The “green gap”, where consumers say that they want to consume more sustainably, and what they actually consume, is

sometimes large. The habits follow certain path dependencies and can be hard to break, consequently creating day-to-day food habits and unconscious routines. Therefore, behavioural and cognitive lock-ins can be found.

To summarize, within this environment, clear signs of cultural and social legitimacy shifts occurred which initiated a change. The previous cultural and dietary regime, consisting of habits, values, norms, are starting to change (however meeting some resistance through habits), which has been a fundamental process for embedding the PBPs, and drives the emerging transition, as argued by Mylan et al. (2019).

5.1.4 Policy: Bringing Policies to the Plate

When analyzing the policy environment, the case reveals that there are several shortcomings; from the production stage to the consumption stage. There are signs of deficient policies, cases of distortive goals, misallocated agricultural support, subsidies as well as arguments about product labeling. Hence, the findings corroborate with the findings of Aschemann-Witzel et al. (2020), stating that current policy structures still favour old regimes. Moreover, what becomes evident is that the implementation of the PBP-niches has been successful without much support from an enabling policy environment. However, its further mainstreaming and diffusion is dependent on the capability and prospect of scaling up and out, which requires an enabling environment and a political will, a point brought up by Pitt and Jones (2016) and Reisch, Eberle and Lorek (2013) as well.

Moreover, not all regime incumbents are positive towards the emerging transition, evident among European meat (and dairy) producers. Landscape developments are bringing the connections between extensive meat production and consumption and its environmental consequences into the spotlight and the topic is reaching the public debate, initiating societal changes. Consequently, strong forces that want to maintain the status quo, use restrictive regulatory acts such as Amendment 165 and 171. That being the case, the findings show similarities with those brought up by Dagevos and Voordouw (2013), arguing that the question of a dietary shift seems to be politically taboo and where policy makers often align with powerful incumbents wanting to protect their market share.

It can be argued that these amendments represent restrictive policies instead of enabling policies. This development stands in contrast to what Vinnari and Vinnari (2014) promote; supportive policy instruments steering consumers in the right direction, and policies that regulate sectors so that the environmental burden of food products becomes clear. Providing consumers with the necessary and correct information in a straightforward way, and minimizing the effort and cost needed to change, are of utmost importance for making the sustainable choice the easy choice. Moreover, by restricting the labeling and marketing, the chances of the “normalizing” processes are limited.

That Amendment 165 was rejected shows that there are different interests and forces within the policy environment; the meat- and dairy lobbyists, advocates for a transition towards more plant-based, interest groups as well as dedicated consumers. Hence, the supporting environment may not be as supportive as wanted or needed at the moment, but the opposition seems to shrink. Therefore, the embedding process of PBPs can be argued to be slowest in the policy environment, as the policy regime still favours policy goals towards incumbents, and tries to prolong or prevent the emerging transition through regulations. As theorized by Mylan et al. (2019), emerging transition can arise without much support from this environment, however, the further success is dependent on it being societal embedded, which is why further embedding processes are needed in this environment, to initiate a change in the system.

6 Conclusion

This final chapter is dedicated to the main conclusion of the thesis. The aims and research questions are addressed first, and the chapter ends with a discussion of practical implications and suggestions for future research, and concludes with a final remark.

6.1 Aims & Research Questions

What has become evident is that solving “the great balancing act” - being able to feed a growing world population nutritious foods while at the same time reducing the food system’s environmental impact - requires a fundamental shift in consumption and dietary habits. This is especially true for developed, high-income countries such as Sweden, as shifting dietary patterns in countries with already resource-intensive diets will be instrumental to meeting sustainability targets. However, to change *what products* we eat does not have to be fundamental, rather, what the products are *made of*. By investigating the emerging transition in Sweden, focus was on a country that has the means and potential to undergo a sustainability transition, and on a topic that is currently understudied, which motivated further research.

With this in mind, this thesis aimed to investigate and provide an understanding of the developments that have influenced the transition, and outline the factors slowing down or preventing transition processes. Consequently, the following research questions were addressed:

What are the drivers for the emerging transition?

By looking at developments in different societal domains, a general understanding of how the emerging transition is shaped can be comprehended. Hence, several drivers and their shape-mechanisms can be outlined, and three conclusions can be drawn.

First and foremost, the emerging transition is well underway, as evidenced by the rapid market growth, increasing consumer demand and acceptance, as well as the signs of adaptation and reconstruction from incumbents. Various developments within societal domains (cultural, political, economic and social) have been aligned, thereby leading the emerging transition. Hence, conclusion one is that the presence of several circumstances and developments (e.g. COVID-19, climate change as well as a global consumer trend revolving around sustainable lifestyles and plant-based diets), have been vital drivers for the emerging transition, as they have opened up windows of opportunities, and shifted consumer preferences and affected the demand. High consumer demand attracts more players to the market, who further innovate and release new, various PBPs, consequently attracting a larger consumer base and so on, further driving the transition.

The second conclusion is that the main driver of the emerging transition is connected to shifted consumer preferences. A growing climate change awareness has resulted in more consumers making the connection to their food choices and the environmental impact it has. The strive for more sustainable lifestyles among consumers is leading them towards more plant-based diets, and the fact that it is becoming “trendy” is enhancing this effect. Yet, many are looking for easy solutions, to minimize the effort of switching, hence opting for substitutes to the animal-based products. Consequently, a vital shape-mechanism of the driving force is the convenience factor (i.e. similar in taste, texture and preparation as well as nutritional value), as it makes the threshold of shifting habits lower for a considerable amount of the consumers.

Conclusion three is that the mainstreaming processes that have occurred, and are still occurring, are key driving processes. These processes contribute to a legitimacy shift among consumers and create a societal embedding for PBPs, “normalizing” them in the eyes of consumers. These processes are the outcome of several factors (e.g. greater availability, accessibility and product range, as well as diversification and recognition of well-known brands). One main finding is the importance of promoting flexitarianism, as relaxing the attitudes towards the dietary shift is perceived as important, especially for the further mainstreaming and normalizing processes. It is better to provide alternatives and solutions, than to create restrictions.

In conclusion, affected by aligned developments that have shifted preferences, consumers are the drivers of the emerging transition, with their everyday choices. But this requires products that lower the thresholds of breaking the habits and norms, to make the change easier. Hence, the sustainable choice needs to become the easy choice.

What are the hindrances for the emerging transition?

The transition is still in quite an early development stage, and even though it is growing rapidly, several hindrances slowing down the transition process can be outlined. Three conclusions can be drawn.

Conclusion one is that the main hindering factor prolonging the transition processes is the price. As of today, the price of PBPs is sometimes substantially higher than the products they aim to substitute. Consequently creating hindrances among Swedish consumers, as the price is a recurring part of the unwillingness to change dietary habits. Moreover, knowledge about how to prepare PBPs, habits, and (often invalid) concerns about nutrients are other hindrances that stand out. As consumer demand is perceived as the driving force for the transition, these factors create constraints. When the products are too expensive to become “everyday choices” for the larger masses, it hampers the transition processes.

Conclusion two is that the often high price of the products is a consequence of many different factors within the industry, creating a hindrance. The hindrances uncovered regard several

missing links in the chain; from the agricultural stage, to the production and business stage. These missing links create constraints for achieving economies of scale, preventing the scaling process and prolonging the transition process.

The third conclusion is that the prospect of scaling, for the emerging transition to be successful, is largely dependent on an enabling policy environment, with supportive policies and objectives that level the playing field. However, as it is now, several hindrances and forces can be outlined; from misdirected agricultural support, distortive policy objectives and anti-competitive regulations that are all prolonging or even preventing the transition process. Consequently, the hindrances revealed shows that the proper conditions need to be in place, as well as changed overall norms in society, for the sustainable choice to become the simple choice.

6.2 Future Research & Practical Implications

It was recognized that the emerging transition requires an enabling, supportive political environment to further grow, however several hindrances for the transition were identified here at the same time. Hence, it is important to understand why this is the case and what can be done to change it, motivating more research on the issue to acquire an in-depth understanding of this particular environment's drivers and hindrance. Future research could thus focus on the policy environment and explore these findings by analyzing different food system stakeholders' roles in the transition.

As the findings also indicate several hindrances, practical suggestions can be provided. Everyone has a responsibility and a part in the transition, but, if the goal is a more rapid transition, the government must provide the right conditions for new initiatives and review the regulations. Therefore, several policies are needed, addressing all stages in the system. From a primary production perspective, providing support and incentives in terms of monetary and human capital, is important for farmers to convert. Investment support to develop processing facilities, supporting subsidies and ensuring a fair playing field is important from the producers' perspective. For the consumption perspective, the policy environment should make it transparent about different products' impact, and make it easy for the consumers to make informed choices about their food consumption, as well as making it easy to shift consumption patterns and encourage a more sustainable consumption.

As stated at the very beginning of this thesis, there is a consensus today on why the food system needs to be restructured. The important thing now is to develop the right incentives and conditions for *how* the change can take place. Thus, as a concluding remark for this thesis, the case of the emerging transition in Sweden shows that a change is possible. However, the success of the transition will require that we are managing and steering it in the right direction. This thesis thus argues that managing the “great balancing act” will require that we get the ingredients right for a food sustainability transition.

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