

# **Reducing Meat Consumption Through Choice Editing Measures in German Company Canteens**

Canteen Decision-Makers' Agency for Sustainability  
and the Role of the State

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## Abstract

In light of the worsening ecological crisis, sharply reducing meat consumption will be necessary to decrease negative environmental impacts from the food and agriculture domain. Yet, in Germany, meat consumption is thrice as high as health and sustainability guidelines recommend. Current offers in business canteens are estimated not to be in line with such recommendations. Since no binding policies exist regarding the food offer in business canteens, this thesis aims to give indications for policymakers by investigating if and how a sustainable offer in the sector can be achieved. Two key research questions guide the analysis: What is the level of agency of decision-makers in company canteens to reduce the meat share in their menu offer, and what policy interventions do company canteen decision-makers foresee and deem effective if no sufficient reduction of the meat share is introduced voluntarily? Five qualifiers are deployed to examine agency for sustainability: canteen decision-makers' awareness of the need for meat reductions, their concern, sense of responsibility, voluntary willingness, and practical capacity to implement measures. To answer the research questions with a qualitative pragmatic ethnographic methodology, 13 semi-structured interviews are conducted with canteen decision-makers and experts and analysed with qualitative content analysis in NVivo. It is found that there is a broad spectrum of agency for sustainability for business canteen decision-makers, with some active frontrunners displaying high levels of agency. Yet even these have to intensify meat reduction efforts. Most interviewees oppose concrete regulations of the communal gastronomy sector but emphasize the need for reforms further upstream, e.g., restructuring agricultural subsidies and market prices and tightening animal welfare standards. It is recommended to implement such upstream policies next to a policy mix targeted at the canteen sector that includes official guidelines, well-defined and time-framed targets accompanied by progress assessments, a reform of the cooking apprenticeship curriculum, and subsidies for certifications and trainings.

**Keywords:** meat consumption, structure-agency, decision-makers, agency for sustainability, middle-out framework, locked-in consumer, communal catering, business canteens, choice editing, policy

## Executive Summary

**Problem Definition.** Current societies' impacts on the environment have pushed the very ecosystems we rely on to thrive and develop to the brink of ecological crisis which will cause the loss of many lives and livelihoods. While the urgent need for action becomes increasingly evident, questions on the status of progress on necessary transformations arise. While there are various perspectives from which modern societies' environmental influences can be analysed, looking at household consumption, it becomes apparent that one of the most vital consumption domains—food—has a comparatively large environmental impact. Especially animal products, and first and foremost meat, have the highest adverse environmental impacts. Meat is associated with high land and resource consumption, high methane emissions, groundwater pollution, and the development of antibiotic resistance. Further, the cultivation of animal feed entails land-use changes, causing the erosion and compaction of soil, resulting in the release of climate-relevant emissions and the loss of biodiversity due to the high use of nitrogen fertilisers, pesticides, and herbicides.

Sharply reducing meat consumption will be necessary to sufficiently decrease negative environmental impacts from the food and agriculture domain. Yet, in Germany, meat consumption is still thrice as high as health and sustainability guidelines recommend. Instead of making consumers solely responsible for decreasing meat consumption to sustainable levels, this thesis focuses on more influential actors within the food provisioning system: decision-makers in communal gastronomy, specifically company canteens. Making up a considerable market share of the food sector, the communal gastronomy sector provides a pertinent arena for building more sustainable food production and consumption patterns. Prompted by the widespread policy recommendation to implement mandatory sustainability standards in *public* canteens, the question arises if no such regulation is necessary in the *private* sector. Current offers in business canteens are, however, estimated *not* to be in line with health and sustainability recommendations and no binding policies or regulations regarding the food offer in business canteens exist.

**Aim and Research Questions.** This thesis aims to investigate company canteen decision-makers' awareness of the need for meat reductions, their sense of responsibility and voluntary willingness, and their practical implementing capacity in terms of knowledge and power to implement meat reducing measures. These aspects are different variables of what is defined to be *agency* in this thesis. By analysing these variables, the present study aims to scrutinise canteen decision-makers' opinions on and attitudes towards implementing measures to reduce their meat processing and sale. Furthermore, their perception of the state's role regarding sustainable food consumption in business canteens is examined. In the present analysis the main focus lies on choice editing measures. These are measures that edit the choices available to a customer so that certain options are more or less frequently available or, on some days or even generally, not available at all. By considering more stringent interventions like choice editing, this study also aims to broaden the debate on how the escalating ecological crisis can be dealt with within the short timeframe left to make necessary changes.

Prompted by the common policy recommendation to introduce mandatory sustainability guidelines in *public* canteens this thesis sets out to investigate if and how a sustainable offer in *private* business canteens can be achieved without policy interventions and stringent measures implemented voluntarily by decision-makers in canteens. Against this background, two concrete research questions emerge:

- **RQ1:** What level of agency do decision-makers in company canteens have in reducing the meat share of the menu offer in order to improve its environmental sustainability?

- **RQ2:** What policy interventions do company canteen decision-makers foresee and deem effective if no sufficient reduction of the meat share in their menu offer is introduced voluntarily?

The results stemming from the analysis of these research questions shall serve as an indication for policymakers of the need for and acceptance of the introduction of policies, and contribute to the knowledge pool on the status of and effective action in the urgently called for great food transformation.

**Research Design, Materials and Methodology.** A qualitative ethnographic research approach is chosen to address the research questions in a systematic manner. Qualitative approaches prove specifically suitable in gaining orientation in less researched fields and can give insight into the complexities of the situation under research. The specific research design takes the shape of pragmatic-descriptive ethnography, where the aim is to understand canteen decision-makers' perspectives, give an insight into the sector, and describe what is happening. Matching these research design choices, 13 qualitative, semi-structured interviews with canteen decision-makers as well as sector experts are conducted and subsequently analysed through qualitative content analysis in NVivo. For the qualitative content analysis, an abductive coding structure is deployed which is based on the theoretical frameworks utilised in this thesis and inductively extended during the research phase to adapt to emerging themes. This research design and way of analysis allows for an open yet in-depth study of a topic without losing the overall focus while enabling comparability of responses.

**Results.** The results show that the analysed canteens actively address sustainability issues and have shares of vegetarian and vegan dishes ranging between 30-60%. Some canteens work on reducing meat portions and aim to establish meat as a side dish rather than a main component. Yet, regionality is oftentimes named as a prime aspect when it comes to effective sustainability measures. Moreover, findings suggest that there is a general awareness amongst the interviewed canteen decision-makers that meat reductions are needed to reduce the negative environmental impacts from menus. However, the extent to which reductions are needed according to scientific recommendations seems to be unclear. Furthermore, nearly all interviewed canteen decision-makers saw themselves responsible for offering their guests sustainable and healthy options. Yet, some decision-makers, as well as experts, stated that not only canteen decision-makers but also other actors like the board of directors or work councils and the guests themselves carry responsibility for sustainable food consumption in a business' canteen. Scrutinising the willingness to implement meat reducing measures, the results show that choice eliminating measures like a veggie day were mostly perceived as too profound and paternalizing, with the result that they might end up being less successful than less profound measures implemented with a longer-term strategy. Measures that are less profound but still perceived to be effective, like the reduction of meat portions and increase in the share of veg dishes or price structures favouring veg dishes, found broader resonance and there was a higher willingness to implement such. Regarding capacity, the analysed cases are found to have the practical knowledge to prepare attractive veg dishes as well as the power to implement measures in their canteens. These outcomes can, however, not be generalised across the sector due to the selection bias that arises from the way canteen decision-makers are recruited for interviews in this study. Experts' assessments are therefore deployed to increase validity of the results and obtain a better overview of the sector as a whole.

Turning to the policy realm, it can be found that stringent and concrete regulations addressing the private communal gastronomy sector, e.g. in the form of procurement standards, are met with scepticism. Rather, the present market structure endorsed by the subsidies currently in place is perceived to be flawed and in need of reform. Hence, rather than regulating the specific

business canteen sector, it is held that (economic) policy changes are needed further up the value chain. Lastly, the results suggest that, on the one hand, the present cultural structures partly hinder an accelerated transformation (e.g. the fact that Germans are comparatively stingy regarding food expenses, older generations see meat as a status-symbol, and a high meat consumption is ingrained in German food culture). On the other hand, especially in young people, a shift in values towards more healthy and sustainable lifestyles and nutrition can be recognised as a driver for a transition.

**Conclusions and Recommendations.** It can be concluded that without implementing any kind of policies aimed at reducing meat consumption it is unlikely that necessary changes unfold naturally across the whole sector within the timeframe left for effective mitigation action. Regarding the need for stringent measures that profoundly influence the consumer's choice, this research provides first indications that effective and potentially sufficient meat reductions are also possible with a combination of less profound measures like nudging, broadening the offer, and reducing meat portions. Yet, this research suggests that a high level of agency and longer-term thinking is required on the part of the decision-makers *now* in order to establish low meat consumption in canteen guests while still keeping meat on offer.

The findings of this thesis bear meaningful, practical implications for policymaking. Microregulation, e.g. setting mandatory minimum sustainability standards, can be expected to be met with scepticism and potentially non-compliance from the private sector. Rather, an approach that focuses on policies implemented further upstream in the value chain is perceived as more reasonable. These policies could include a restructuring of subsidies and taxes as well as minimum standards for animal welfare in animal husbandries. Next to such upstream economic policy, it is recommended to support the canteen sector with a policy mix that includes *official* operational guidelines and clear communication of targets, e.g. in shares of meat of the procurement volume or maximum dishes containing meat consumed per guest per week. Next to the recommendation of reforming the curriculum of cooking apprenticeships, the practical implementation of official guides and targets should be supported by subsidies, e.g. for training and certifications, as well as assessments of progress in the sector and explicit signalling that more stringent interventions have to be expected should changes not occur within a defined timeframe. While further research in the field of food policy effectiveness is suggested, considering the short time left for effective action to mitigate the ecological crisis humanity finds itself in, it is strongly emphasised that practical action should be taken *now*. Scientific policy evaluations should be part of this. Yet, they should not be the cause for delayed implementation due to some uncertainties regarding the most effective or best policy mix.

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## **Abbreviations**

BLE	German Federal Office for Agriculture and Food [Bundesanstalt für Landwirtschaft und Ernährung]
BMEL	German Federal Ministry of Food and Agriculture [Bundesministerium für Ernährung und Landwirtschaft]
BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety [Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit]
CAP	Common Agricultural Policy
DEHOGA	German Hotel and Restaurant Association [Deutscher Hotel- und Gaststättenverband]
DGE	German Nutrition Society [Deutsche Gesellschaft für Ernährung]
DIG	German Institute for Communal Gastronomy [Deutsches Institut für Gemeinschaftsgastronomie]
EEA	European Environment Agency
GHG	Greenhouse Gas
HLPE	High Level Panel of Experts on Food Security and Nutrition
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
MCE	Meat Consumption Environment
MOF	Middle-Out Framework
QCA	Qualitative Content Analysis
SCR	Sustainable Consumption Roundtable
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
veg	vegetarian and/or vegan
WBAE	German Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection [Wissenschaftlicher Beirat für Agrarpolitik, Ernährung und gesundheitlichen Verbraucherschutz]

# 1 Introduction

The worsening ecological crisis manifests itself in climate change, growing environmental degradation, and an aggravating decline in biodiversity (European Environment Agency [EEA], 2019; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [IPBES], 2019; Intergovernmental Panel on Climate Change [IPCC], 2018, 2021, 2022). These phenomena pose a significant threat to current society's lives; amongst others, the frequency and severity of extreme weather events like floods, fires, or draughts will further increase, causing the loss of many lives and livelihoods (EEA, 2019; IPBES, 2019; IPCC, 2018, 2021, 2022). The urgent need for action on these issues becomes more and more evident.

While there are various ways to analyse modern societies' influence, taking a household consumption perspective on the environmental impacts humans cause, it becomes apparent that one of the most vital consumption domains—food—has a comparatively large environmental impact (Akenji et al., 2021; EEA, 2012). Dissecting the food domain, it is clear that animal products, especially meat, cause more adverse environmental effects “per unit weight, per serving, per unit of energy, or per protein weight” than plant-based foods across a broad range of environmental indicators (Willett et al., 2019, p. 470).

A diet characterised by high meat consumption is associated with high land and resource consumption (Poore & Nemecek, 2018; Ritchie & Roser, 2020; Willett et al., 2019). In regions with high livestock densities, surface and groundwater are oftentimes polluted with high nitrate levels (Leip et al., 2015; Mallin et al., 2015). The use of antibiotics in livestock farming also pollutes water bodies and carries the risk of antibiotic resistance developing (Martinez, 2009). The cultivation of animal feed goes hand in hand with land-use changes, causing the erosion and compaction of soil, resulting in the emission of climate-relevant emissions and the loss of biodiversity due to the high use of nitrogen fertilisers, pesticides, and herbicides (Poore & Nemecek, 2018; Ritchie & Roser, 2020).

Hence, next to improved production practices and reduction of food waste, a shift towards more plant-based diets is on the top of the list of recommendations to reduce the environmental effects of food production (United Nations Environment Programme [UNEP], 2010; Willett et al., 2019). Regarding the issue of climate change, for example, the IPCC (2018) states that in the food domain, demand changes are one of the main strategies to achieve 1,5°C consistent pathways<sup>1</sup>. It is estimated that mainstreaming more plant-based diets is crucial to limiting global warming to an increase of less than 2°C (Willett et al., 2019).

In Germany, the average level of meat consumption is still around thrice the amount recommended for environmental sustainability and individual health reasons, despite a slight decrease over the last years (German Federal Office for Agriculture and Food [BLE], 2021; Willett et al., 2019). Considering this, the question arises, who is responsible for achieving the needed lower levels of meat consumption? One natural answer would be the individual consumer, yet Akenji (2014) argues that the current emphasis on individual sustainable consumption, above the need for structural transformations leading to a more significant systemic shift, is unachievable. It leaves all responsibility for creating sustainable consumption patterns to the consumer and is, therefore, mere consumer “scapegoatism” (Akenji, 2014, p. 17). It is argued that far from being rational and sovereign, consumers are rather locked-in to

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<sup>1</sup> 1.5°C consistent pathways are pathways which are predicted to ensure a limitation of the increase of the atmospheric temperature to 1,5°C compared to pre-industrial levels. This is to ensure stability and resilience in our earth system and maintain the conditions essential to the livelihoods of future generations and their ability to prosper on this planet (IPCC; 2018). The 1,5°C goal is laid out in the Paris Agreement, an international treaty adopted by 196 Parties that is legally binding and aims to halt climate change (United Nations Framework Convention on Climate Change [UNFCCC], n.d.).

unsustainable consumption patterns led by habits, convenience, disincentives, and responses to norms and institutional structures (Department for Environment, Food and Rural Affairs of the United Kingdom, 2005; Jackson & Michaelis, 2003; Sanne, 2002; Shove, 2010; Wahlen et al., 2012). It is followed that since other agents in the provisioning system are much more influential than individual consumers, government action is needed to introduce policies that target not only individual households but also the provisioning system upon which they rely (Akenji, 2014).

Accordingly, the German Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection [WBAE] (2020) criticises the high degree of individualisation of nutritional responsibility. It demands the creation of fair food consumption environments through increased food policy interventions. Food consumption environments are understood to be “the physical, economic, political and socio-cultural surroundings, opportunities and conditions that create everyday prompts, shaping people’s dietary preferences and choices as well as nutritional status” (High-Level Panel of Experts on Food Security and Nutrition [HLPE], 2017, p. 28). Hence, food—and in this study specifically meat—consumption environments should “make the sustainable choice the easy choice” through increased accessibility, affordability, and availability of sustainable options (Reisch et al., 2013, p. 17). The European Commission (2020) acknowledges that current food consumption environments do not fulfil these criteria.

This study endorses the critique of consumer scapegoatism. Henceforth, the focus lies on interventions to adapt the meat consumption environment (MCE) to make more plant-based diets accessible and available, i.e. make them the popular and easy choice, while reducing availability and access to meat-heavy diets. These interventions shall specifically be scrutinised in the German communal catering sector.

## 1.1 Problem Definition

The communal gastronomy sector provides a pertinent arena to build more sustainable food production and consumption patterns, as it is part of Germany’s growing out-of-home food market (Lorenz-Walther & Langen, 2020). After food retailing, the German out-of-home gastronomy is the second-largest sales channel for food with its relevance expected to grow (Göbel et al., 2017; Quack & Teufel, 2020). Individual gastronomy<sup>2</sup> is the highest-turnover segment within the out-of-home gastronomy sector, followed by communal gastronomy (Göbel et al., 2017). With an estimated share of 80% of the market volume, company canteens make up the largest segment within the communal gastronomy sector (gv-praxis, n.d. as cited in Göbel et al., 2017). This illustrates the high relevance of this branch to effectively transform mass catering and align it with environmental sustainability requirements, most likely necessitating a reduction of meat offered in company canteens.

A common policy recommendation to reduce meat consumption in the communal gastronomy sector is the introduction of mandatory health and sustainability requirements for *public* canteens, especially in schools and kindergartens but also in prisons or public authorities. Yet, such measures are not mentioned in the context of *private* communal gastronomy like company canteens.<sup>3</sup> However, based on the high average meat consumption in Germany and the

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<sup>2</sup> Restaurants, cafés, fast-food restaurant, hotels, bars; i.e. gastronomy where individual requests are met. For a more comprehensive overview and categorisation of the out-of-home gastronomy sector see Chapter 2.5 and specifically Figure 2.5.

<sup>3</sup> This becomes evident when analysing various policy recommendations for government intervention in the food sector (Akenji et al., 2021; Birt et al., 2017; BMUB, 2016; Commission on the Future of Agriculture, 2021; Eating Better, n.d.; European Commission, 2020; Fischer-Møller et al., 2018; Kompetenznetzwerk Nutztierhaltung, 2020; WBAE, 2020; Wellesley et al., 2015). For a short literature review on policy recommendations aiming at the reduction of consumption see Dicke (2021).

assessment of three communal gastronomy experts (E1, E2, E4)<sup>4</sup>, it can be assumed that the average offer in German company canteens is still very meat-heavy with relatively few vegetarian or vegan options compared to what is scientifically recommended (Willett et al., 2019). The question arises if and how a sustainable offer in private communal gastronomy can be achieved without policy interventions and stringent measures like, for example, the mandatory introduction of sustainability standards.

Regarding the policy sphere, the WBAE (2020) states that current food policy moves between a voluntary orientation that relies on corporate social responsibility, consumer motivation for sustainability, and market mechanisms, and an orientation that depends on prohibitions and regulatory law. The German Federal Ministry of Food and Agriculture [BMEL] currently relies relatively heavily on voluntary measures by businesses, threatening regulation only if no progress can be seen (WBAE, 2020). Yet, in many fields research has shown the limits of voluntary measures indicating that most likely a sole orientation towards voluntary commitments will not be sufficient (Borck & Coglianese, 2009; Koehler, 2007; Lyon & Maxwell, 2008; McCarthy & Morling, 2015; WBAE, 2020).

At this moment in time, however, it is still mainly up to the decision-makers in canteens whether the offer in their company's canteen is in line with what can be considered healthy and sustainable.<sup>5</sup> There is a large body of literature on the opinion of consumers on meat reduction or their acceptance of different measures to achieve such (see, for example, Austgulen et al., 2018; Culliford & Bradbury, 2020; Hartmann & Siegrist, 2017; Lorenz-Walther & Langen, 2020; Macdiarmid et al., 2016; Sanchez-Sabate et al., 2019; Sanchez-Sabate & Sabaté, 2019). Yet, the perspectives of decision-makers in canteens on introducing different measures that aim to reduce the meat share in the menu or, more generally, to create a more sustainable menu are hardly analysed.

To summarise, the research problem identified is that there are tangible policy recommendations on how to push forward a sustainability transformation in the *public* canteen sector; that is—amongst others—the mandatory alignment of menus to sustainability and health guidelines via command-and-control regulation. Yet, no such stringent recommendations exist for the *private* sector while the meat share of menus is assumably still much too high (E1, E2, E4). This feeds into the aggravation of climate change and environmental degradation, not to mention individual health issues. For the private canteen sector, the focus of the policy debate lies in voluntary agreements and supportive actions (Quack & Teufel, 2020; WBAE, 2020). These are policies that the decision-makers in companies and company canteens *can* act upon but do not have to. Therefore, the question arises whether there is a voluntary willingness from canteen decision-makers to make their offer sufficiently sustainable and, e.g., more compliant with health and sustainability requirements, or whether state intervention is likely going to be needed to push the implementation of concrete and stringent measures forward.

## 1.2 Aim and Research Questions

This thesis aims to investigate company canteen decision-makers' awareness of the need for meat reductions, their sense of responsibility and voluntary willingness, and their practical implementing capacity in terms of knowledge and power to implement meat reducing measures. These aspects are different variables of what is defined to be *agency* in this thesis. By analysing these variables, the present study aims to scrutinise canteen decision-makers' opinions on and attitudes towards implementing measures to reduce their meat processing and sale.

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<sup>4</sup> Reference to expert interviews conducted during this study, for details see Appendix 3.

<sup>5</sup> In this thesis "decision-makers" always refers to *canteen* decision-makers not to e.g. local political decision-makers.

Furthermore, their perception of the state's role regarding sustainable food consumption in business canteens is examined. In this analysis, the main focus lies on choice editing measures. These are measures that edit the choices available to a customer so that certain options are more or less frequently available or, on some days or even generally, not at all available. For example, a veggie day can be considered a choice editing measure just like a stringent reduction of dishes containing meat, as it would, for instance, be the case when *strictly* complying with the quality standards of the German Nutrition Society (DGE) for meals in companies (DGE, 2020).

The question arises if and how a sustainable offer in private communal gastronomy can be achieved without policy interventions and the stringent implementation of measures? This question is addressed by scrutinising company canteen decision-makers' agency to implement meat reducing measures and their perception of the role of the state in that regard. Thus, this analysis serves as an indication for policymakers of the need for and acceptance of the introduction of policies and contribute to the knowledge pool on the status of and effective action in the urgently called for "Great Food Transformation" (Willett et al., 2019, p. 448).

Against the backdrop of the question of if and how a sustainable offer in business canteens can be achieved without policy interventions and stringent measures implemented by decision-makers in canteens voluntarily and on account of a feeling of responsibility to act, two concrete research questions emerge:

- **RQ1:** What level of agency do decision-makers in company canteens have in reducing the meat share of the menu offer in order to improve its environmental sustainability?
- **RQ2:** What policy interventions do company canteen decision-makers foresee and deem effective if no sufficient reduction of the meat share in their menu offer is introduced voluntarily?

### 1.3 Scope and Delimitations

Various delimitations are set for this study. Firstly, the concrete sub-sector—company canteens—are under scrutiny as they comprise the largest communal gastronomy segment. Even though individual gastronomy makes up a larger market share of the out-of-home gastronomy sector it is not chosen for analysis due to its high level of heterogeneity. Additionally, from the individual consumer's perspective, it provides meals on a much more irregular basis than the communal gastronomy sector. To further delimitate the scope, companies self-operating their canteen, compared to companies outsourcing it to external caterers, are chosen as a research subject.

Concerning the perspective taken on the issue under debate, a delimitation is that policy instruments and practical measures directed to change the MCE for the individual end consumer, specifically the canteen customer, are in focus. Other practical measures aiming to reduce the environmental impact, e.g. making the canteen processes more energy-efficient or optimising detergent use, are *not* in focus. More specifically, policies and measures that explicitly edit the choice available to the customer (choice editing; see Chapter 1.2 and for a more detailed elaboration, Chapter 2.2) are in focus.

While less profound regarding the depth of intervention into the individual's decision-making process, measures relying on information and labelling, monetary incentives through taxes, and

subsidies or nudging<sup>6</sup> are not the focus of this analysis. This scope is set because, firstly, it is a common recommendation to implement measures within the choice editing realm for the public canteen sector (Dicke, 2021; WBAE, 2020). An extension to the private sector thus seems appropriate. Secondly, a deliberate focus is set on approaches that are likely perceived as rather radical compared to those currently in the mainstream discourse. As Akenji et al. (2021) put it, this hopefully broadens “the discussions on how to deal with the escalating climate emergency [and environmental degradation] in an equitable manner and within a short timeframe” (p.18). Lastly, the WBAE (2020) points out that more stringent measures and policies will be needed if there is no progress in the sector.

The agent group of company canteen decision-makers is in focus as there are indications that decision-makers with sustainability ambitions are essential for success in canteen sustainability transitions, i.e. transitions that personnel and customers are content with and that reduce the environmental impact of their offer and services (Fritz & Pachucki, 2015). Further, they are assumed to be agents with the power to implement change while customers are seen to be less powerful agents in the provisioning system (Akenji, 2014). Additionally, extensive research on consumer attitudes has been conducted already (see, for example, Hartmann & Siegrist, 2017; Lorenz-Walther & Langen, 2020; Sanchez-Sabate & Sabaté, 2019), while the actor group of canteen decision-makers remains to be studied in more detail.

The geographical scope is set to Germany. As outlined in this chapter, a transition in the company canteen sector is needed from an environmental sustainability perspective. This is because the average German meat consumption is still thrice as high as health and sustainability guidelines recommend and three independent experts indicated that, on average, company canteens still offer an excess of meat compared to the recommendations (BLE, 2021; Willett et al., 2019; E1, E2, E4). Moreover, being the most populous and economically powerful country in the EU Germany is often seen to have a leading political role. This, combined with the fact that the mitigation potential of reducing meat consumption is very high, especially in industrialised countries like Germany (Sun et al., 2022), makes it a relevant case for analysis. Lastly, practical reasons play into the choice of the geographical scope as the literature analysis and interviews can be performed without a language barrier.

## 1.4 Audience

This study is directed at two main groups of audiences. The first are policymakers in Germany and the EU in environmental sustainability, food policy, and out-of-home gastronomy. The findings should provide information on the awareness of the need for meat reductions, the sense of responsibility to implement measures to reduce meat processing and sale, and lastly, the level of voluntary willingness as well as capacity—in terms of knowledge and power—to implement such. This serves as an indication of the need for more stringent policy intervention and a basis for further research with academia being the second main audience. For this group, the findings can be deployed as a basis for further studies, potentially analysing the research problem with a representative-quantitative approach producing more generalisable knowledge. Further, findings shall enrich the wider academic body of knowledge on the sustainability transformation in the out-of-home gastronomy sector.

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<sup>6</sup> Nudges are defined as “any aspects of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives” (Thaler & Sunstein, 2008, p. 6). Thus, nudges are a type of behavioural intervention that aims to create choice environments that facilitate choices that are socially and personally desirable but that do not restrict individuals in the freedom of choice



## 1.5 Disposition

Chapter 1 presents the nature of the problem addressed in this research and introduces the research aim and questions. The content then identifies research limitations and scope, describes the intended audience, and provides a thesis outline. The background chapter (Chapter 2) gives a more thorough review of the information provided in Chapter 1, underpinning central assumptions and perspectives with scientific literature, and elaborating key terms and concepts. The literature review (Chapter 3) presents a more detailed analysis of the immediate field of study and current knowledge on the research questions. The main gaps in the research are outlined. Chapter 4 presents underlying theories deployed in this thesis and, based on those, elaborates on the main framework of analysis. Followingly, the research design, collected materials and methods deployed to answer the posed questions are delineated, and ethical considerations are addressed (Chapter 5). Chapter 6 then presents the main findings based on the main framework of analysis, while in Chapter 7, key results are discussed against existing findings in the ongoing debate and a reflection and limitations are elaborated. Lastly, Chapter 8 concludes by summarising critical findings of the work, providing recommendations directed to the principal audiences, and outlining areas of future research.

## 2 Background

This chapter gives a more thorough review of the information provided in Chapter 1, underpinning central assumptions and perspectives with scientific literature and elaborating key terms and concepts.

### 2.1 The Environmental Impacts of Meat or What is a Sustainable Diet?

Environmental degradation and climate change are at a critical point (Steffen et al., 2015). Consulting the concept of planetary boundaries that defines a safe environmental operating space wherein societies can develop, it becomes evident that humanity is already transgressing several boundaries. Biodiversity, the biogeochemical flows of nitrogen and phosphorus, land system change, climate change, and novel entities are in risk zones (Persson et al., 2022; Steffen et al., 2015). Constant transgressing of boundaries can lead to “a very different state of the Earth system, one that is likely to be much less hospitable to the development of human societies” (Steffen et al., 2015, p. 1259855–1).

As mentioned in Chapter 1, food is one of the main hotspots when analysing the environmental impacts of different consumption domains (Akenji et al., 2021; EEA, 2012). It is responsible for more than 25% of the global greenhouse gas (GHG) emissions and is thus a primary driver of climate change (Poore & Nemecek, 2018). But GHG emissions is not the only environmental impact stemming from food production and consumption. Other main impacts include soil degradation through intensive farming and excessive use of pesticides and nitrogen and phosphorus fertilizers, leading to the acidification and eutrophication of terrestrial ecosystems and water bodies, causing biodiversity and habitat loss (Poore & Nemecek, 2018; Ritchie & Roser, 2020). Moreover, agriculture is estimated to cause 70% of the global freshwater extraction. Thus, food production feeds into the further aggravation of already overstepped planetary boundaries. To tackle the environmental and health challenges of the current diets, leading scientists call for a rapid and global “Great Food Transformation” (Willett et al., 2019, p. 448).

Meat and specifically ruminant meat has the highest environmental impact across various impact categories compared to other food products. It shows the highest GHG emissions per kilogram of food product (Poore & Nemecek, 2018) and per serving (Willett et al., 2019). Accordingly, both Akenji et al. (2021) and Sandström et al. (2018) find that when holistically looking at diets, especially in industrialised countries, meat has the highest impact in terms of GHG emissions (see Figure 2.1).

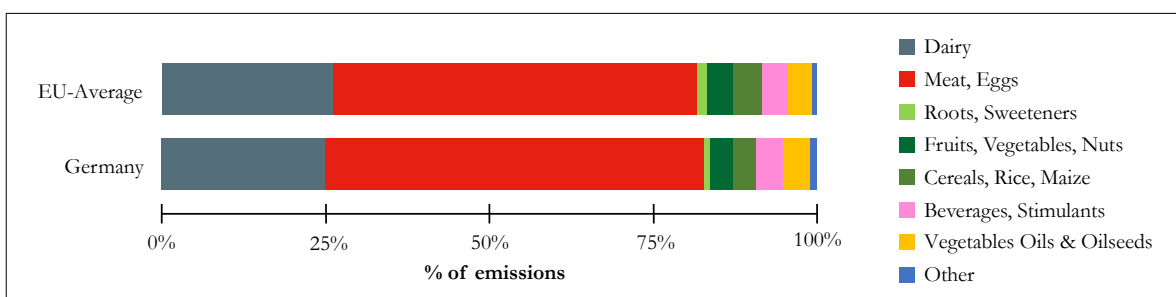


Figure 2.1. Dietary Emissions Presented in Food Item Groups

Source: Own illustration adapted from Sandström et al., 2018, p. 52

Note: categories ‘Meat, Eggs’ and ‘Dairy’ also include the emissions from feed production; even though meat and eggs fall under the same category in this illustration meat accounts for the large majority of emissions (see also Figure 2.2)

Moreover, ruminant meat shows the highest energy and land use per serving and the highest acidification and eutrophication potential (Willett et al., 2019). The impacts of pork and poultry are lower for all mentioned impact categories, yet in a similar range to eggs and dairy when measured per serving, and generally higher than any plant-based products. Hence, meat is a significant driver of climate change, biodiversity loss, and soil degradation, not to mention the adverse health effects of high-meat diets (Willett et al., 2019).<sup>7</sup> Leading scientists summarise that “plant-based foods cause fewer adverse environmental effects per unit weight, per serving, per unit of energy, or per protein weight than does animal source foods across various environmental indicators” (see Figure 2.2; Willett et al., 2019, p.470).

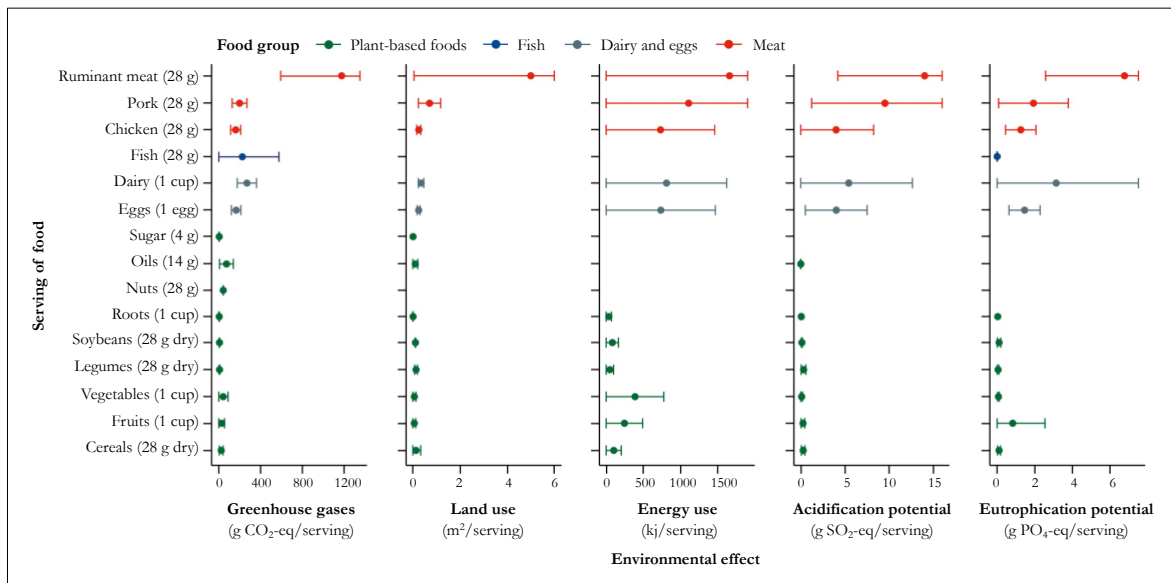


Figure 2.2. Environmental Effects per Serving of Food Produced  
 Source: Own illustration adapted from Willett et al., 2019, p. 471

The described environmental impacts combined with the fact that humanity is already transgressing several planetary boundaries, which those impacts feed into, illustrate the urgent need for a dietary transition toward more sustainable meat consumption. More sustainable, in this case, almost always implies lower levels of meat consumption and more plant-based diets (Ritchie & Roser, 2020). There exist high-level recommendations to shift to predominantly plant-based diets. For example, and as touched upon above, on the issue of climate change, the IPCC (2018) states that in the food domain demand changes are one of the main strategies to achieve 1,5°C consistent pathways. It is estimated that mainstreaming more plant-based diets is crucial to at least limit global warming to an increase of less than 2°C (Willett et al., 2019).

The question arises of what a sustainable diet looks like and what “sustainable meat consumption” means. How much meat should we eat? A group of leading scientists from various disciplines formed the EAT-Lancet Commission to answer these questions. They developed the so-called planetary health diet, a reference diet giving an orientation on how 10 billion people can be nourished in an environmentally sustainable and healthy way (Willett et al., 2019). Figure 2.3 illustrates the components and their advised share in a healthy and environmentally sustainable diet as well as the average German status-quo diet. Examining the

<sup>7</sup> The consumption of unprocessed and processed red meat is, for example, associated with higher risks of pneumonia, diabetes, ischaemic heart disease, diverticular disease, and colon polyps (Papier et al., 2021). Moreover, poultry meat intake can be associated with higher risks of gastritis and duodenitis, diverticular disease, gastro-oesophageal reflux disease, gallbladder disease, and diabetes (Papier et al., 2021). Overall, research has found that increased meat consumption, especially red meat consumption, increases the risk of colorectal cancer, total mortality, and cardiovascular disease (Battaglia Richi et al., 2015).

latter, it becomes apparent that the average German diet is not in-line with what is recommended, especially regarding protein intake through legumes and meat.

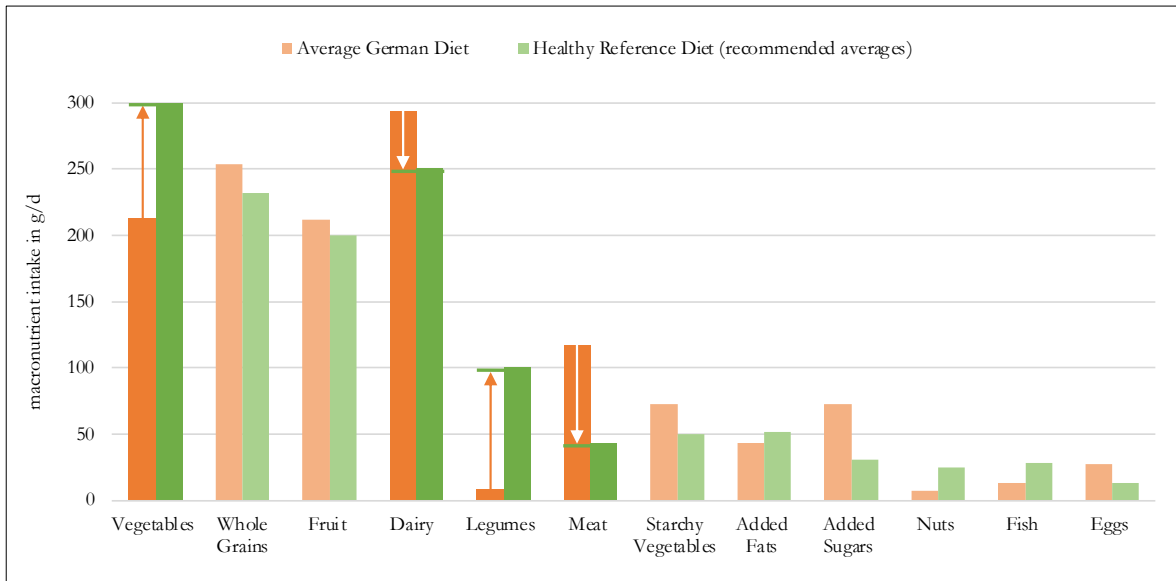


Figure 2.3. Comparing the Average German Diet to the Healthy Reference Diet

Source: Own illustration based on Dräger de Teran & Suckow, 2021, p. 70 and Willet et al., 2019, p. 451

Note: The EAT-Lancet Healthy Reference Diet determines ranges within which respective macronutrient intake is recommended. For this illustration, the recommended averages are deployed. Further note that the average meat consumption Dräger de Teran and Suckow deploy (117g/day) is below the average that the BLE estimates (157g/day). Using the values of the BLE the average German meat consumption is more than thrice as high compared to the scientific recommendations.

However, what is mostly in line with the EAT-Lancet Commission’s healthy reference diet, are the German DGE’s general nutrition guidelines (DGE, n.d.). These and the Commission’s guidelines can thus serve as a science-based benchmark to delineate what can be considered a sustainably composed and healthy diet.

The positive environmental impacts of a changed diet have been shown in different studies. For example, a recent study models the high climate change mitigation potential of industrialised countries abiding by the healthy reference diet, therewith sharply reducing their meat consumption (Sun et al., 2022). Another study models various effects of cutting Europe’s meat and dairy intake, looking not at GHG emissions only but also at health aspects and other environmental aspects like nitrogen emissions (Westhoek et al., 2014). The researchers find that next to lower health risks and significant air and water quality improvements in the EU, “halving the consumption of meat, dairy products and eggs in the European Union would achieve a 40% reduction in nitrogen emissions, 25–40% reduction in greenhouse gas emissions and 23% per capita less use of cropland for food production” (Westhoek et al., 2014, p. 196).

## 2.2 Interventions: Policy Instruments and Practical Measures to Reduce Meat Consumption

Acknowledging the need for sharp declines in meat consumption for health and sustainability reasons, various publications, often commissioned by government bodies, address the need for dietary changes and discuss different policy instruments and practical measures to further this goal (cf. Birt et al., 2017; Commission on the Future of Agriculture, 2021; Eating Better, n.d.;

European Commission, 2020; Fischer-Møller et al., 2018; Kompetenznetzwerk Nutztierhaltung, 2020; WBAE, 2020; Wellesley et al., 2015).

In the literature, there are various attempts to systematise the different interventions (WBAE, 2020). Followingly, an approach is presented that systematises them according to the intensity of their intervention in the market and personal choice options for consumers. The intervention ladder is a sequence of steps that ranks the instruments according to their increasing strength of influence on the personal choice behaviour of consumers (Nuffield Council on Bioethics, 2007; Spiller et al., 2017a; WBAE, 2020). Choice assistance interventions are the least profound while choice editing interventions are the most stringent, limiting choice or forcing a behaviour change. Therefore, Figure 2.4 shows a ladder of different food policy instruments and concrete, practical measures, sorted according to the intensity of intervention in the market and their increasing strength of influence on the choice behaviour of consumers (WBAE, 2020).

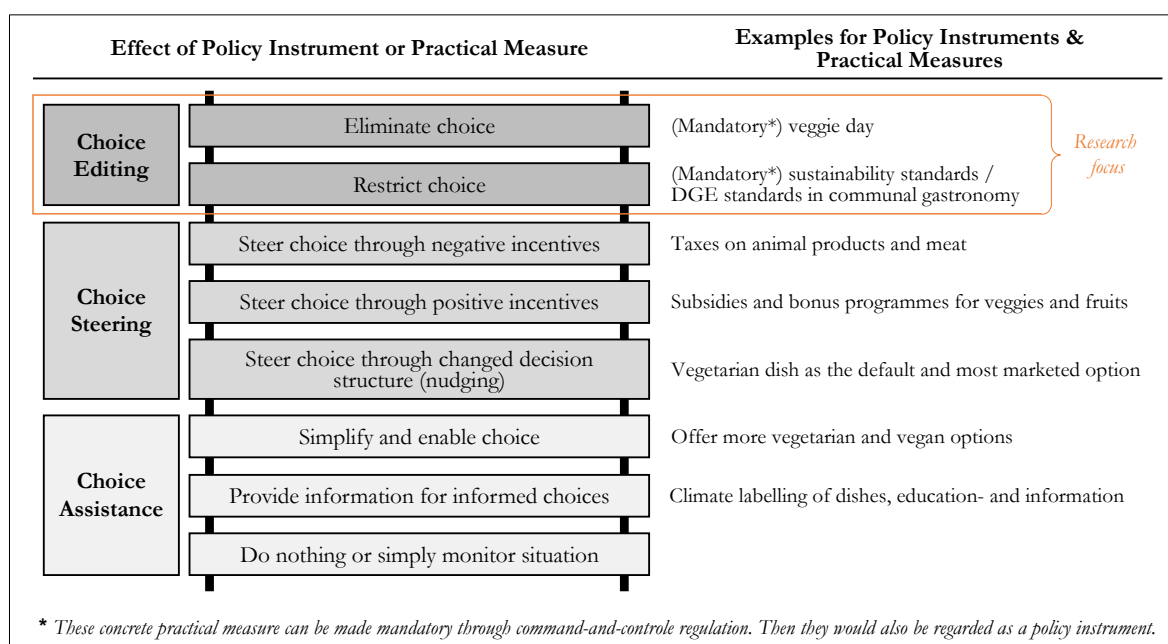


Figure 2.4. The Intervention Ladder

Source: Own illustration adapted from Nuffield Council on Bioethics, 2007, p.xix, Spiller et al., 2017a, p 149, and WBAE, 2020, p. 385

When discussing interventions it is essential to conceptualise the used terms “policy instruments”, “practical measures”, and “intervention”. Interventions are here defined as all policy instruments or practical measures deployed to reduce meat consumption. Practical measures are here understood to be all concrete measures taken to reduce the amount of meat processed, sold, and consumed in the respective environment. Practical measures do not necessarily have to be state-mandated but can also be implemented voluntarily by other actors that have the power to enforce them. The decision-maker of a canteen could, for example, decide to label all dishes with a climate label that informs about the climate impact of the respective dish. They could market vegetarian dishes positively or offer information on flyers on the environmental effects of different ingredients. They could implement a weekly veggie day or decide to align the whole offer with the DGE quality standards for company canteens (DGE, 2020). Yet, many of these concrete practical measures could also be state-mandated through command-and-control regulation, for example, the introduction of at least one veggie day per week, the adherence to the DGE standards, or the mandatory disclosure of the estimated CO<sub>2</sub> footprint of a dish, similar to the disclosure of allergens.

There is no set definition for policy instruments, yet, here, they are understood to be key means or operational forms “by which a government tries to achieve its policy objectives [...] and change the behaviour of target groups” (Carter, 2001, p. 285). Policy instruments are often categorised into command-and-control regulations, economic instruments, informative instruments, voluntary agreements, as well as the government’s procurement and provision of public goods and services (Kolstad et al., 2014; Mont & Dalhammar, 2005). An example of a regulatory command-and-control instrument would be the introduction of mandatory sustainability standards, like the DGE quality standards, in company canteens. Likewise, a voluntary agreement with the sector could be negotiated, which sets a percentage for an offer’s meat share that must be achieved within a specified timeframe. The government could introduce a tax on meat products on the whole market. This would also affect the procurement of company canteens and possibly reduce the amount of processed and sold meat.

There is an extensive body of literature analysing consumers’ approval of different interventions and their effectiveness in reducing meat consumption. In their comprehensive systematic literature review on intervention effectiveness toward reduced meat consumption, Kwasny et al. (2022) also discuss studies focusing on practical measures that aim at external factors, i.e. changes in the food consumption environment. However, it becomes evident that most studies in that field focus on interventions that change the decision structure: increasing the visibility of vegetarian options, altering portion sizes, and setting vegetarian defaults. Kwasny et al. (2022) mention the possibility of restricting choice through mandatory veggie days, yet only one study is covered in the section, illustrating that little is written on the topic. On a policy level, the WBAE (2020) notes that current policies in Germany rely heavily on voluntary measures by businesses, threatening regulation only if no progress can be seen. However, there are indications that in the pursuit of public policy goals, voluntary techniques are rarely, if ever, an adequate substitute for fiscal or regulatory measures (Borck & Coglianese, 2009; Koehler, 2007; Lyon & Maxwell, 2008; McCarthy & Morling, 2015).

In terms of consumer approval, a general decrease in acceptance can be noticed with gaining depth of the intervention in citizens’ decision-making autonomy (WBAE, 2020). Nudging and information measures are often accepted (Langen et al., 2017; Petrescu et al., 2016; Reisch et al., 2017), bans are in some cases more accepted than taxes (Aschemann-Witzel et al., 2016; Lemken et al., 2018; Mata & Hertwig, 2018).

It is acknowledged that effectiveness and consumer approval are two main determinants of the success of interventions. Moreover, implementing only one kind of intervention will not suffice to meet set goals. Information and education are, for example, usually the basis for the acceptance of more stringent measures (Akenji, 2014). Therefore, a comprehensive strategy and the implementation of a concerted policy mix are crucial (Birt et al., 2017; WBAE, 2020; Wellesley et al., 2015). Nevertheless, this study does not set focus on the effectiveness of interventions nor the approval or the general perspective of *consumers* on the issue of meat overconsumption. Instead, it argues that other actors might be more influential in bringing about a change toward more sustainable meat consumption. Hence, the following section discusses consumer sovereignty and why choice editing measures could be a robust tool to achieve reductions in meat consumption.

### 2.3 On Consumer Sovereignty

As touched upon in Chapter 1, it seems to be a logical assumption that mainly consumers are held responsible for the amount of meat they consume, and hence it is their responsibility to reduce this overconsumption. This view pertains because interference with the consumer’s individual choice is, as a normatively defined default, seen to be beyond the role of government intervention since consumers are perceived as sovereign agents (Akenji, 2014). The neo-liberal

paradigm prevalent in most high-income countries advises against interventions that regulate consumer choice (Cohen, 2005), based on the notion of the rational and informed consumer (Mankiw & Taylor, 2017). Are consumers rational and informed, i.e. sovereign agents? There is a large branch of literature from various disciplines, including sociology (Reckwitz, 2007; Shove, 2010), behavioural economics (Just et al., 2007), and environmental and social psychology (Sörqvist, 2016), that negates these assumptions.

From the perspective of the sociological practice theory, ordinary consumptive activities, such as eating or commuting, do not necessarily have to be intended by the actor. Everyday behaviour is not premeditated. It is not or no longer consciously decided and rationally assessed by individuals; instead, it is habitual and routinised (Reckwitz, 2007).

Additionally, behavioural economics uncovers several biases and limitations of rationality, especially in food choices. For example, loss aversions lead to consumers placing more weight on default options (Just et al., 2007; Kahneman & Tversky, 1979). Heuristics—mental shortcuts that enable humans to make immediate decisions when mental processing capacities, time, and information are limited—lead to “emotional” rather than rational choices, which are oftentimes also unhealthy or unsustainable choices (Just et al., 2007; Kahneman, 2011). It is further acknowledged that consumers do not have perfect information regarding their consumption decisions (Cartwright, 2018). Regarding the impacts of meat consumption, different studies have shown that consumers are indeed unaware of the best way to reduce the environmental impacts of food (Austgulen et al., 2018; Macdiarmid et al., 2016; Sanchez-Sabate et al., 2019). In their synthesis review on attitudes toward reducing meat consumption for environmental reasons, Snachez-Sabate et al. (2019) find that consumers are often not aware of the environmental dimension of food. Consumers think food sustainability depends on production and distribution patterns (transport, packaging, etc.) rather than the type of food itself. Consumers are often ignorant of the fact that a sustainable diet contains little to no meat (Snachez-Sabate et al., 2019).

The answer to limited information in the liberal paradigm is to provide the right information so informed choices are enabled, yet profound interventions are to be kept to a minimum (Turner, 2011). However, findings from environmental psychology show that knowledge does not directly translate into changes in attitudes, and these, in turn, do not automatically translate into a change in behaviour (Kollmuss & Agyeman, 2002). Consumers informed about the environmental impacts of meat do not necessarily care about climate change and environmental degradation and the mitigation of such through an attitude and behaviour change. Given that a shift in attitudes upon the reception of knowledge *does* occur, it is not guaranteed that this leads to changed consumption behaviour (Kollmuss & Agyeman, 2002). This phenomenon is known as the value-action, attitude-behaviour, or citizen-consumer gap (WBAE, 2020), and it is closely connected to the above-described phenomena of bounded rationality and biases. In their comprehensive review study, Kollmuss and Agyeman (2002) find that various factors influence pro-environmental behaviour. Next to demographic characteristics and internal factors (e.g. awareness and knowledge, motivation, attitudes, priorities, sense of responsibility), external factors like the availability of infrastructure, economic incentive structures, policies and regulation, as well as the predominating culture play a significant role in the implementability of pro-environmental behaviour. External factors that hinder consumers from making sustainable food choices are, thus, for example, a meat-engrained food culture, a limited offer of plant-based dishes, and the availability of cheap animal products compared to more expensive plant-based alternatives—a market configuration endorsed by German tax policy (Zerzawy et al., 2021).

These different theories and findings converge in the perspective of the locked-in consumer. This purports that consumers are far from being informed, rational, and willing but rather locked-in to unsustainable consumption patterns led by habitual practices, convenience, biases, and responses to external institutions and norms (Jackson & Michaelis, 2003; Sanne, 2002; Wahlen et al., 2012). While consumer responsibility is acknowledged, Akenji pointedly summarises that,

consumer's decisions are neither always individual nor rational but are subject to other factors beyond their immediate control. Social and physical infrastructure are determinants, giving broad direction to consumer behaviour. Thus expecting the consumer to overcome such systemic barriers - with demonstrably limited influence over major players in the value chain, and already overwhelmed with multiple influences and day-to-day decisions - to be the primary driver of an issue as complex as sustainable consumption is consumer scapegoatism. It is a case of targeting the most visible stakeholder rather than the most influential. (Akenji, 2014, p. 17)

Taking such a perspective, the limited influence of the individual consumer is recognised in this thesis, and a reform of the whole provisioning system is brought into focus, as well as the fact that the consumption environments consumers are surrounded by have a significant impact on the dietary decisions individuals make. However, before the provisioning system and its actors that are the focus of this paper are discussed, the next chapter sheds light on the concrete interventions under scrutiny.

## 2.4 On Choice Editing

The above elaborations provide a basis for deciding on the interventions that shall be the focus of this paper. Since knowledge, i.e. education and information interventions, has been shown to not necessarily and automatically lead to changes in action due to biases and bounded rationality, choice assistance measures shall fall out of the scope.<sup>8</sup> As mentioned above, it is, however, acknowledged that they form a vital part in the acceptance of more stringent interventions.

Choice steering measures like nudging—that explicitly use the fact that humans have bounded rationality and limited information and are thus biased and easily influenced by external factors—would be an interesting research object. They strike a balance between being—assumably—more effective than choice assistance interventions while not too profoundly intervening in individuals' decision-making and available choices. Mertens et al. (2022) find that interventions directed at changing the decision structure have a significant effect on choices in the food domain. The authors explicitly state that this phenomenon is likely connected to the fact that food choices are highly habitual and dependent on external cues in the consumption environment; hence, altering it is an effective way to change habitual behaviour (Mertens et al., 2022).

Nevertheless, the focus of this work shall not lie on choice steering interventions either. Firstly, there exists already a vast body of literature on them (see, for example, the meta-studies of Kwasny et al., 2022; Mertens et al., 2022 and Reisch et al., 2021), while choice editing interventions are hardly studied in the food-environment nexus (Kwasny et al., 2022). Secondly, it remains uncertain whether choice steering interventions will be *effective enough* to reduce meat

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<sup>8</sup> Note that there are studies which show the effectiveness of information, however, some of them only test a change in attitude and not actual behaviour and some studies also conclude that no significant effect could be detected (Kwasny et al., 2022). Mertens et al. (2022) find that information interventions are less effective than interventions that alter the decision structure, for example through default changes.



consumption to the needed lower levels.<sup>9</sup> Therefore, by considering more stringent interventions, this study also aims to broaden the debate on how the escalating climate and environmental crisis can be dealt with within the short timeframe left to make necessary changes (Akenji et al., 2021). The above statements imply that choice editing interventions are more effective than less profound interventions. However, before aspects of effectiveness are discussed, a more thorough conceptualisation of choice editing shall be given.

### 2.4.1 Conceptualisation

There are different understandings of what exactly choice editing comprises. While Graham & Abrahamse (2017) equal the concept with nudging, Akenji et al. (2021) state that, “choice editing involves the use of specified criteria and set standards to filter out unsuitable options in the range of products and services being brought to the market“ (p. 74), which would equal a minimum standard. Yet when giving examples of implementing choice editing, Akenji et al. (2021) include nudges like changes in default, economic disincentives like taxes, as well as outright product bans. In the publication of the Sustainable Consumption Roundtable (SCR), which is often quoted in the context of choice editing, it is stated that,

choice editing for sustainability is about shifting the field of choice for mainstream consumers: cutting out unnecessarily damaging products and getting real sustainable choices on the shelves. Consumers benefit from the assurance that the issues they care about are being dealt with upstream, rather than facing the demand that they grapple with those complexities themselves. (SCR, 2006, p. 2)

The latter statement carries the normative notion that consumers should be able to consume without fearing that their consumption choices induce climate and environmental impacts that majorly feed into the transgression of planetary boundaries. Just like citizens in Germany can be sure that the quality of tap water is such that it is drinkable or electric products that enter the market fulfil specific safety standards, products that are causing major negative environmental and climate impacts should be edited out of the market; as has, for example, been the case for incandescent lightbulbs (European Commission, 2008) or the global phase-out of ozone-depleting substances (United Nations, 1987).







In this paper, the intervention ladder framework (see Figure 2.4) shall serve as the principal guide to delaminate choice editing. Therefore, choice editing interventions are understood to be interventions that entirely eliminate choices from an offer or restrict the available offer so that certain options are not or much less available, e.g. by removing unsustainable ingredients from food or, more general, unsustainable dishes from the offer. For canteens, one example of a choice eliminating intervention would be a veggie day as it temporarily eliminates all options that contain meat or fish. A choice restricting measure would be the stringent introduction of sustainability (and health) standards like the “DGE Quality Standards for Meals in Companies” (DGE, 2020). It recommends certain values for food quantities for different food groups in a five-day catering plan per guest (see Table 2.1). If only one dish was offered per day, strict

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<sup>9</sup> Note that the “needed” reductions are not clearly quantifiable for the out-of-home gastronomy sector but rather have to be derived from larger sector goals specified in the German climate action plan (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety [BMUB], 2016)—which is, incidentally, insufficient to contribute a fair share to climate mitigation (Climate Action Tracker, 2021)—as well as from elaborations on how sustainable diets for individuals look like (see Chapter 2.1).

adherence to the standard would imply that meat is only offered twice a week and fish once a week. Of course, this changes as soon as more than one dish is offered.<sup>10</sup>

Table 2.1. Food Qualities and Frequencies for a Health-Promoting and Sustainable Lunch in a Company Canteen on Five Catering Days

Food Group		Food Qualities and Frequencies (lunch only) orientation values for food quantities for five catering days per guest
Grain, grain products, and potatoes		5 x (1 x daily) (ca. 600 g)
Vegetables and salad		5 x (1 x daily) (ca. 850 g)
Fruits		min. 2 x (ca. 200 g)
Milk and dairy		min. 2 x (ca. 150 g)
Meat, sausage, fish and eggs		max. 2 x meat/sausage (ca. 150g) thereof: min. half of the offer lean muscle meat 1 x fish (ca. 150 g) thereof: min. 2 x fatty fish within 20 catering days
Oils and fats		Rapeseed oil as standard oil (ca. 35 g)

Source: Own table adapted from DGE, 2020, p. 40f

## 2.4.2 Effectiveness

As elaborations above suggest, one assumption made is that stringent measures such as choice editing are effective in reducing the meat share of menus but also further in reducing the meat consumption of the individual. This is because it is assumed, as Akenji et al. (2021) state, that, “choice editing is effective because what is not available cannot be consumed.” (p. 74). Arguing for choice editing, the case-study research of the SCR (2006) finds that individuals’ green consumption has not been the primary catalyst for green innovation in the past. Instead, in most cases, choice editing for sustainability by industry and government was the main driving force. Regulators, retailers, and manufacturers decided to edit out unsustainable products on behalf of the consumer (SCR, 2006).

Yet, it needs to be noted that unlike for typical choice assistance vs choice steering interventions (cf. Mertens et al., 2021<sup>11</sup>), the effectiveness of choice editing vs choice steering interventions for sustainability—and specifically meat reductions—is little reviewed. Capacci et al., 2012 and Hansen et al., 2021 give systematic reviews of health-related food policies and their effectiveness, yet it becomes apparent that interventions falling under choice editing as it is conceptualised here are hardly analysed. Hansen et al. (2021) themselves emphasise that

<sup>10</sup> The Berlin University Canteens provide a good example of what a canteen menu that is strictly aligned to sustainable and health standards can look like; for their exemplary menu for one week see Appendix 1.

<sup>11</sup> Note that Mertens et al.’s review focuses on “nudging” interventions, yet, upon closer analysis it becomes evident that they also analyse the effectiveness of information interventions that—under the intervention ladder framework—would fall under choice assistance interventions. Thus, they give a good account of the effectiveness of information measures compared to ones that alter the decision structure. Across all analysed domains Mertens et al. (2021) find that interventions targeting decision structures consistently perform better than information interventions.

interventions that aim to change the market environment are rare compared to ones that emphasise choice assistance. Spiller et al. (2017b) state that empirical studies show that bans can have substantial and lasting effects at the behavioural level. Yet, no reference to comprehensive review studies is given, but only exemplary studies analysing smoking bans or bans on the sale of sugary soft drinks in schools are cited.

Kwasny et al. (2022) are closest to comparing the effectiveness of choice steering and choice editing measures when analysing interventions that aim to reduce meat consumption through changes in the external environment. However, unlike Mertens et al. (2022), they do not quantify effectiveness, making comparability difficult, and only one study on choice editing measures is included (Kwasny et al., 2022). This is the study of Lombardini and Lankoski (2013). They analyse the effects of a weekly veggie day in Helsinki schools and find that in the short term, there is a lack of acceptance of the measure and some non-compliance in the form of decreased participation and increased plate waste, while in the medium-term the veggie day shows effectiveness. This could be connected to the tendency of humans to have a status-quo bias: interventions are viewed more positively sometime after their introduction than when they were first introduced; people get used to them (WBAE, 2020). An example of this is the growing acceptance of the smoking ban in certain public places in the years after implementation (Fong et al. 2006).

To summarise, studies comparing the effectiveness of choice steering and choice editing interventions in reducing meat consumption remain to be conducted. They should scrutinise whether choice editing measures are indeed more effective than choice steering measures and thus an effective way to speed up the reduction of meat consumption. It is essential to show that choice editing measures are more effective as it would legitimise their preferential deployment over choice steering interventions. This leads to the debate of choice editing interventions, their paternalistic elements, and thus legitimacy of introducing them.

### 2.4.3 Legitimacy and Paternalism

In a liberal democracy and market economy, government interventions into the market or the decision making of individuals—especially profound ones like choice editing—need to be justified. Note that this chapter focuses on *government* interventions, i.e. choice editing interventions that the government commands. As touched upon above, other actors in the provisioning systems can voluntarily implement practical measures to change the decision making of individuals. In fact, choice editing is a daily practice in the private sector. Service providers and manufacturers do it when composing portfolios, deploying criteria such as profitability, popularity, and available technology. Retailers choice edit which products to shelve for the customers (Akenji et al., 2021), and caterers decide which options to offer—or not to offer—in their canteen.

Regarding the legitimacy of government interventions, other publications give comprehensive accounts elaborating on why interventions into consumers' food choices are indeed legitimate or even necessary (cf. Spiller et al., 2017a and WBAE, 2020, Chapter 6). Hence, only a short overview of some of the most prominent arguments that justify interventions—especially from an environmental sustainability perspective—is given here.

From a political-philosophy view, the state may intervene in the freedom of individuals if this intervention serves to protect third parties from harm (Brink, 2022; Mill, 2008 [1859]). Firearm purchasing restrictions or inside-smoking bans are good examples illustrating this principle. According to Akenji et al. (2021), it also includes the obligation and right to “prevent individuals from consuming to such an extent that access to a sufficient quality and quantity of resources is denied to others” (p. 75) and especially if this consumption causes harm to others. It is

increasingly becoming an accepted notion that environmentally harmful actions impair the well-being and impede the freedom of future generations and generations currently alive. This becomes, for example, apparent through the growing amount of successful climate litigation cases around the world (Setzer & Higham, 2021).

From the perspective of economics, the state may also intervene in the food consumption behaviour of individuals if this behaviour has adverse effects on others that are not adequately considered in the individual's decision (WBAE, 2020). In economics, such adverse effects are referred to as externalities of consumption (Mankiw & Taylor, 2017). On the one hand, these consist of the negative environmental impacts of food (see Chapter 2.1), which threaten the livelihoods of present and future people. On the other hand, there incur high economy-wide consequential costs of inaction against climate change and environmental degradation—e.g. through increasing likelihood and severity of natural disasters (Swain et al., 2020)—but also, e.g. health system costs borne by the social community through compulsory health insurance (WBAE, 2020).

Closely connected to the debate about the legitimacy of interventions is the discussion about paternalism. Choice assistance measures like information provision are usually not seen as paternalistic. Quite on the contrary, they are to enable a free, informed choice. Yet, choice assistance measures, such as decision structure changes and choice editing measures, are often considered paternalistic (Hachmann et al., 2019; P. G. Hansen, 2016). The accusation is that such measures disenfranchise the sovereign consumer. Since a discussion on consumer sovereignty is already provided in Chapter 2.3 and an overview of why interventions can be legitimate—regardless of their paternalistic character—is found in the two paragraphs above, here, the subject is not further elaborated. For a detailed disquisition on the topic, see Hachmann et al. (2016) on the issue of paternalism of the proposal of the German Green Party in 2013 to introduce a veggie day in public canteens.

## **2.5 The Out-of-Home Gastronomy Sector**

After giving an overview of choice editing, the concrete provisioning system and sector, in which the application of such interventions is to be analysed, shall be illuminated. In the food sector, the out-of-home gastronomy segment is the second-largest sales channel for food after food retailing, and its relevance is expected to grow further (Göbel et al., 2017; Quack & Teufel, 2020). For an overview of the German out-of-home gastronomy sector see Figure 2.5.

Regarding the environmental impacts of the out-of-home gastronomy sector, it can be noted that they are comparatively poorly studied which is partly due to the heterogeneous structure of the sector and many small-scale players (WBAE, 2020). A barrier to reducing the environmental effects of out-of-home catering is that consumers are less aware of sustainability issues when eating out-of-home than they are when buying for their households. Due to the delegation of preparation to the catering industry, the different consumption situations in the catering industry (enjoyment, efficiency, and quick satisfaction of hunger), but also due to the lack of information on menus, sustainability tends to be less anchored among customers (Rogge et al., 2009 as cited in WBAE, 2020). Next to reducing food losses and more sustainable logistics and processing, the WBAE (2020) emphasises the importance of offering menus with a small ecological footprint, i.e. ones with fewer animal products, to improve environmental protection in the out-of-home gastronomy sector and simplify the choice for consumers. Currently, the “greening“ of meals through menu planning and marketing for environmentally friendly meals is primarily discussed for communal gastronomy, as this is where the state can exert the most direct influence (Bucher et al., 2016).

Compared to individual gastronomy, where catering is the primary service, communal gastronomy faces different demands and challenges. Usually, the provision of meals in communal gastronomy facilities, such as schools or companies, is a secondary service only derived from the organisations' respective primary function (production of goods and services, education etc.) (Göbel et al., 2017). The food offering is adapted to the specific customer groups and their needs (Peinelt & Wetterau, 2016). The aim of communal gastronomy is the demand- and target group-oriented provision of food on a regular basis. Wahlen et al. (2012) state that by offering more sustainable alternatives, such as vegetarian, vegan, seasonal, or organic, consumers can experience and learn about sustainable eating practices and potentially adapt their private food consumption practices.

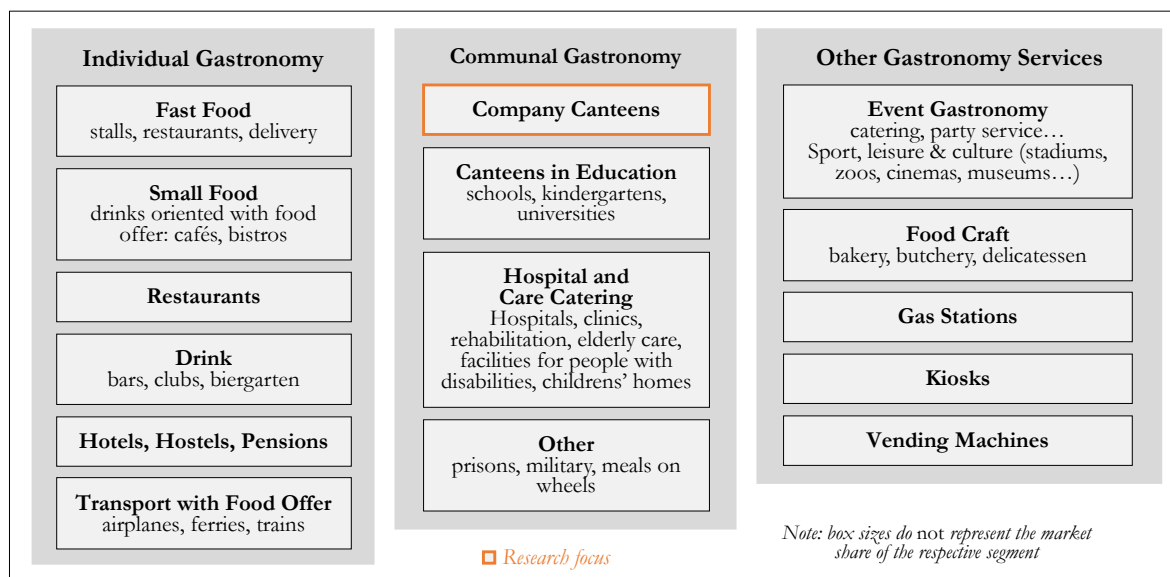


Figure 2.5. Market Segments of the Out-of-Home Gastronomy Sector  
Source: Own illustration adapted from Göbel et al., 2017

The communal gastronomy segment has the second-highest turnover after the individual gastronomy segment (Göbel et al., 2017). With an estimated share of 80% of the market volume, company canteens make up the largest segment within the communal gastronomy sector (gv-praxis, n.d. as cited in Göbel et al., 2017). A distinctive feature of company canteens is that they are oftentimes subsidised by the respective company, and it is up to the company (leaders) how much they are willing to invest into a high-quality canteen offer. Unlike in hospitals, care institutions, or prisons, guests of company canteens can easily choose not to use the offer but to turn to alternatives. This leads to the problem that if a company canteen is frequented too little because customers turn to alternatives, it becomes less profitable and a greater cost factor for the company (E3). These characteristics of company canteens are important to consider when discussing the introduction of policies and measures for sustainability.

As touched upon above, it is argued that the state can influence the communal gastronomy sector comparatively easy, yet, as the WBAE (2020) notes, so far, the BMEL relies relatively heavily on voluntary measures by businesses threatening regulation only if no progress can be seen. With the recent change in the German government, the new minister for food and agriculture (Cem Özdemir, Green Party) stated the aim to increase health and sustainability standards in communal catering and thus pushes for extensive implementation of the DGE standards in the sector (BMEL, 2022). To scrutinise the situation in the company canteen segment regarding the introduction of stringent meat reducing measures voluntarily, this study examines the perspectives of decision-makers in company canteens. First of all, however, an account of the currently available knowledge in the literature shall be given in the next chapter.

### **3 Literature Review**

While the last chapter gave a more thorough review of the information provided in the introduction, underpinned central assumptions and perspectives with scientific literature, and elaborated key terms and concepts, this chapter aims to review and summarise existing knowledge on the research questions and point to gaps in the literature. Additionally, literature on the status-quo of the sector is examined as this shall serve as a basis for more concrete knowledge on the research questions.

A semi-systematic approach to literature reviews (Snyder, 2019) is taken to understand current knowledge on the status-quo and trends in the German out-of-home gastronomy sector and canteen decision-makers' agency for sustainability. As specific literature on the case is relatively limited, a more general perspective on decision-makers' role in sustainability transitions in businesses is additionally provided. This review follows a semi-systematic research procedure where the respective search strings are searched in three databases—Google Scholar, ScienceDirect and SpringerLink—and the first 100 results are screened for relevance by their title. Potentially relevant articles are then winnowed by reading their abstracts. Papers are excluded if there is a language or cost barrier and when they are not fit to answer the specific question addressed in the section. The remaining articles are respectively reviewed for relevant information. If applicable, the deployment of additional publications from other sources besides the listed databases is mentioned below. Some background information is also drawn from sources known to the author from former research.

For a review of literature on the status-quo and trends in the German out-of-home gastronomy sector, the search string “trends OR status-quo AND catering AND Germany” is followed. One publication of high relevance (cf. Lopez et al., 2019) is found. Due to this meagre outcome, additionally, publications from the German research project “NAHGAST”, which is concerned with various aspects of environmental sustainability in the out-of-home gastronomy sector, are reviewed. One relevant paper on the status quo and trends in the industry is obtained (cf. Göbel et al., 2017). A study known to the author by Gellrich et al. (2021) is additionally considered. To determine whether there are surveys or other relevant statistics in the German communal gastronomy sector, Statista is used to search for the terms “Catering Deutschland”, and through the “Statista dossier on communal gastronomy in Germany” (Statista, 2019), a survey conducted by Internorga (2018)<sup>12</sup> is discovered to be of relevance. A relatively narrow search string did not reap relevant results on perspectives of decision-makers in communal gastronomy towards meat reductions for sustainability or, more generally, their professional identity for sustainability. Hence a broader research approach is taken. The string “sustainable AND food AND catering” is researched with the time scope set to 2002-2022, and the above-described procedure provides a selection of two journal articles (Mikkola, 2009; Wahlen et al., 2012) and one book chapter (Reinders et al., 2013) as well as the already identified survey by Internorga (2018). Lastly, for the broader perspective on decision-makers' role in sustainability transitions, the search strings “role AND managers AND sustainability AND transition AND business”, “business AND sustainability AND transition AND drivers”, as well as “managers AND perspectives AND sustainability”, four articles are identified.

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<sup>12</sup> The Internorga is an international trade fair for gastronomy and the hotel industry that takes place every year in Hamburg, Germany.

### 3.1 Status-Quo and Trends in the German Out-Of-Home Gastronomy Sector

Göbel et al. (2017) have conducted a status quo analysis of the German out-of-home gastronomy sector, focusing on sustainability communication and current trends. They analysed the internet-based sustainability communication of companies in the out-of-home food sector and found that the selected companies do comment on sustainability issues. The focus of sustainability communication lies predominantly in the formulation of vision and mission statements but then decreases sharply and provides little insight into the actual strategy and the goals and measures possibly derived from it. Companies that publish a sustainability report provide, however, much more detail. Overall ecological aspects in product development, production, and the menus tend to be communicated comparatively little. Within that category, however, “raw materials – ecological aspects” has the most mentions with topics such as “regionality”, “seasonality”, “ecological procurement”, or “vegetarian/vegan menu lines” in focus. Other categories mentioned more frequently are “energy management and climate protection”, “resource use”, and “environmental standards in the supply chain”. From the analysis, it can be concluded that the reduction of animal products is not a *main* focus but a topic that finds acknowledgement in the sector. (Göbel et al., 2017, p. 21ff)

Göbel et al.’s (2017) broader trend analysis, where industry magazines, company reports, advertisements, and reports from food fairs are under scrutiny, reveals that sustainability is one of the four major trends within the sector. Next to “organic” and “regional procurement” and “sustainability labels”, the trends “vegetarian” and “vegan” are leading. Moreover, for sensitive products such as dairy or meat products, traceability and a “good origin” becomes an increasingly important aspect in the sector. These trends similarly become apparent when reviewing the Internorga’s (2018) survey of decision-makers in the German communal gastronomy sector. In company canteens, 86% of the interviewees stated that they picked up the trend of offering more vegetarian options, 55% said they expanded their vegan offer, and 43% noted the inclusion of “climate-friendly” dishes. Figure 3.1 illustrates the interviewees’ answers regarding the pick-up and success of different trends. Additionally, 65% of the respondents—including respondents from the care sector—stated that vegetarian and vegan food will increase in importance over the next three years.

Moreover, Lopez et al. (2019) examined the current state of the socio-technical system of German communal catering and specifically looked at successful practices for meat consumption reduction to draw suggestions for transformative policies. One key finding is that those communal caterers who effectively decreased their animal product offerings radically changed the whole meal planning and not only altered recipes but, rather, reinvented dishes. Analysing the status-quo, Lopez et al. (2019) note that in terms of values, the German Hotel and Restaurant Association (DEHOGA) does not have a specific sustainability-related goal; reducing animal products is not addressed by it. Yet, best-practice stakeholders undisputedly agree that there is a need for animal-product and meat reduction in the field (Lopez et al., 2019).

Lastly, it shall also be noted that the implementation of practical measures to increase plant-based options in canteens to increase food and agricultural sustainability would be accepted by a majority of Germans. In a representative survey regarding environmental awareness in Germany, 62% of the respondents indicated that they strongly or mostly agree with the statement that the range of vegetarian and vegan dishes in canteens and restaurants should be improved (Gellrich et al., 2021). However, in this context, it needs to be mentioned that compared to other measures like increasing sustainability standards for packaging, information campaigns, and subsidising and supporting organic farming, this measure is the one least agreed to (Gellrich et al., 2021).

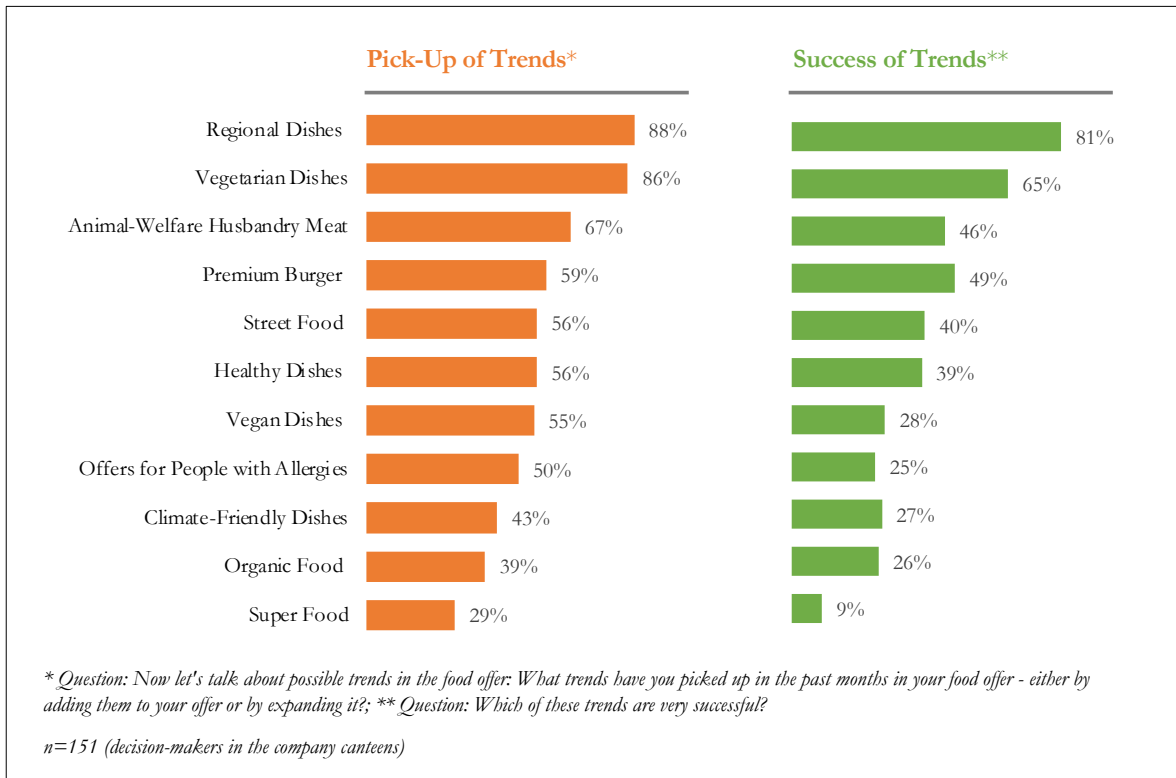


Figure 3.1. Trends in Company Canteens

Source: Own illustration adapted from Internorga, 2018, pp.20-21

Summarising, it becomes apparent that there is a clear trend in communal gastronomy toward more plant-based foods and the addressing of sustainability issues. Yet, relatively little is known about the actual status-quo in terms of meat share still served, as well as the question of whether the outlined trend will show satisfactory outcomes, meaning a decrease in meat sales to a degree that suffices to reach the sector’s needed contribution towards emission and critical resource use reductions.

### 3.2 Caterers’ Agency for Sustainability

In line with the perspective of the locked-in consumer, Wahlen et al. (2012) note that the power of consumers is limited through imperfect choice and supply as well as influences through external factors. Reinders et al.’s (2013) findings on consumers underpin this perspective. The analysed Dutch consumers are prevented from purchasing more sustainably because of their habits and the physical and social environment that does *not* make sustainable consumption easy and normal (Reinders et al., 2013).

Regarding caterers’ opinions, Reinders et al. (2013) generally provide little detail, yet they summarise that the supply side does acknowledge its essential role in delivering more sustainable products. However, sustainability aspects are often included in written mission statements but remain to be translated into concrete actions (Reinders et al. 2013). In line with this, Wahlen et al. (2012), who scrutinise Finnish public caterers’ opinions on mandatory sustainability requirements, find that the interventions were well received and thought to be legitimate by the caterers. Some believed that a more sustainable food offer could even “increase commitment and inspire professional pride in the kitchens” and some caterers “saw themselves as ‘gatekeepers’, with the potential to disseminate sustainable consumption patterns, as the past decades have shown that school and workplace lunches have educated Finns to eat more vegetables and have thus improved public health” (Wahlen et al., 2012, p. 15). Nevertheless,



caterers acknowledged that they have limited power and must balance various requirements, including the consumers’ opinion, menu variety, nutritional guidelines, health aspects, and the budget limit. Moreover, catering professionals stated that education and additional communication were necessary for successful implementation (Wahlen et al., 2012).

Mikkola (2009) provides the most detailed account of Finnish canteen professionals’ “perceived agency for sustainability” (p. 56), which is understood to be the use of a professional’s position to implement sustainability in their work and act as a “driving force towards sustainable food systems” (p. 57). This requires a willingness to use their position to act upon environmental aspects and the competence to make effective changes. Twenty-eight in-depth, semi-structured interviews with professionals in executive and management positions were analysed regarding the shaping of their professional identity. A wide range of perspectives on sustainability amongst the interviewees was found without a general trend towards one side of the spectrum. A few examples from the broad spectrum of identified approaches are, e.g., the rule-abiding approach where the organisation’s environmental programme and regulations on public procurement were simply followed. Concerned approaches are described to be followed by managers “who perceived the threat against human and environmental health of the long-term effects of pesticides and fertilisers. In the managers’ perception, the organisations had no particular environmental or sustainability strategies, but aimed to develop quality economical services.” (p. 61). Selective approaches were identified in managers concerned about environmental issues, yet cost pressure did not allow for any changes. It needs to be noted that in the study, organic and local foods are in the foreground of “sustainability”, while more plant-based options are mentioned to a lesser degree. Thus, responsibility for environmental issues within the reach of the provisioning system was accepted to varying degrees. (Mikkola, 2009)

The above mentioned Internorga (2018) survey not only posed questions on general trends in the communal gastronomy sector but also asked the respondents about their opinion on influencing the guest choices, trying to provide *healthier* choices, and making the customers choose them. Fifty-eight per cent of the decision-makers in the company canteens indicated that they do feel the responsibility to influence what guests eat and promote healthy food, whereas 42% of the respondents said that they would not patronise their guests but that guests should choose freely and caterers should offer dishes that guests like (see Figure 3.2).

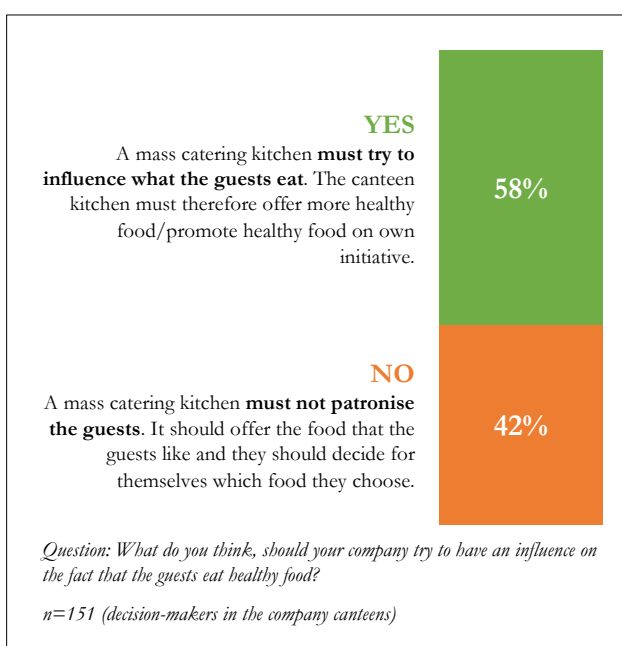


Figure 3.2. Approval of Influencing Guests’ Choices

Source: Own illustration adapted from Internorga, 2018, p. 18

To summarise, the results show that a detailed analysis of German caterers’ sustainability perspectives remains to be conducted. The reviewed studies and surveys analyse the situation in the Netherlands (Reinders et al., 2013) and Finland (Mikkola, 2009; Wahlen et al., 2012) or focus on attitudes towards health aspects rather than sustainability and do not give a detailed account of the interviewees perspective (Internorga, 2018). Especially the topic of meat in the context of sustainability was not a focus in any of the studies, just like

the sense of responsibility and (voluntary) readiness to implement stringent measures in the realm of choice editing.

### **3.3 Decision-Makers' Role in Sustainability Transitions**

After scrutinising what is already written about the sense of responsibility and general perspective on sustainability of decision-makers in the canteen sector, a broader picture of the role of decision-makers in achieving higher levels of sustainability in businesses, as well as their perspective on and perception of sustainability shall be given. This is to elaborate on whether and how business decision-makers play a role in the bigger picture of sustainability transitions.

Three review studies (Fischer & Newig, 2016; Lozano, 2015; Sarja et al., 2021) on sustainability transitions in businesses provide an overview of main influencing factors. Fischer and Newig (2016) discuss different actors and their role in sustainability transitions in the broader actor-system debate. They focus on landscape, regime and niche actors, government actors, market actors, and civil society, i.e., consumers. However, market actors are primarily interpreted as whole organisations instead of single decision-makers within them. Such organisations can either be a driving force, e.g. through new entrants and innovative technologies, or they can be opponents of transitions when they have established socio-technical systems in which they comfortably operate, but that come under pressure through sustainability transitions. While the specific actor of the consumer is discussed, which can help push transitions through politics and market pressure, decision-makers are not taken into account as a group of actors on their own accord (Fischer & Newig, 2016).

In contrast, Lozano (2015) and Saraja et al. (2021) both mention decision-makers as key drivers. Lozano (2015) finds that “internally, leadership and the business case are the most important drivers, whilst the most important external drivers are reputation, customer demands and expectations, and regulation and legislation” (Section: abstract). Similarly, Saraja et al. (2021) list managerial support as a primary catalyst for transitions, next to economic and other benefits and a threat through conducting business-as-usual. As ambivalent factors, i.e. ones that can either hinder or support a transition, Saraja et al. (2021) list legislative and regulative aspects as well as customer demand and internal transition and practical knowledge.

Focusing more narrowly on the role of business decision-makers, without discussing other key influencing factors in business transitions in more detail, interesting findings can be taken from the project management and business ethics literature. Silvius and Schipper (2020) note that sustainability behaviour is usually considered in the consumer context rather than the organisational one, and that sustainability transitions in organisations are often analysed as top-down processes triggered by external pressure. Drawing on findings from Cordano and Frieze (2000) and Ruepert et al. (2016), the authors highlight, however, that the behaviour and attitudes of managers play a crucial role in sustainability transitions (Silvius & Schipper, 2020).

In their following empirical analysis of “factors that stimulate project managers to address sustainability issues” (Silvius & Schipper, 2020, p. 353), the authors identify three behavioural patterns within the sustainability realm. Pragmatic managers did not show high levels of self-motivation to address sustainability but simulated by tools, knowledge, and results they would address sustainability if given a good application for it. On the other hand, intrinsically motivated managers show a strong self-stimulation stemming from their belief that addressing sustainability is the right thing to do; the opinions of others or project characteristics do not play a key role in their actions for sustainability. Lastly, task-driven managers were stimulated by external pressure; they concern themselves with sustainability based on project characteristics, objectives, and requirements as well as opinions of others and rewards. (Silvius & Schipper, 2020)

Notably, the above analysis of Silvius and Schipper is based on the framework of the theory of planned behaviour, which exclusively focuses on rational reasoning mostly disregarding, e.g., biases and routinised behaviour, and assumes a strong direct influence of an individual's intentions on their behaviour (Snichotta et al., 2014). Hence, the question arises why a theory of behaviour based on such assumptions should be applicable—or valuable for analysis—to the actor group of managers or decision-makers in the business context while they have been shown to be invalid for consumers. The reasoning behind assuming different circumstances for the decision-making of consumers and canteen decision-makers lies in the differentiation of their roles. This is accompanied by different assumptions about their decision-making processes. For example, different roles become apparent in the discussion about the citizen-consumer gap (see Chapter 2.3). In his publication on “Social Norms and Social Roles”, Sunstein (1996) states that

in your capacity as a citizen, you might urge a result [...] that is quite different from what you seek through your market behavior in your capacity as a consumer. [...] In their private capacity [...] people may do something that they believe, on balance, to be unjust, and as citizens, they may support measures that better reflect their convictions. [...] In all cases the difference is connected to the fact that a citizen is helping to make a judgment not simply for himself but for a collectivity. In this sense there are important contextual differences between market behavior and voting behavior. (Sunstein, 1996, p. 924)

Accordingly, in this paper, decision-makers' perceptions are under scrutiny since they too make judgements not simply for themselves but for the collectivity of the customers and the whole company as a larger actor in society. On this basis, they are assumed to consider a more comprehensive set of issues when making decisions and, possibly, making more rational and intentional decisions. Nevertheless, it is acknowledged that they too are surrounded by a particular culture and institutions or structural barriers, and can be subject to biases and imperfect information. Not least, the question of how they perceive their responsibility is an object of analysis in this thesis.

Summarising, it is derived that decision-makers and their leadership direction most likely play a significant part in adapting menus to more sustainable standards. Nevertheless, customer opinion, costs<sup>13</sup>, and the regulatory landscape also play a crucial role. As current regulation in Germany is primarily soft and voluntarily (see Chapter 2.5) and consumers are not perceived as the most powerful and sovereign change agents (see Chapter 2.3), the case for analysing managerial support and sustainability leadership becomes clear.

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<sup>13</sup> Costs and “the business case” are pointed out to be particularly important as well, a transition must pay off or at least not bear additional costs. Regarding the cost question, Hachmann et al. (2019) interviewed the operators of German university canteens, which stated that meat products are often comparatively cheap to buy and easy to prepare. Because vegetable dishes are usually more time-consuming to prepare as they are associated with high personnel costs, vegan and vegetarian dishes sometimes have higher sales prices than meat dishes. They stated that their sales price always results from the purchase price and the personnel costs. If, however, meat were to become more expensive due to political and economic conditions in purchasing, the canteens would pass this price increase on to their guests. One of the canteens spokesperson said that in order to be able to maintain their price structure in this case, correspondingly, less meat would be offered. (Hachmann et al., 2019)

## **4 Theories and Analytical Framework**

This chapter presents the thesis' theoretical framework that provides a theoretical lens for analysing empirical data and endorses answering the research questions in a structured way. Koistinen et al.'s (2022) deployment of the microfoundations perspective and structuration theory in their analysis of top managers' role in circular economy transitions is here integrated into Parag and Janda's (2014) middle-out framework. These frameworks provide a theoretical underpinning for the focus of analysis. Notably, both are embedded in the sociological discourse on structure and agency and structuration theory, based on which the analytical framework of this study is built.

### **4.1 Canteen Decision-Makers as the Microfoundation of Sustainability Transitions in the Communal Gastronomy Sector**

In this paper, a micro-level approach is taken to scrutinise the topic of meat reduction in the company canteen sector. The main idea of the microfoundations perspective is to acknowledge that the analysis and understanding of collective phenomena is based on recognising the constituent parts—most prominently individuals and their interactions—of the phenomena and understanding them (Barney & Felin, 2013; Koistinen et al., 2022). This approach enables a focus on individual psychological and behavioural factors and improves the comprehension of decision-makers' role in a shift towards more sustainable canteen menus that provide sustainable MCEs to customers. Like Koistinen et al. (2022), this paper draws on previous microfoundations work in organisation and management studies (Felin & Foss, 2005; Teece, 2007), reflecting that this area of research focuses on corporate decision-makers' behaviour to understand firm-level outcomes. This perspective also underpins the findings from Chapter 3.3 highlighting managers' relevance in sustainability transitions.

Felin et al. (2015) state that the microfoundations perspective aims to “unpack collective concepts to understand how individual-level factors impact organisations, how the interaction of individuals leads to emergent, collective, and organisation-level outcomes and performance, and how relations between macro variables are mediated by micro actions and interactions” (p. 4). Accordingly, this perspective holds that companies are composed of individuals, and their behaviour impacts the company's strategic planning and practical implementation (Koistinen et al., 2022). Hence, canteen decision-makers' perspectives and actions are seen as microfoundations in a transition towards more plant-based and thus more sustainable food offers. Company canteen decision-makers are thus themselves seen to be microfoundations of a sustainability transition in the food and, more specifically, the communal gastronomy sector. Therefore, their awareness, concern, sense of responsibility, willingness, and capacity to implement measures shall be analysed to understand their role in sustainability transitions.

While being understood to be a microfoundation on the organisational level, company canteen managers are an actor “in the middle” in the bigger picture. They are neither end-customers, i.e. “the bottom”, nor are they policymakers with decisional power on the societal level, i.e. “the top”. Thus, to contextualise their influencing power within the broader perspective, the middle-out framework (MOF) is presented followingly.

### **4.2 The Middle-Out Framework**

So far, the MOF has mainly been applied in the energy and sustainability research field (Janda & Parag, 2013; Parag & Janda, 2014; Reindl & Palm, 2020) but more recently also in health system research (Kranzler et al., 2019). The perspective holds, that middle actors' unique position in-between top actors and bottom actors enables them to bring about change and

perform “crucial functions in the transition process that other actors either cannot or struggle to perform” (Parag & Janda, 2014, p. 103). For an illustration, see Figure 4.1.

In the case of communal gastronomy sustainability transitions, top actors like policymakers could push for changes, e.g. for the creation of more sustainable MCEs. Yet, if they do not have the ambition or democratic mandate to do so, it is unlikely they will, and so far, the BMEL is not stringently pushing for change (WBAE, 2020). In accordance with the elaborations in Chapter 2.3, bottom actors like canteen customers, on the other hand, do not—individually—have the knowledge and power to change the consumption environments around them so that they are more conducive to sustainable food consumption patterns.

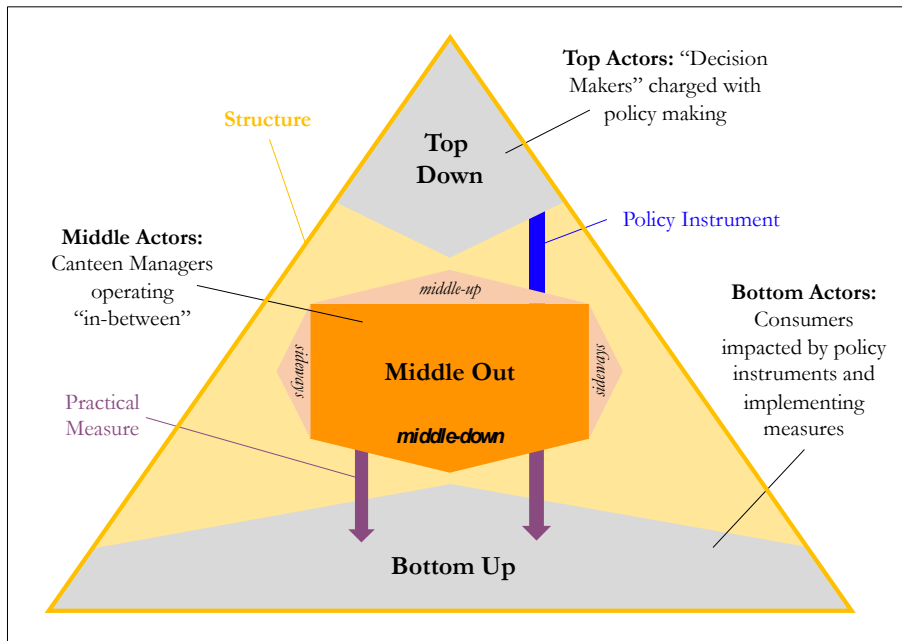


Figure 4.1. The Middle-Out Framework

Source: Own Illustration based on Janda & Parag, 2013 and Kranzler et al., 2019

With the middle-out perspective, it is recognised that specific actors have better moral, technical and financial means or a more powerful position to facilitate and enable (or prevent) actions of other actors in the system, as well as the ability to change behavioural practices and norms (Parag & Janda, 2014). In this paper, company canteen managers are seen as such specific middle actors who can exert influence especially on bottom actors, i.e., consumers. What connects Parag and Janda’s (2014) MOF and Koistinen et al.’s (2022) microfoundations approach is that both papers embed their frameworks in the sociological discourse on structure and agency. Koistinen et al. (2022) specifically deploy a structuration theory approach which is further elaborated in the following section as it serves as a keystone theory that builds a basis for the deployed analytical framework in this paper.

### 4.3 The Analytical Framework: Structure and Agency for Change

Like in Koistinen et al. (2022), agency is in this paper conceptualised based on the larger framework of structuration theory (Giddens, 1979, 1984), a popular sociological theory also prominent in sustainability transition literature. In structuration theory, agency is considered as the capacity to make choices freely and have an impact on one’s environment (Giddens, 1984; Koistinen et al., 2022). In typical structuralist approaches, “the system” or “structure” is usually seen as “external to human action, as a source of constraint on the free initiative of the independently constituted subject” (Giddens, 1984, p. 16). Janda and Parag (2014) hold that structures “consist of physical and social constraints, such as facilities, infrastructure, laws,

institutional arrangements, contracts, norms and culture” (p. 104). The MCE present in company canteens is thus a part of the structure for the consumer, just like cultural dietary norms or laws and regulations.

Structuration theory emphasises that structures and agency are inseparably connected since structure determines agency and agency determines structure (Giddens, 1984; Koistinen et al., 2022). This implies that through their agency, actors are capable of changing the structures around them. According to Parag and Janda (2014), some actors have more agency than others and are thus also more able to change structures. They hold that middle actors, for example, can use their agency to bring about structural changes that increase bottom actors’ agency. Translating this to the case of company canteens, it is held that middle actors like canteen decision-makers have the agency needed to change current structures which influence the customers’ behaviour, e.g. through the implementation of practical measures (see Figure 4.1). However, it needs to be acknowledged that canteen decision-makers are, at the same time as they are influencing the structure, influenced by structural factors themselves.

This study aims to analyse various variables—amongst others, the sense of responsibility and voluntary willingness of canteen decision-makers to implement meat reduction measures—to explore the perspectives and attitudes towards changes for sustainability. In the larger theoretical framework of structure and agency, the variables of interest in this study are understood as qualifiers of agency. Parag and Janda (2014) understand agency “as the willingness and ability of actors to make their own free choices” (p. 104). More fundamentally, agency “is often no more than a synonym for action” (Scott, 2014, p. 90) and a broader understanding of agency can also include the psychological as well as social-psychological make-up of an actor (Scott, 2014). These elaborations give an idea of the various definitions—and taxonomies derived from those—used to describe agency. In this paper, a pragmatic approach is taken to build an analytical framework that serves the answering of the posed research questions in a structured and thorough manner.

As outlined in Chapter 3.2, Mikkola (2009) analyses professionals’ “perceived agency for sustainability” and conceptualizes this as the professionals’ identity for sustainability. There is no clear indication of concrete aspects under scrutiny, yet it is stated that a professional’s willingness to use their position to act upon environmental aspects and the competence to make effective changes is needed. Similarly, decision-makers’ willingness and sense of responsibility in business canteens are two key variables of interest in this study. Yet, a more detailed framework of analysis shall be provided to embed the variables of interest in a coherent, analytical framework. For this purpose, the larger theoretical framework of structure and agency and structuration theory is deployed.

As canteen decision-makers are the main subject of analysis and they are individual agents within a given structure, their agency is the primary unit of analysis in this paper. Departing from Parag and Janda’s (2014) work on agency in the context of the MOF, Lutzenhiser et al.’s (2002) elaborations are deployed to refine and extend the understanding of agency and to build a framework for analysis. Followingly, the five main variables deployed in this paper to analyse decision-makers’ agency are elaborated on in more detail and their respective origin is specified. Lastly, it is outlined how the variables of agency are applied in this context. While Table 4.1 gives an overview of the variables of agency, their application in this context, as well as the corresponding sources underpinning the use of the respective variable, Figure 4.2 illustrates the concept of structure and agency.

Table 4.1. Variables of Agency

Variables of Agency	Contextualisation	Source
Awareness	signalled through knowledge of the negative impacts of meat consumption and awareness of the need to reduce meat consumption	Adapted from Lutzenhiser et al. (2002)
Concern	signalled through the fact that the topic is under discussion in a company or in some way part of everyday business practices and decisions	Adopted from Lutzenhiser et al. (2002)
Sense of Responsibility	decision-makers see it as their duty to implement changes to make the menu offer more sustainable and less meat-heavy; strong sense of responsibility if they, e.g., also see themselves as a proactive driver of such a transition	Variables of interest to answer posed research questions, here embedded into the concept of agency as part of the social-psychological make-up of an actor (Scott, 2014)
Willingness	signalled through the readiness for or current implementation of measures like meat portion reductions or reducing the share of meals that include meat	
Capacity – Knowledge	capacity in terms of knowledge would mainly be signalled through the staff's ability to practically implement measures (preparation of tasty, healthy, and attractive veg dishes)	Adopted from Lutzenhiser et al. (2002)
Capacity – Power	capacity in terms of power is the power of the decision-maker to implement measures within the power structures of a company (between work councils, superiors, and a company's executive board)	

Source: Own table

Lutzenhiser et al. (2002) deploy the variables of *concern*, *conditions*, and *capacity* in a consulting report to the Californian government regarding the prevalent energy crisis at the time.<sup>14</sup> In their paper, *concern* expresses whether an actor did or did not feel concerned about the energy crisis, with this variable being understood as a prerequisite for action (Lutzenhiser et al., 2002). In this paper, *concern* is seen as one variable of agency. According to Parag and Janda (2014), Lutzenhiser et al. (2002) understand *awareness* as a part of concern. Here, *awareness* shall be deployed as a separate variable since being aware of the need for meat reductions is seen as distinct from actual concerns to implement meat reduction for sustainability reasons.

*Conditions* were understood to be the physical infrastructures as well as network aspects like prevalent procurement systems or capitalisation, i.e. real-world conditions (Lutzenhiser et al., 2002). *Conditions* are here seen to be congruent with the concept of structure and are therefore not included as a variable of agency. Lastly, Lutzenhiser et al. (2002) scrutinise the level of *capacity* of the analysed actors, a variable Parag and Janda (2014) took over and deployed as well.<sup>15</sup> *Capacity* is, in this paper, also included as a variable of agency and seen as the capability to practically perform willed actions. It depends on the knowledge an actor has in regard to addressing and solving the issue as well as their power to practically make changes. Knowledge, as Lutzenhiser et al. (2002) find, can either be formal (e.g. through a degree), experiential (i.e.

<sup>14</sup> Note that Lutzenhiser et al. (2002) do not embed these variables in a structure-agency framework, yet K. Janda, one of Lutzenhiser's co-authors, deploys the paper and the used variables in the Parag and Janda (2014) paper and embeds them within a structure-agency framework for their analysis. Hence, in this paper the variables used by Lutzenhiser et al. (2002) shall also be deployed within a structure-agency framework in this paper.

<sup>15</sup> Note that Parag and Janda (2014) do not include capacity as a variable of agency but rather a stand-alone aspect while in this paper it is understood to be a variable of agency.

learned through practical implementation), tactic (i.e. managers do what works in the practical application), or it is simply not there.

As noted above, next to awareness, concern and capacity, the concept of agency is extended to include the sense of responsibility and voluntary willingness decision-makers in business canteens feel to improve the environmental sustainability of their menu offer, especially by reducing the menu’s meat share. In this thesis, the willingness to implement measures and the sense of responsibility to do so are considered part of the social-psychological make-up of canteen decision-makers and therefore included as variables of agency.

Apart from considering the sense of responsibility as a part of the social-psychological make-up of decision-makers and thus a variable of agency, responsibility is multifariously discussed in connection to agency (Frith, 2014; Kennett, 2003; Moretto et al., 2011; Steward, 2011). For example, Steward (2011) considers agency a necessary precondition for moral responsibility, while Frith (2014) concludes that awareness of one’s agency creates a sense of responsibility for actions. Both understand agency in relatively narrow terms, as the ability to make free choices and impact one’s environment, yet responsibility is not seen as a variable of agency but rather as a separate subject. In this paper, however, the sense of responsibility shall be included as a variable of agency, not least, because it is used as a determinant of environmental action in various analytical frameworks (Kollmuss & Agyeman, 2002) and, as noted above, on a very fundamental level agency is often understood synonymously to action (Scott, 2014).

Lastly, the willingness to implement measures is here also understood as a variable of agency. Agency implies the capacity to voluntarily act on one’s will (Scott, 2014); in fact, agency is often seen as a willed or intentional action (Schlosser, 2019). This demonstrates that agency and willingness are closely related concepts much like agency and responsibility. Even though willingness might be analysed as a separate variable, in this paper, it is considered as one aspect of agency, as one part of the social-psychological make-up of canteen decision-makers.

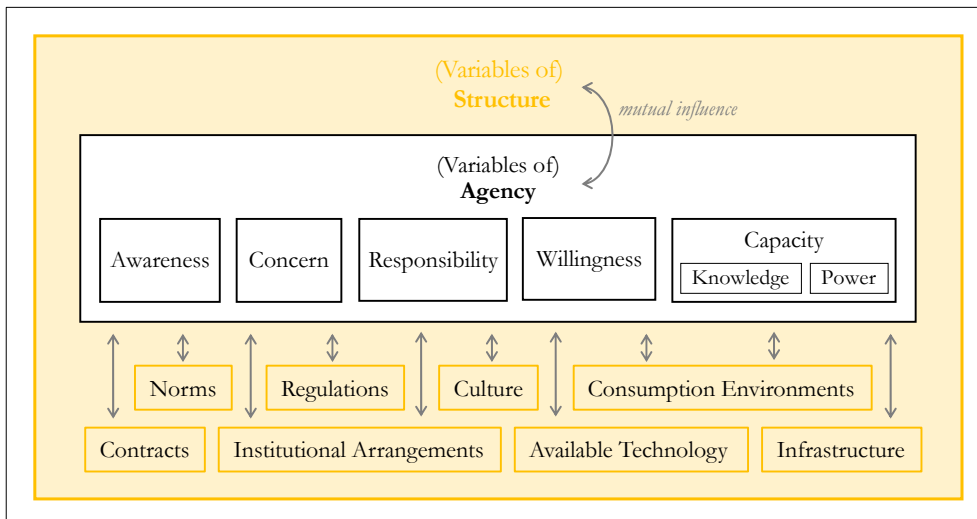


Figure 4.2. Agency and Structure  
Source: Own Illustration

Applying this conceptualisation of agency to the analysed topic, *awareness* is signalled through the knowledge of the negative impacts of meat consumption and awareness of the need to reduce meat consumption. *Concern* could, for example, be signalled through the fact that the topic is under discussion in a company or in some way part of everyday business practices and decisions. A *sense of responsibility* is considered to be present if canteen decision-makers see it as



their duty to implement changes to make the menu offer more sustainable and less meat-heavy, and also see themselves as a driver of such a transition and believe they are to act proactively instead of just reacting to external changes and pressure. A *willingness* is signalled through the readiness for or current implementation of measures like meat portion reductions or reducing the share of meals that include meat. Lastly, *capacity* in terms of *knowledge* would primarily concern the staff's ability to practically implement measures, like the preparation of tasty, healthy, attractive, and popular vegetarian and vegan dishes. In contrast, *capacity* in terms of *power* is the decision-maker's implementing power, for example, in opposition to a company's executive board or work councils.

## **5 Research Design, Materials and Methods**

### **5.1 Research Design**

This study takes a qualitative approach to answer the posed research questions. There are two main reasons for choosing this approach. Firstly, there is little literature on the specific questions in the concrete sector. Starting with a qualitative study allows gaining a deeper understanding of the participants' meaning in their natural setting, understanding complexities of the situation under research (Creswell & Creswell, 2018). Secondly, it is common to gain orientation in a less researched field with qualitative methods which can be built on by later, quantitative, research (Creswell & Creswell, 2018).<sup>16</sup>

The concrete research design can best be placed in the category of ethnography, however, with a pragmatic approach to utilising such a research design, tailoring it to the research questions and aim. There is no clear definition of ethnography (Weeks, 2020). Nevertheless, here Van Maanen's (1988, p. 1) understanding of an ethnographic study as a "written representation of a culture (or selected aspects of a culture)" is deployed. In this study, the research subjects are individuals with decision-making power in company canteens. The aim is to make sense of their actions and understand their behaviour within the "cultural arena" (Roberts, 2009, p. 292). The "culture" or "cultural arena" is, in this case, simply made up of the group of research subjects and their daily (work) environment. Considering the research questions and aim of this project, it can be stated that a descriptive type of ethnography is deployed, which "describes what is happening" (Roberts, 2009, p. 292), or rather describes what individuals state in the interviews.

### **5.2 Data Collection Method and Material Collected**

Data on respondents' opinions and information on the outlined research questions and respective sub-questions are gathered via face-to-face video interviews. Interviews are conducted in a qualitative, ethnographic, semi-structured way. The idea of an ethnographic interview is the exploration of attitudes to different topics of everyday life of the interviewee and help to "learn how people understand and account for their day-to-day situation" (Weeks, 2020, p. 71). While ethnographic research's most common data collection method is participant or non-participant observations, semi-structured interviews are also commonly deployed (Roberts, 2009; Weeks, 2020). In semi-structured interviews, a defined set of questions is followed while flexibility to explore unexpected thoughts is maintained. This allows for an open, yet in-depth, study of a topic without losing the overall focus, while further enabling comparability of responses (Adams, 2015).

Respondents are interviewed in their role as canteen decision-makers, as individuals carrying responsibility who can act as potential change agents within their network. Conducting ethnographic, semi-structured interviews enables one to understand the respondent's perspective regarding the posed questions and the broader context and comprehensively explore their opinions and perceptions, explaining the why and how of certain conditions (Adams, 2015; Kvale & Brinkmann, 2009). Hence, ethnographic semi-structured interviews fit well within the overall qualitative, ethnographic research design, as they allow one to investigate more in-depth views and meanings while being prepared to allow relevant but not yet considered topics to emerge.

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<sup>16</sup> After having gained an insight and understanding of important complexities, a subsequent study with a broader design could for example be conducted that analyses the phenomenon in a more generalisable way. Using this study as a basis for such a quantitative study allows a more sensible and targeted survey design.

The addressed companies are chosen from the publicly available ranking lists of self-managed company canteens in the *gv-praxis* publications (*gv-praxis*, 2019, 2020, 2021), a specialist magazine on the communal gastronomy sector that is issued monthly, and that publishes a yearly ranking of canteens under self-management. Additionally, the list of members of the German Institute for Communal Gastronomy (DIG, n.d.) as well as the ranking of the best German company canteens 2020, carried out by the Initiative Food & Health in cooperation with *Focus* magazine, are consulted to further add companies to the list of potential interview candidates (*Focus & Food&Health*, 2020). In total, the list comprised 42 potential canteens of which 13 are excluded, primarily because, upon research, they were found to lean towards a model of individual gastronomy rather than communal gastronomy. Aiming to interview ten canteen decision-makers, 20 of the 29 remaining companies were contacted in the first round. As ten decision-makers agreed to be interviewed, no further companies were contacted.<sup>17</sup> An interview guide that comprises all key questions relevant to answering the research questions was composed beforehand. However, the guide was not sent to the interviewees before the interviews. The focus of the questions lies on the status-quo of environmental actions, the self-perceived agency of the interviewees, as well as their views on structural factors and state intervention. The complete interview guide can be found in Appendix 2.

Due to the above-described procedure for recruiting interview participants, a selection bias arises since mostly big or engaged and “active” canteens, i.e. those that apply to be ranked in competitions or are members of networking associations, make up the pool of contacts. Further selection takes place when potential interviewees decide whether they would like to take part in a study on sustainable menu offers or not; a decision that can be assumed to be based on how comfortable the potential interviewee feels talking about the topic, and the extent to which they feel able to meet questions with competent answers. To balance the arising selection bias, four experts in the sector are interviewed with their contacts originating from a snowballing procedure that started with an initial call with the DEHOGA upon initiation of the research. The preliminary findings were presented to the experts, and they were asked similar questions as the decision-makers, with the adjustment that the experts were requested to give an evaluation and assessment of the sector as a whole and were, upon request, provided with the questions beforehand. For a full list of interviewees and how they are referenced in this thesis see Appendix 3.

### 5.3 Methods Used to Process Information

Interviews are conducted in German, recorded, transcribed in a non-verbatim manner, and followingly analysed via a qualitative content analysis (QCA), assisted through the coding software NVivo. QCA allows describing and summarising the meaning of gathered material like interview transcripts systematically (Schreier, 2012). Being of a descriptive nature, QCA is well suited for the posed research questions that are also of a descriptive kind, as well as the descriptive type of ethnography research design deployed (Schreier, 2012). The aim is to summarise the findings of the questions with what is available in the data (Schreier, 2012).

For the QCA, a coding frame is abductively designed (Tavory & Timmermans, 2014). From the conceptualisation of agency in the broader theoretical context of the structuration theory, the middle-out and microfoundations perspective that are elaborated in Chapter 4, a basic coding framework is deduced. Being emergent in its design, the coding frame is adjusted inductively, and categories or subcategories are introduced or removed throughout the research process according to upcoming needs (Schreier, 2012). This combined setup of the coding frame, much like the semi-structured interviews, allows a determined yet flexible coding procedure, enabling

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<sup>17</sup> Note that one decision-maker cancelled the interview due to sickness and did not reschedule.

one to find patterns and summarise answers but also show differences between the information and opinions respondents provided (Creswell & Creswell, 2018). For the final coding structure, see Appendix 4.

## **5.4 Ethical Considerations**

In terms of the researcher's honesty and personal integrity, it is stated that the research is not supported or funded by an external organisation that would be interested in influencing the nature of the research or the conclusions. There are no competing interests, and the outcomes of this research solely serve the purpose of research and, potentially, inform policymaking. Gathered sensible data is stored in password-protected local folders backed up through a cloud provider.

There arise certain ethical responsibilities to the research subjects regarding consent and confidentiality. Participation in the study is entirely voluntary. Requested potential participants can freely choose not to participate and decide to end interviews to their liking. As respondents give information on factors influencing their public perception, e.g., the status quo of meat reduction actions undertaken so far or plans for future action, the confidentiality of the individual respondents' personal data as well as the company about which they provide information, is ensured by not listing names or concrete places. Hence, any information or outcome harmful to the respondents (company) or their reputation should not be traceable to the specific case. Before the interviews, all interviewees are informed of the broader context of the study and that the interviews will be recorded. Explicit consent for recording the interview and using its contents for this study is obtained via an informed consent form before each interview recording starts.

## 6 Results and Analysis

Followingly, the above-established framework around agency and structure is deployed to give a systematic overview of the findings on the level of agency for sustainability of company canteen decision-makers. Additionally, structural aspects addressed by the interviewees are presented, and results from questions on policy interventions and the role of the state are summarised. Firstly, however, an insight into the status-quo of the analysed cases as depicted by the interviewees, and an assessment of the experts on the status-quo in the larger sector, is outlined.

In the following, interviews are referenced according to the table in Appendix 3. The abbreviation “D” refers to “decision-maker” and “E” refers to “expert”. Excerpts and quotes from interviews are translated from German by the author

### 6.1 Status Quo

In this section, the focus lies on the meat offer compared to the offer of *vegetarian and/or vegan* (from now on abbreviated to “veg”) dishes. When asked about current measures taken to make menus more sustainable, oftentimes interviewees put a strong focus on local or organic procurement as well as direct procurement from farmers or procurement solely from small to medium scale farmers (D1, D3, D4, D7, D8):

D8: So, the most effective thing is that we changed the menu planning. Before, in communal catering, it was common to have a 6-week menu plan. Groceries are available at all times and in any quantity. We said sustainable means we have to support the regional economy. Why do we need to transport a product from far away when it might grow in our area? We define regional in the narrow sense, which is anything we can get 50 kilometres around us. We also want to include the ecological balance often, only prices are compared, and one does not see that the CO<sub>2</sub> balance is again completely different if I import things from other countries. So, the most important issue for us is regionality.

This aspect of emphasizing and sometimes overrating the effect of local and regional procurement for sustainability was confirmed by one of the experts:

E4: What is very noticeable to us is that the topic of regionality is still very highly valued. In fact, even the pioneering companies, where we say they actually have a clue and are already doing a lot, overrate the aspect, and they simply place a lot of emphasis on this regionality issue. Probably in connection with CO<sub>2</sub> balances, but we know from a scientific point of view that regionality is not the relevant CO<sub>2</sub> lever unless we are talking about air freight.

One canteen decision-maker highlighted the topic of aiming to reduce food waste as well, acknowledging that it is key to reducing the negative environmental impacts menus cause (D1). Others, however, did not see this as an issue and stated that, e.g. food waste is not a big problem if the served dishes are high in quality and taste, and that the professionals know of the value of the served goods and would always try to make use of leftovers in a creative way (D7, E1):

D7: Or the huge topic of waste avoidance or food waste, which is also being pushed into the topic of sustainability. That's where I say: cook well, then it tastes good, then people don't throw it away, then nothing is left on the plates.

It can be interpreted that two key intervention points, i.e. meat and food waste reductions, are perceived less significant or are less a centre of attention compared to regionality. Returning to the set focus, assessing interviewees' statements on the size of meat portions, four interviewees stated that they have been reducing meat portions over the years and aim to have meat as a side

component—rather than a main—of the dishes they serve (D1, D5, D6, D8). They stated that this is an effective way to reduce meat while still attending to the wishes of meat-eaters:

D6: The second measure, which in my view is very, very effective, is the substantial reduction of meat. So, following the motto ‘meat is the new side’. [...] A complete elimination is difficult, you can’t enforce it like that, but reducing meat and seeing it as a side dish and preferring vegetables or other things has the advantage that the meat-eating customer can also live with it.

Concerning the share of veg dishes served, five interviewees (D1, D3, D4, D5, D9) estimated that in their canteen this share is at around 30-40%, the other four (D2, D6, D7, D8) estimated that it is approximately 50-60%. It is to be noted that hardly any interviewee had precise numbers, and the estimates presented are not differentiated between offer and actual sales figures. According to the experts, who all noted that an average value for the sector is very difficult to estimate, and there are no precise figures on this, a 20% estimate is probably realistic (E1), and there are most likely not many canteens that have a veg share higher than 30% (E2). One expert referred to a survey project they cooperated on, which scrutinised the offer in canteens from a health perspective. According to the index used, it became clear that only 15% of the meals are “green”—i.e. healthy (E2). This could also be an indicator of the proportion of sustainable dishes, as the green classified dishes are generally more sustainable than yellow or red classified dishes. For example, according to the expert, the CO<sub>2</sub> footprint of an average green dish is significantly lower than that of a red or yellow classified dish. Another expert also assessed that when the planetary health diet is taken as a reference point, “we are far away from that in reality” (E4). Hence, the experts’ assessment shows that the studied cases, according to their respectively stated information, can be described as advanced and are probably to be classified as sustainability pioneers of the sector. In fact, all canteen decision-makers that were asked where they would place their canteen within a spectrum of “sustainability-activity” stated that they see themselves at the active end (D1, D2, D3, D4, D5). This assessment of experts, as well as the decision-makers themselves, is essential in interpreting the followingly presented results and drawing conclusions from them to answer the posed research questions.

Summarising, it can be found that canteens actively addressing sustainability issues have veg shares ranging between 30-60% and some work on reducing meat portions and aim to establish meat as a side dish rather than a main component. Yet, regionality was oftentimes named as a prime aspect when it comes to effective sustainability measures.

## 6.2 Agency

### 6.2.1 Awareness

To understand business-canteen decision-makers’ awareness of the fact that reducing the meat share of the offer is one of the most effective measures to reduce negative environmental impacts from their offer, they were asked which two to three practical measures they would describe to be most effective. If meat reductions were not mentioned, a concrete question on whether this is regarded as an effective measure is posed as a follow-up. While around half of the interviewees directly stated meat reductions and a larger plant-based offer as one of the measures they perceived effective in reducing negative environmental impacts (D3, D4, D5, D6 D8), e.g.:

D8: We have a CO<sub>2</sub> counter where we display the CO<sub>2</sub> values of the food every day, and we find that CO<sub>2</sub> is easiest to reduce if you avoid animal products.

D5: Therefore, I see the reduction of the meat content with all the things that are connected to it... with the imports, with the water consumption, etc., I consider it more important than regionality, actually.

other interviewees' statements draw a picture of unclarity and partial lack of detailed knowledge:

D1.2: If you say we cook something with the regional products, regional beef, then for sure this is better [in terms of environmental impacts] than chicken from Bangkok or wherever they are raised.

D7: That is, of course, in some situations already an immoderate meat consumption. Whether it's for breakfast, lunch... sausage again in the evening... I mean, it doesn't necessarily have to be that high. Of course, I also say that 80 million Germans can't eat soybeans every day because soybeans don't grow [... in big enough amounts] in Germany. [...] That's also true with all these pea proteins. I'm a little critical of that too.

This interviewee did acknowledge that meat consumption is much too high in Germany. Yet, this statement can be interpreted as a revelation of ignorance towards the fact that meat production relies on feed production, oftentimes soy, which in fact, makes up the largest share of global soy demand (Fraanje & Garnett, 2020). Another interviewee said that they do not see how a menu offer has negative environmental impacts in general. Instead, it has a positive effect as people come together and eat high-quality food compared to what they might prepare themselves. Yet, on a clarifying follow-up question of whether meat reductions are perceived as an effective way to reduce impacts from the offer, the answer was "yes, definitely" (D9). This illustrates that the interviewee was nevertheless well aware of different impacts depending on the menu offered.

Overall, the impression arose that many interviewees did not have a clear idea of exactly *how much* meat reduction is needed or, rather, scientifically recommended. This became particularly apparent in the statement of one interviewee (D1) who said they have pushed meat reductions and it is an effective measure, however, in their canteen there is not that much more that can be reduced as the share of veg dishes is already at around 33%.<sup>18</sup>

*Q: Would you say that reducing the amount of meat is an effective measure to lower the ecological impact?*

D1: Well, not much for us anymore. It is already the case that [...] over 33% of the dishes we offer are vegetarian or vegan.

This quote can be interpreted as an indication of how much meat is ingrained in German food culture and that it does not seem to be an option to reduce its share even further.

Assessing the overall awareness in the sector, the experts confirmed this mixed outcome and stated that some canteen decision-makers are very aware, especially in managerial positions rather than executive positions (E2), but many do not have the time capacities to become informed or do not receive needed information through their respective information channels (E3, E4):

E3: So as soon as there is some guideline for action with examples, I think the whole thing will also advance more. That's what's missing. A person responsible for catering doesn't have the time to search the Internet. How can I implement this now? He has to be presented these things in bits and pieces via his channels. It's not necessarily always the category of people who sit on the couch in the

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<sup>18</sup> Note that when deploying the Berlin university canteen offer as a blueprint for a sustainable menu, a weekly share of veg dishes would approximately be around 80% (Studierendenwerk Berlin, n.d.).

evening and looks this up. If you're interested, yes, maybe... but they will hardly do it on their own accord, actually.

The recommendation emerging from this statement is to channel concrete recommendations for action, information and guidelines into the sector in a way that is suitable for the target group.

In summary, the results show that there is a general awareness amongst the interviewed canteen decision-makers that meat reductions are needed to reduce negative environmental impacts from menus. However, the extent to which reductions are needed seems to be unclear. These findings can, however, not be generalised for the whole sector which covers a heterogenous spectrum with some very aware decision-makers and some that are less aware about the need for meat reductions.

## 6.2.2 Concern

During the interview and analysis period, it became apparent that the question of concern frequently became superfluous, as the issue of meat reduction has been addressed earlier on in the interviews already. Most showed that it is a matter of concern to them by acting upon it (D1, D2, D3, D4, D5, D6, D8). On the question of whether a sustainable offer and meat reductions were a matter of concern in daily business, two interviewees specifically expressed that it is, of course, an important or even necessary topic to consider, which is why they are working on it (D1, D9):

*Q: Would you say you, in your role as a decision-maker, are concerned about the negative ecological impact or that it is something that is definitely very present and that plays a role in your everyday work?*

D1: Sure, I mean, you can't do the job *without* thinking about it.

The experts, however, had diverging assessments of concern in the sector. While one expert stated that the sustainability concern in canteens mostly depends on the role sustainability plays in the corporate philosophy and the company in general (E3), another expert emphasised that sustainability has developed into being one of the main topics on the agenda and 'of concern' just after digitalisation (E1). This notion is partially supported by one of the other experts as well:

E4: I would say that a lot has changed in the last five years. Sustainability was thought of as an add-on for a long time, [... now] sustainability is more of a cornerstone. It is not yet the primary 'matter of concern' in menu design, the menu must be financially feasible, and then, of course, the enjoyment factor is very high.

## 6.2.3 Sense of Responsibility

As described above, a sense of responsibility is considered to be present if canteen decision-makers see it as their duty to implement changes to make the menu offer more sustainable and less meat-heavy and also see themselves as a driver of such a transition and believe they are to act proactively instead of just reacting to external changes and pressure. Decision-makers were asked whether they think it is their responsibility to make an impact by ensuring that guests eat sustainably. Six interviewees clearly stated that they see themselves responsible for ensuring that guests eat sustainably, especially because many guests eat in a company canteen for decades of their lives on a daily basis (D2, D3, D6, D7, D8, D9). For example:

*Q: What do you think, should your company try to influence the table guests to eat sustainably? Why, why not?*

D6: Yes, definitely. So, we as a company, and we as a communal gastronome [...] have a mission and a responsibility to do something to make it work. Because other industries also take on this



responsibility. [...] The company canteen has even more responsibility because people eat here *every day*, and it's always the same people. And I think we should also influence this, so we do have a responsibility in the form of sustainability and, importantly, health management.

The others were hesitant to give a clear yes on that question, generally elaborating on the fact that they feel responsible for making a sustainable *offer*, e.g. by changing the shares of meat vs veg dishes and reducing meat portions, but not by making rules or paternalizing (D1, D4, D5). This became particularly apparent in the following statement:

D5: We are divided when it comes to exerting influence. We don't believe in a 'traffic light' labelling or dictating what employees or guests should eat at our company. However, we see our mission quite clearly as pushing in this direction with the range of products we offer. That means that the proportion of vegetarian and vegan dishes is suddenly higher, meat dishes are smaller, meat becomes a side dish, meat portions become small, etc. Yes, that is a bit of influence in the mental area. [...] The push must certainly come from those responsible in the companies, including the gastronomes.

The same interviewee also stated:

D5: That can be quite a surprise 'Mhh that tasted very good', and so it [a liking for veg dishes] simply develops, it is a learning phase. We have more or less the same guests every day, and therefore you can also have a bit of an 'educational' effect... or rather 'opinion-forming' ... educational is wrong.

From this latter statement a refusal of the notion of "educating" grown-ups can be drawn. Softer measures are regarded as a more appropriate and suitable way to balance the responsibility for sustainable menus with the aversion against (what is perceived as) paternalizing.

The interviewed experts voiced varying opinions on how high the responsibility of canteen decision-makers is in the first place, before evaluating how the whole sector can be assessed in this regard. As touched upon above, one of them clearly stated that communal caterers should be leaders of a transition, and it is their task to be proactive in creating an offer *before* the demand arises (E2):

E2: My guests tell me vegan is not attractive enough, so I have to train myself in vegan cuisine. But what I would expect from this industry is that the kitchen team is trained *before* the guest asks for it because they must drive the guest and not vice versa! [...] That I [as a communal gastronome] say, my mission is to contribute to the guests' perspective and broaden their horizons. To say, you can learn from me that vegan dishes can taste good; you can learn from me that you will be satiated even without meat. And this understanding to say 'I take my guest by the hand and lead them there' that is already very advanced, and only a few have that.

More often, gastronomes are seen to behave reactively, creating an offer when having certainty that there is a demand and openness for more sustainability by the guests (E2). Like one of the decision-makers, another expert stated that guests and hosts equally share the responsibility and that the canteens also need support to create such an offer as rentability is of great concern and cannot be neglected (E3):

E3: And I think that's always forgotten in all the discussions. At the end of the day, those responsible for catering must also see that they [financially] survive. Most company canteens do not cover their costs, they are subsidized by the company, but a company only does this up to a certain degree. If it sees that only two people go to eat there, then the canteen manager has to explain himself. [...] It's a difficult field, and I don't think you can push all the responsibility to the catering managers. Sure, it's 50%, but 50%, if not more, is on the guest.

Going in a similar direction, another expert voiced that...

E4: ... clearly, the customer puts their money into the dish they would like to have, but we know that perhaps if the vegetarian food simply does not taste good in that canteen, then the vegetarian customer perhaps won't go there anymore. In the end, the customer's wishes must 'fall on fertile ground', and that is not yet given in all canteens.

From this it can be drawn that there is no clear allocation of responsibility towards either the guests or the canteens, but rather that achieving sustainable food consumption is perceived to be a shared endeavour. One expert voiced that it is also necessary to consider the commissioning business and whether the business leaders and the board see the responsibility for creating a sustainable offer in their canteen (D1). Hence, the complexity and interrelations between various actors were highlighted:

D1: And that is complex and interrelated and lastly connected to the [wishes of the] commissioning party.

Summarising, it was found that nearly all interviewed canteen decision-makers saw themselves responsible for offering their guests sustainable and healthy options, especially when considering that some people eat in business canteens daily—sometimes for decades. Yet, some decision-makers, as well as experts, stated that not only canteen decision-makers but also other actors like the board of directors or work councils and the guests themselves carry responsibility for sustainable food consumption in a business' canteen.

#### **6.2.4 Willingness to Implement and Attitudes Towards Different Interventions**

To understand whether there was a willingness to implement measures for meat reduction, specifically stricter measures like choice editing measures, interviewees were asked whether they were willing to implement such. To be more concrete on choice eliminating measures, they were also asked what their attitude towards a weekly veggie day is. A consistent pattern that can be seen in the answers, is that all interviewees are either already implementing measures like increasing veg shares and reducing meat portions (D1, D5, D6, D7, D8) or say that they see the need or want to further their efforts in the future (D2, D3, D4, D9). Some keep the prices of veg dishes lower than those of meat dishes regardless of procurement and production costs (D1, D7):

D7: But you can't make the mistake of offering all meat dishes at a lower price than vegetarian dishes because that's nonsense. Then the customers would rather eat meat. [...] That's why I make sure that the meat prices are nice and high, and I offer a simple vegetarian dish at a lower price.

Others built new canteen infrastructure with nudging for sustainability and health aspects in mind (D6), and some display the CO<sub>2</sub> footprints of the different dishes to enable informed choices (D8). However, the majority of interviewees were against the introduction of a weekly veggie day (D1, D2, D3, D6, D6, D7). Only one interviewee stated that they were running a trial in one of their canteens, but the covid pandemic interrupted the pilot and its analysis (D9). Two others stated, they could imagine doing a veggie day but not advertising it as people might become stubborn and feel paternalized in their food choice (D4, D8). Many others took the latter aspect as one main reason not to implement a veggie day. Repetitive statements underpinning the general reluctance towards choice eliminating measures were that meat reduction should not be dogmatic and could also have adverse effects:

D4: I am not a friend of such things [as veggie days] because, in the end, it is always the case that you have a few people who become stubborn. So, in the end, you have less success than if you try to convince in a positive way.

D6: [With softer measures] there is no threatening finger-pointing [...]. And [strict measures like veggie days] is where I say you have to be careful. I don't want to compare my employees and my guests with children... who likes to be patronized? And I believe that we have been able to achieve much more with this [soft, expanding the offer, and nudging] approach than by saying we are now going to have a veggie day or something like that. [...] I'll tell you honestly, there has never been a need for a veggie day, and there never will be. [...] When I look at the statistics and see what the guests eat, by now, our guests eat on average 1 - 2 times meat [per week] at most.

One interviewee voiced conflicting thoughts about the issue, acknowledging that change and a society wide debate are needed:

D3: I am not convinced of imposing [meat reductions] on people. You can see that with our compulsory vaccination that does not work so well. On the other hand, you can't let all the people who still like to drive a tank to work somehow ... destroy the world ... I think the crucial point is that you really have to start a conversation at some point.

This statement can be interpreted as an acknowledgement of the dilemma between freedom and restrictions. The need of introducing measures or at least discussing the need for changes in meat consumption is acknowledged, just like the necessity for changing or regulating unsustainable transportation, yet it is seen as a major impediment to personal freedoms.

The experts also had differing opinions on choice eliminating measures like veggie days. One stated that a menu *offer* could never be paternalizing as it is just an offer, and people can still choose not to take it up but instead eat out (E2). At the same time, another said this would just shift the problem to the individual gastronomy sector. The goal should be to slowly show people alternatives rather than making them stubborn with strict measures (E3). Another expert stated that, generally, the whole sector will become more willing to implement (stricter) measures as the societal trend and public opinion shift (E1). The question of whether less stringent regulations will achieve sufficient results can, however, not be answered. Yet, upon the assessment of one expert (E4) it is likely that less profound interventions will not suffice:

E4: You can certainly achieve something with [less stringent measures like choice assistance and choice steering], but probably not fast enough and to the extent that is needed.

In summary, results show that choice eliminating measures like a veggie day were mostly perceived as too profound and paternalizing, with the result that they might end up being less successful than less profound measures implemented with a longer-term strategy. Measures that are less profound but still perceived to be effective, like the reduction of meat portions and an increase in the share of veg dishes or price structures favouring veg dishes, found broader resonance and there was a higher willingness to implement such.

### 6.2.5 Capacity – Knowledge

In terms of knowledge, most interviewees were not actively asked whether they think their staff is able to serve delicious and attractive veg dishes, as most of them already stated or implied in the course of the conversation that they already offer veg dishes successfully (D1, D2, D3, D4, D5, D7):

D3: Before [trying out veg dishes], however, they have to have eaten meat like 25 times in order to understand, ah, he can cook, so maybe he can also prepare a carrot. And then you get them involved.

From this statement it can be interpreted that the canteen's experience was that people need to trust the general quality of the food and cooking skills and only then will they try new or foreign dishes. Yet, the canteen was able to establish good skills so that they now can "prepare a carrot" in an attractive way which convinces hesitant costumers.

One interviewee stated they are still in the process of learning how to prepare attractive alternatives (D8). Others explicitly state the strong need for presenting such dishes attractively, so that people prefer to try them instead of other, less sustainable, dishes (D2, D3, D5, D7):

D2: So, arrange vegan or organic dishes in such a way that also guests on a 'normal' diet gladly eat those dishes. Not everybody needs to become strictly vegan, but if everybody eats vegan or vegetarian once or twice a week because it looks delicious, we achieved something.

This statement underlines that the canteen had the experience of uncommon dishes like veg dishes being better received when attractively arranged, which thus suggests that canteens are indeed able to successfully offer such dishes.

However, something mentioned in the context of capacity was that the canteens needed to specifically train their employees and test alternatives *themselves*, as veg dishes are still mostly neglected in the apprenticeships, and the focus in the cooking education still lies on preparing meat (D2, D4):

D4: And that is always the same, the profession and the training for it ... I don't know any cooks who can do it [cook good veg dishes]. You have to teach them. [...] But there is nothing good in the industry to build on. I also test cooks after their apprenticeship, and until today I have not yet tested one vegetarian menu, and I think that says it all.

The experts mostly shared this notion (E1, E2, E4). Nevertheless, one expert also said that all cooks, of course, do learn how to prepare veggies. After all, they are professionals and trying out alternatives, e.g. how to prepare tofu deliciously, should be possible within a day (E3).

E3: I think the expertise is there. They are all specialists. The foodstuffs remain the same, and it's just a matter of being able to show how I can actually replace an animal protein source with a vegetable one. [...] You have to investigate the possibilities as a team so as to change the whole thing. Why do you learn the cooking profession? Because you are creative! Because you are creative with ingredients ... and you simply have to dig that knowledge out again.

Thus, it mostly depends on the willingness—an aspect E4 highlighted—but also on time constraints and the number of available skilled workers. It is to be noted that several interviewees brought up the general shortage of skilled workers (D2, D5, D6, D7). Yet, some of the interviewed canteen decision-makers stated that they were lucky, as they had a good team of skilled workers, a reality also connected to the fact that the company values the work they do and is willing to pay for skilled workers (D2, D5).

Summarising, it was found that in the interviewed cases the practical knowledge for preparing attractive veg dishes was present or in the making. Yet again, judging from the experts' assessments this is an outcome that cannot be generalised to the whole sector as it is expected that there is a larger part of the spectrum with a lack of knowledge and skilled workers.

## 6.2.6 Capacity – Power

Lastly, interviewees were asked how much influence and power they have to implement measures in practice, especially considering that they are subject to the company's board of

directors as well as work councils or other influential actors regarding their work. All interviewees stated that they are free to implement measures and have a lot of decision-making and implementing power. For example:

D1.1: Yes, I think we can decide relatively freely, can't we?

D1.2: Sure, [the board of directors and work council] will say if they don't like something, but basically, they don't interfere.

Many stated that they still have to get the numbers right, but that it is mostly a matter of framing and "selling" new ideas well to engage superiors or the work council and cooperate with them (D1, D3, D5, D7, D8):

D6: I have to say that we are given an enormous amount of influence. For us, it works like this: we make the suggestions, set the tone, so to say. [...] We present, and then there are perhaps minor adjustments, but basically, we are really the ones who develop the whole thing.

D8: So, the decision-making power is indeed with me. I am allowed to drive things forward. When it comes to investments that are needed, of course, I have people who check my investment plans. I have co-determining bodies such as work councils. But I always notice that if we include people in time, it is seen more positively than negatively.

One expert stated that the point of decisional power oftentimes depends on where the canteen is placed within a company's organisational structure. Suppose it is placed under the health management or the human resource department. In that case, it is likely to be able to make decisions regarding health and sustainability more independently and with a stronger focus on such issues (E2). The expert concluded:

E2: The head caterer is the only one in the company who knows anything about it [catering]. But at the end of the day, the caterers are hanging on by their fingernails because, in most cases, they are located pretty far down, they are somewhere on the fourth or fifth level of the hierarchy after the management board or even further down, and it is difficult to get through to the top and say, in this small sub-segment we have to think a little differently in the company than we do in all the other departments.

It is summarised that a common notion amongst the interviewed decision-makers, who need to be seen as frontrunners in the sector, was that they were given a lot of freedom in their decision-making; a notion that possibly goes hand in hand with a stronger feeling of responsibility.

## 6.3 Attitudes Towards Policy Interventions, Structural Aspects, and the Role of the State

### 6.3.1 Microregulation in the Private vs the Public Sector

To understand how the interviewees perceive the state's role in the communal gastronomy sector, specifically business canteens, they were asked two questions. One focused on which government regulations the interviewees thought would be imposed if it becomes apparent that the supply in company canteens will not be adapted to adhere to sustainability requirements voluntarily in the near future. This question was posed against the backdrop that a mandatory introduction of the DGE standards is a common recommendation for the *public* sector. The second question addressed whether the interviewees generally think that the state has a responsibility for sustainable food consumption and ensuring sustainable menus in canteens.

Most canteen decision-makers stated that they could not imagine and would not support microregulation targeted at private canteens for different reasons (D2, D3, D4, D5, D7, D8, D9), e.g.:

D5: No, I think that government intervention in such matters is excessive. We are in such a regulated world, and I simply see that everything that is regulated is also gladly circumvented and intentionally boycotted.

D7: I can't imagine that at some point it will be decided entirely from above... 'you have to'... That will be difficult.

Implementing such specific regulations for the sector, e.g., setting detailed procurement or menu standards, some decision-makers (D2, D4, D7, D9), as well as two of the experts (E3, E4), stated that detailed standards often fail to take individual circumstances into account. Everyday realities, like a lack of skilled workers or financial resources, are not accounted for, and in the end success is still dependent on the initiative and ambition respective decision-makers have:

D7: And regulation... sure you can regulate and say you have to, you can, you may, you should. But I think we're heading for a completely different problem at the moment: we're simply not getting enough skilled workers!

E4: So, we have just used the word micro-management, if it [the canteen sector] is regulated too much ... I think for many people the driver when working is that we can have freedom and can be creative, especially in the cooking profession. In my opinion, this should not be restricted too much. But the question of how we produce food is a relevant one. On that level, you can intervene very well.

From the latter statement it is drawn that an additional disadvantage of specific rules can be that they impeded the freedom canteens have in how they carry out their work; again, the dilemma between freedom and restrictions is pointed out. While most interviewees were sceptic towards sector regulation, one interviewee stated that they think it is likely that, eventually, there will be specific (mandatory) guidelines in the canteen sector, just like in other sectors as well:

D1: So, I think that in the medium term, we can expect some kind of regulation. Of course, this will also have an impact at some point. For the user or the guest, of course ... at some point in the price, but I simply think that there will be certain requirements that will oblige the catering industry to purchase accordingly and to meet the corresponding standards. Why should this only apply in other sectors?

Meanwhile, the introduction of minimum standards or other kinds of government interventions in the *public* sector, especially schools, kindergartens, and hospitals, were considered reasonable or indeed necessary by several interviewees (D4, D5, D6, D8, E4). This was, for example, stated in the following manner:

E4: In my opinion, [the public canteen sphere] is where regulation is needed, or where we could make the fastest progress, simply because the public sector has a responsibility and should be a pioneer.

This is because interviewees often perceived the private sector to be at a much higher level regarding the implementation of sustainability measures in comparison to public canteens (D2, D3, D5, D8, E2, E4), and some said that this is also connected to the little financial resources public canteens are provided with (D3, D5, D6, D8, E4):

D2: Well, I see it a bit the other way around actually. I think that the private sector has progressed much further than the public sector, that it adheres much more to the political guidelines that should actually be made. And when I see canteens in public authorities, they're actually much further behind.

E4: In the public canteens [...] we simply have enormous cost pressure. A private sector canteen is usually subsidized. There, the employees rarely pay for their full lunch but usually have to pay only for the foodstuffs and partly for the personnel costs. The business enterprise usually takes over the infrastructure costs, and we don't have that with public canteens.

Summarising, it is found that stringent and concrete regulations addressing the private communal gastronomy sector, e.g., in the form of procurement standards, are rather opposed, while they are perceived to be a legitimate policy measure in the public sector.

### **6.3.2 Market Structures and Upstream Policy Reforms**

It was a common understanding that—on a structural level—meat and animal product prices needed to change; the current design of agricultural subsidies was seen to give wrong incentives for farmers and, consequently, for consumers (D2, D4, D6, D7, D9). Meat prices on the market are, by most, seen to be too low, and some say there is a need for a regulatory reform on, e.g., animal welfare which would eventually also be reflected in prices (D2, D6):

D2: But it already starts in food production or manufacturing, so there you definitely have to [regulate]. For years nothing has happened in that regard, be it in factory farming or also the food industry ... there are so many convenience products produced there! I believe that there is a considerable need for restrictions to be imposed.

The current system of agricultural subsidies in the European Union was critically highlighted by canteen decision-makers as well as experts, implying that a reform in the subsidy system is a necessary condition for a transformation in the communal catering sector (D4, D7, E2, E4):

E4: Our feedback on this is very often that it is 'too late' [as a structural intervention point] to start with communal catering. In other words, before that, the value chain would have to be regulated in a completely different way. We are currently also more or less actively intervening in pricing and the like, e.g. talking about the European Union CAP [Common Agricultural Policy] subsidies. We offer meat at distorted prices, and as long as this is the case, it is challenging for the canteens [to offer more sustainable dishes]. Sometimes the vegetarian dishes are more expensive based on the ingredient costs than the pork schnitzel. [...] Yes, so I would strongly advocate for designing price structures fairer because when we talk about true cost calculation, then [...] it simply becomes very economically viable and then canteens at some point voluntarily use less meat because it is simply too expensive for them.

From this, it is interpreted that the decision-makers are and see themselves as actors in a larger structure which influences their actions. The repeated mentioning of these upstream structures suggests that changes in this (market) structure can result in changes of decision-making in canteens and consequently impact the menu offer.

Summarising, present market structures endorsed by the subsidies currently in place are perceived to be in need of reform. Rather than regulating the specific business canteen sector, it is held that (economic) policy changes are needed further upstream the value chain.

### **6.3.3 Values and Education Structures**

Next to changing market structures, one interviewee argued that the state is also responsible for initiating a society-wide dialogue to create awareness for sustainable food consumption (D3). In

this regard, decision-makers and experts also stated that, especially in the younger generation, a shift in values and norms regarding food consumption and sustainable lifestyles could be perceived (D1, D2, D3, D6 D7, D8, E3). One interviewee, for example, noted:

D3: It must also be said that this is changing strongly, so people are getting younger and younger, people are more and more informed, they also have completely different expectations in regard to sustainability, including how to eat sustainably in a healthy and balanced way.

This shift is also why many are changing their offer since narratives, lifestyles, and sensibilities are in transition. On the opposite, the older generation was more often seen as an impediment. It was stated several times that the post-war generation got used to too high meat consumption, on which many are not willing to give up, as high meat consumption is still sometimes seen as a status symbol (D3, D4, D7). Additionally, the low willingness of Germans to pay more money for better food was addressed several times and many stated that, especially in comparison to other countries like France or Italy, Germans have a low valuation of high-quality food, which hinders a shift to sustainable food consumption (D2, D3, D5, D6, D8):

D2: The question is always whether the customer is also willing to pay what they get in terms of added value, and we Germans are still following the motto 'stingy is cool', especially when it comes to food.

D3: In countries like Spain, France, Italy, the people are not stupider or smarter than us, and they still eat much better food because the topic of nutrition has a completely different status in society.

Connected to this was the call for better nutrition education as well as a higher-quality food offer for kids and adolescents so as to teach healthy and sustainable food consumption from the very beginning and establish a higher value of quality nutrition in society (D2, D3, D5, D8).

D3: Well, I think you have to give people a basic understanding of nutrition, and politicians would do well to understand that.

In regard to changing larger structures, it shall be added that one canteen manager (D8) specifically stated that they see themselves as *sideways* influencers who can exert pressure within their network:

D8: As a large company, we must also learn to move the industry in a direction that is not always just about optimizing profit. What am I trying to say? As a large company that receives a lot of goods every day, we can put pressure on the industry. For example, we can say that you can only supply us if you deliver in reusable packaging units. [...] That is my goal for us: to be an influencer. We would like people to take this to the outside world, try things out, and take a closer look.

It is gathered that canteens not only have the ability to exert influence and change structures from the middle-out down to the guests, but also from the middle-out sideways into their supplier network. This statement thus illustrates the leverage canteens have in their position as large customers of produce and underlines their importance in the food sector.

Lastly, it can be summarised that, on the one hand, the present cultural structures partly hinder an accelerated transformation. Concrete impediments are, that Germans are used to cheap food prices and are comparatively stingy regarding food expenses. Older generations see meat as a status-symbol and having a high meat consumption is ingrained in their food culture and, lastly, the nutrition education in Germany is in a poor state. On the other hand, especially in young people, a shift in values towards more healthy and sustainable lifestyles and nutrition can be recognised as a driver for a transition.



## 7 Discussion

### 7.1 Addressing the Research Questions

Prompted by the common policy recommendation to introduce mandatory sustainability guidelines in *public* canteens, this thesis set out to investigate if and how a sustainable offer in *private* business canteens can be achieved without policy interventions and stringent measures implemented by decision-makers in canteens voluntarily. Against this background, two concrete research questions emerged:

- **RQ1:** What level of agency do decision-makers in company canteens have in reducing the meat share of the menu offer in order to improve its environmental sustainability?
- **RQ2:** What policy interventions do company canteen decision-makers foresee and deem effective if no sufficient reduction of the meat share in their menu offer is introduced voluntarily?

Followingly, the results are interpreted, and their significance is described in light of what was already known from the previous literature review. New insights about the research problem and the underlying meaning of the findings are discussed and, lastly, the importance and contribution of this study within the research field is highlighted.

#### 7.1.1 Decision-Makers' Agency to Reduce Meat for Sustainability

In this study decision-makers' agency for reducing menus' meat share was analysed based on the five variables awareness, concern, sense of responsibility, willingness, and capacity. Within the German business canteen sphere, few publications in scientific literature exist that can provide indications for the status of each of these variables. Yet, similar aspects, as the ones under scrutiny here, have been analysed in the Finnish public canteen sector (Wahlen et al., 2012). The main findings from Wahlen et al.'s (2012) study were that, generally, there was a sense of responsibility and willingness to implement stricter sustainability standards, partly because the respondents perceived themselves as "gatekeepers" and thought that increased sustainability could also increase commitment and pride in the job (Wahlen et al., 2012). Yet, the professionals in Wahlen et al.'s (2012) study also noted that they have to balance consumers' opinions, menu variety, nutritional guidelines, and health aspects, as well as the budget limit. Further, Wahlen et al. (2012) found that additional communication and education were needed for successful implementation, a result also underpinned by findings in this thesis.

Existing trend analyses of the sector show that the trend towards sustainability is gaining momentum, yet the focus on regionality is slightly stronger than the one on vegetarian and vegan food provision (Göbel et al., 2017; Internorga, 2018). Firstly, the findings in this study underpin the analysed trend toward more sustainability, including the result that frequently a stronger emphasis is set on regionality rather than meat reductions or the expansion of the veg offer. However, the existing trend analyses for the German communal catering sector do only to a very limited degree allow to draw inferences on the qualifiers of agency of decision-makers.

The research gap on the agency of German business canteen decision-makers can be filled with the findings of this study. It has become apparent that there is a general awareness for sustainability. Yet, regarding the need for meat and animal-product consumption, there seems to be an underestimation of the level to which reductions are needed. All interviewees showed a concern for the topic, either through acting upon it or actively voicing concern. None of the decision-makers expressed that they do *not* feel responsible for offering a sustainable menu. According to the experts' assessments, and considering the selection bias in this study, it cannot be concluded that this outcome holds for the whole sector. The results of this thesis can be

compared with existing literature. The Internorga (2018) finds that, concerning the question of canteen decision-makers' sense of responsibility regarding a *healthy* offer, around 60% of the 151 (non-representative) survey participants indicate that they feel responsible for driving healthy menus forward. These results can, of course, not be assumed to be congruent if the focus was sustainability instead of health. Yet, they do allow one to infer that it is unlikely that all decision-makers share the feeling of responsibility for a sustainable menu as often voiced by the respondents of this study. Noticeably—and naturally—the degree of feeling responsible for driving a sustainability transition and especially meat reductions differed. While some showed a very proactive stance towards implementing measures for meat reductions, others took a reactive stance and also emphasised the importance of guest acceptance. This aligns with what Mikkola (2009) found regarding the perceived agency for sustainability in Finnish catering professionals, where a broad spectrum of degrees of agency could be identified.

The willingness to implement measures was generally high among the respondents of this study. Most already implemented measures like meat portion reductions, increasing the offer of veg dishes or nudges like prominently placing vegetarian dishes or designing the canteen so that more sustainable and healthy options are the first ones that guests encounter. However, in terms of introducing more stringent choice editing measures, like weekly veggie days, most interviewees were reluctant. Some stated that such strict measures are counterproductive in achieving the goal, as guests might feel patronised and become stubborn. Consequently, the issue is simply shifted out of the communal catering sector, e.g., into the individual gastronomy where people have lunch alternatively. There are few studies on the effects of veggie days, yet as outlined in Chapter 2.4.2 for the short term, such stubborn reactions to a stringent measure can be noted, however, they weakened and normalised in the medium term (Lombardini & Lankoski, 2013). Similar to what Wahlen et al. (2012) state in terms of the communal gastronomy sector being able to set a good example and “teaching” sustainable eating practices, some decision-makers in this study underlined this capacity. The interviewees highlighted that they can slowly introduce people to more sustainable diets, be “opinion-forming”, and convince guests through good cooking and tasty dishes without stringent measures. In the cases where a veggie day was considered a possible measure, it was usually said that the decision-makers would probably not actively advertise it but rather go through with it without raising the guests' attention to it.

Lastly, in terms of capacity, most respondents signalled that their team has the practical knowledge to deliver attractive veg dishes. Yet, on a more structural level, there is an issue in the teaching mainstream in cooking apprenticeships that still focuses on meaty dishes and often fails to prepare cooks for a more sustainable and veg future of catering. Interviewed decision-makers were also given lots of influencing and decisional power in their respective companies. They were usually able to act upon motions to make changes or implement sustainability measures within the company. Yet the experts expressed that this is very company dependent, and it is not always common that the decision-makers in a company's canteen can wield that much decisional power. In terms of practical capacity to implement measures, Wahlen et al.'s (2012) finding that professionals need to balance consumer's opinions, menu variety, health aspects, and the budget limit next to the sustainability measure they aim to implement, is fully supported by the results of this study.

Considering the budget limit and financial aspect more closely, additional findings of this thesis show that most canteen decision-makers did not see it as an impediment to offering less meat and more veg options. If foodstuffs and preparation costs for veg dishes were higher and profit margins lower for veg dishes, this could be a practical barrier in implementing changes towards a more sustainable menu. Yet, it was mostly held that the level of convenience and quality of

the procured foodstuffs determined the production costs of a dish rather than the aspect of it being veg or containing animal products and meat (D1, D2, D3, D5, D7, D9).

Answering the first research question, it can be positively learned that the level of agency for reducing the menus' meat share is generally high within the group of interviewed decision-makers. Yet, based on the experts' and the decision-makers' assessments, it must be assumed that there is a broad spectrum of agency for sustainability and meat reduction in the sector and that the analysed group represents the high-level end of the spectrum. Nevertheless, it needs to be considered that even the surveyed sustainability active group mostly has veg shares between 30-60%. When deploying the Berlin university canteen offer as a blueprint for a sustainable menu, a weekly share of veg dishes would approximately be around 80% (Studierendenwerk Berlin, n.d.). Granted that this is a high benchmark, it still illuminates that even the frontrunners have to intensify their efforts. The underlying meaning that can be interpreted from these findings is that policy changes are likely needed to move the *whole* sector towards the high-level end of the spectrum to achieve sustainable diets in Germany—and canteens—within a sufficient timeframe. It is further assumed that, much like in broader society, some frontrunners' high level of agency is unlikely to suffice to automatically achieve the Great Food Transformation for the business canteen sector. With the question in mind of how needed changes can be accomplished, consequently, attention is turned to the policy sphere and respondents' opinions in regard to policy intervention.

### **7.1.2 Policies for Meat Reductions and Sustainability in Business Canteens**

To answer research question two, decision-makers were directly asked which policy interventions or regulations they could imagine being implemented if the sector fails to alter menus towards higher sustainability standards and much lower meat levels voluntarily. Existing literature on this question was not found within the German context. Yet again the Wahlen et al. (2012) study gives an insight into the attitudes of Finnish *public* catering professionals towards mandatory sustainability standards being introduced for their sector. They did not show strict opposition but, as elaborated, stated that other aspects like financial resources and customers' wishes cannot be disregarded (Wahlen et al., 2012). Noticeably, the respondents of this study repeatedly noted that they could imagine regulations like the implementation of sustainability standards for the *public* sector, however, this was not the case for the *private* sector.

It can be found that the majority of interviewees did not foresee specific regulations of the private canteen sector. They assessed that private business canteens are currently much more successful in establishing high sustainability standards than public canteens. In contrast to this (perceived) reality, it was emphasised that the state should be a frontrunner and act responsibly, especially towards children and adolescents as well as vulnerable groups such as people in care facilities. Hence, regulations in the public sector were held to be sensible while they were poorly received for the private sector. In this light, the widely held policy recommendation of implementing minimum sustainability standards in public canteens, without endorsing this in regard to private ones, seems more reasonable. It is a compelling finding, as the question of whether this recommendation was solely directed at the public sector, and not the private one, was one of the main prompts for conducting this study.

Returning to why respondents did not foresee specific regulations of the private canteen sector, it was widely held that such regulations would not succeed, as they would fail to acknowledge individual realities in canteens. Connected to this, it was voiced that even with top-down regulatory standards, it would still be in the hands of the decision-makers in each canteen how rigorous and well specific standards are put into practice. This sheds light on the fact that usually effective command-and-control regulation necessitates controls that entail additional costs for

the state. Interestingly, the argument of overriding individual realities by setting mandatory sustainability standards was not brought forward for public canteens, while it can be assumed that also in these, individual realities apply.

In terms of effective regulation for the private canteen sector—but also the food and nutrition sector at large—it was noted that regulating the market further upstream in the value chain is more sensible. This could, for example, happen in the form of reforming market subsidies and taxes or implementing stricter standards on animal welfare which would, as a result, also lead to increased animal product prices. In this way, the whole food and nutrition sector is addressed and influenced, and not only small parts of it, which then would be disadvantaged compared to non-regulated sub-sectors. These views that a restructuring of agricultural subsidies, taxes, and stricter animal welfare standards are needed are much reflected in publications on policy recommendations for a sustainable food transformation (Buschmann & Meyer, 2013; Commission on the Future of Agriculture, 2021; European Commission, 2020; WBAE, 2020; Wellesley et al., 2015). Yet, it remains to be scrutinised which interventions are most effective in reducing the meat offer and consumption (see Chapter 2.4.2) and how strong the effects of rising meat prices on meat consumption are. A systemic review study suggests that rising food—including meat—prices have the most significant consumption reducing effects on poorer households, especially in low-income countries (Green et al., 2013). Therefore, simply increasing meat prices raises questions of equality and just transitions. Who contributes to climate change mitigation and a nutrition transformation when more affluent people can simply ransom themselves? The issue of whom climate change mitigation policies impact most and which unwanted effects, especially, economic policy instruments can have is discussed within the scientific literature, and it is a feature that should not be neglected within the food policy sphere (Ambrose et al., 2022; Ludden et al., n.d.; Markkanen & Anger-Kraavi, 2019).

## 7.2 Reflections and Limitations

### 7.2.1 Methodological, Theoretical and Analytical Choices

A qualitative research design was chosen to answer the research questions for this study. Considering that not much qualitative research has been conducted on the specific questions in Germany, it can be viewed as a fitting choice in order to get introduced to the field and topic and obtain a deeper insight into the perspectives and attitudes of the studied subjects. Nevertheless, it is acknowledged that the questions can also be addressed in a quantitative manner. It would be interesting to extend this study and, based on its results, distribute a questionnaire directed at company canteen managers to get a more representative assessment of the sector. However, a quantitative approach has not been chosen for this study as, in terms of sample size, there is no specific data on how big the business canteen sector is. Based on this fact, it is hard to determine a powered sample size. Even if such a powered sample size could be determined based on estimates, it is unlikely that a big enough representative pool of respondents could have been gathered without any established connections into the sector and the short project time frame. Therefore, taking the external conditions for this thesis project into account, a qualitative approach was most appropriate.

The chosen theories and frameworks—the microfoundations theory, the middle-out framework and the larger structure and agency context—arose throughout literature research and review and provided the theoretical underpinning for the posed questions. Based on those theories, especially the larger structure-agency debate and structuration theory, the concrete analytical framework of agency in this study was built. Throughout the study, the larger framework of structure and agency and conceptualisation of microfoundations and the middle-out position of the studied subjects proved useful and fitting to the analysed questions and sector. In terms of the detailed analytical framework, it has become apparent that the variable *concern* that was

adopted from Lutzenhiser et al. (2002) has become less relevant. This was caused by the fact that the variables *awareness* and *sense of responsibility* are closely interlinked with the variable *concern*. Moreover, *concern* was often shown to be present through current actions or a willingness to act. Hence, in a repeated deployment of the built analytical framework, e.g. in a different sector, it could be considered to drop the variable *concern* and focus on the remaining variables.

Moreover, there are other frameworks commonly used to analyse individuals' actions and attitudes, for example, the theory of planned behaviour (Ajzen, 1985; Sniehotta et al., 2014). This, however, could have led to contemplation on a very individual level, as it is a theory focusing on individual behaviour. However, in this paper, it was seen to be of high relevance to consider structural factors and embed individual action within larger contexts, hence, deploying structuration theory does also in retrospect prove to be a useful approach.

### **7.2.2 Legitimacy and Relevance of Research Questions**

The underlying question for this research was if and how a sustainable offer in private business canteens can be achieved without policy interventions and stringent measures implemented by decision-makers in canteens voluntarily and on account of a feeling of responsibility to act. After addressing this question by working on two more concrete research questions, it can still be held that the topic and research questions are relevant and legitimate. They have not been addressed in this manner so far, and no published papers elaborate on the addressed aspects. Rather, the relevance of this topic has been reaffirmed through the fact that the UBA is soon publishing a study from a research project that has been conducted over the last three years. It focuses on the question of how canteens and guests can be encouraged to engage in environmentally friendly and health-promoting catering and addresses several of the scrutinised areas of analysis in this (a'verdis, ISIconsult, corsus, 2020). This demonstrates that the area is considered relevant by the German environment administration, which is much in line with the increased attention to sustainable and healthy communal catering that the new minister for food and agriculture (Cem Özdemir, Green Party) displays (BMEL, 2022).

### **7.2.3 Limitations of Validity, Reliability and Generalisability**

This study has several limitations that need to be considered. Firstly, the selection bias already addressed in Chapter 5.2 leads to the fact that interviews were conducted with interviewees that are likely to present only the active side of the spectrum of sustainability concerns in business canteens. This is due to the procedure of recruiting interview participants since mostly big and/or engaged and active canteens, i.e., those that apply to be ranked in competitions or are members of networking associations, made up the pool of contacts. Further selection took place when potential interviewees decided whether they would like to take part in a study on sustainable menu offers or not; a decision that can be assumed to be based on how comfortable the potential interviewee feels talking about the topic and the extent to which they feel able to meet questions with competent answers. Nevertheless, knowing that the analysed cases represent the engaged and best-case representing part of the spectrum, the results of this study can still serve as an indication of the whole spectrum or rather the whole sector.

A form of data triangulation was used to reduce the strength of the selection bias and increase the validity of the results. In this case, not different types of data (e.g. documents next to the interviews for a typical data triangulation) were deployed, but rather, a different group of interviewees—the communal catering experts—were additionally interviewed. However, due to the given project conditions—mostly time restrictions and financial resources—other validation methods such as external auditioning, member checking, or spending a prolonged time in the field were not deployed. Yet, to increase validity within the given project conditions, peer debriefing and peer review with a person from outside the research project has taken place. The

validity of the results could, however, be impeded by the fact that there was only one coder coding the interviews, introducing a “one-coder” or “one-researcher” bias which can lead to a situation where only specific expected themes are validated, and no different perspectives are utilised to analyse gathered data. Additionally, the translation might distort results, as interviews were conducted and transcribed in German yet coded in English, and quotes included in the transcript were translated from German to English. To nevertheless establish high reliability, the transcripts were double-checked for mistakes, and it was ensured that codes were used coherently by revisiting formerly coded interviews and aligning newly coded material accordingly.

Lastly, the results are particular to the German communal catering sector, and it cannot be assumed that they apply to other countries’ communal catering sectors. In this sense, this study does not aim to generalise beyond Germany but rather to be particular about the chosen region. A generalisation to different stakeholders or sectors can neither be made, yet, the theoretical framework deployed in this study can serve as a blueprint to explore questions of agency and progress in other fields.

## 8 Conclusion

It has become evident that one part of alleviating and eventually halting the ongoing ecological crisis and meeting climate change mitigation targets must be a decrease in the average meat consumption in Germany. This study was partly prompted by the widespread policy recommendation to implement mandatory sustainability standards in *public* canteens, while such recommendations are not suggested for the private sector. Hence, this thesis set out to investigate if and how a sustainable offer with less meat in the *private* business canteen sector can be achieved without policy interventions and stringent measures implemented by decision-makers in canteens. To approach this topic systematically, 13 semi-structured qualitative interviews were conducted and subsequently analysed through qualitative content analysis in NVivo.

The empirical evidence suggests that without implementing any kind of policies aimed at reducing meat consumption—not necessarily command and control regulations like mandatory minimum standards—it is unlikely that necessary changes unfold naturally across the whole sector within the timeframe left for effective mitigation action. Regarding the need for stringent measures that profoundly influence the consumer's choice, this research provides first indications that effective and potentially sufficient meat reductions are also possible with a combination of less profound measures like nudging, broadening the offer, and reducing meat portions themselves. Yet, this research suggests that a high level of agency and longer-term thinking is required on the part of the decision-makers to establish low meat consumption in canteen guests while still keeping meat on offer. Based on the findings, less profound measures can additionally be assumed to take a longer timeframe to become effective which implies that such measures need to be implemented across the sector *now*.

This leads to the first posed research question that aims to analyse what the level of agency of decision-makers in company canteens is to reduce the meat share in order to improve the menu offer's environmental sustainability. Based on this research, the question can be answered as follows: the level of agency in the group of the interviewed decision-makers is high. All showed awareness of the need for meat reductions, yet it can be perceived that not all have a clear idea of the level at which reductions are needed, and more often regional procurement was named as a key focus within sustainability activities rather than meat or food waste reductions. Most canteen decision-makers saw themselves as responsible agents for change and showed willingness as well as practical capacities to implement meat reducing measures. However, the respondents have to be seen as forerunners of the sector, and experts assess that there is a heterogeneous field in which the analysed cases represent the sustainability active and innovative end of the spectrum. A closer look at the current activities of the forerunners shows that even they still have to ramp up their activities. However, the majority of interviewees were sceptical about measures that are perceived to be very stringent, such as a weekly veggie day, because of possible repercussions and non-compliance in the form of “migration” to the individual gastronomy which would not solve but only shift the issue. Therefore, preference was given to measures perceived as less controversial, like expanding the menu and adjusting the share of veg and meat dishes towards more veg dishes over time, reducing meat portion sizes, and nudging measures or setting price incentives. As pointed out, it remains to be investigated whether such measures—that, according to respondents' assessments, only a few forerunners in the sector are taking as of now—are enough to achieve needed meat reductions in canteens across the sector.

The second research question addresses the policy realm and wants to scrutinise what policy interventions company canteen decision-makers foresee and deem effective if no sufficient reduction of the meat share in their menu offer is introduced voluntarily. The results suggest

that most canteen decision-makers cannot picture concrete regulation, e.g. in the form of mandatory sustainability standards for menus in private canteens. Decision-makers and experts expected such microregulation to be unable to meet individual circumstances and realities like a lack of finances and skilled workers. Further, they are seen to hinder the expression of creativity at work and thus possibly reduce motivation. Lastly, it was noted that in the end, their success still relies on the individual motivation of teams and decision-makers. However, such concrete regulations are deemed reasonable and sometimes necessary for the public sector. Yet, for the private sector, regulations and policies on a higher structural level further upstream in the value chain—such as a reform of current agricultural subsidies and taxes as well as animal welfare standards—are regarded necessary.

The findings of this thesis bear meaningful, practical implications for policymaking. Microregulation, e.g., setting mandatory minimum sustainability standards, can be expected to be met with scepticism and potentially non-compliance in the private sector. At the same time, an approach that focuses on policies implemented further upstream in the value chain is perceived as more reasonable. Such an approach is sensible, since it guarantees that not only one sector within the food and nutrition field is targeted, but rather the whole branch is being addressed. Upstream policies could include a restructuring of subsidies and taxes, especially the European Union's GAP subsidies, as well as minimum standards for animal welfare in animal husbandries. However, aspects of inequality and just transitions need consideration when deploying economic instruments and command-and-control regulations that impact consumer prices. Next to such upstream policy reforms that address the economic sphere, it is recommended to support the canteen sector with a policy mix that includes official operational guidelines and clear communication of targets, e.g., in shares of meat of the procurement volume or maximum dishes including meat consumed per guest, per week. Such science-based guidelines and targets are already provided by the DGE (2020) and practical guidelines derived from recent research projects (Edringer et al., 2022). It is recommended to highlight and publish or condense such existing guidelines into *official* targets and guides that can serve as an official orientation to the sector. Further, the practical implementation of such guides and targets should be supported by subsidies, e.g., for training and certifications, as well as assessments of progress in the sector and explicit signalling that more stringent interventions have to be expected should changes not occur within a defined timeframe. Additionally, a reform of the cooking apprenticeship curriculum is recommended which includes aspects of sustainability and shifts focus on the preparation of more veg dishes and allows for a completely vegetarian apprenticeship path. Lastly, the recommendation to set standards for the public canteen sector is supported based on the notion that the public sector should play a pioneering role and demonstrate the feasibility of guidelines and targets. However, it is expected that to achieve a higher quality, sustainable, and health-promoting public canteen offer, additional financial resources must most likely be made available, as the sector is currently considered to be underfunded.

The contributions of this thesis are threefold: Firstly, it contributed to the knowledge about middle-actors and agents for change that move in-between the top level, i.e., politics, and bottom level, i.e., consumers and citizens. Especially in the food sector, often, only consumers' opinions on interventions are studied, yet, canteen decision-makers are much more influential in implementing and executing such measures, and the success of measures often depends on them. Hence, to comprehend how the called for great food transformation can be accelerated and eventually achieved, understanding the middle actors, who can implement changes and have more significant leverage than individual consumers, is crucial. This study contributes to this knowledge base. Secondly, the study builds an analytical framework grounded in the sociological structure-agency debate. This analytical framework can be deployed in other sectors as well to investigate the level of agency and middle actors' attitudes concerning sustainability



transformations. Thirdly, the outcomes of this thesis can serve as a basis for a further quantitative, representative investigation of the topic.

Lastly, two key research implications and opportunities can be derived from this thesis. First of all, further research on the effectiveness of different interventions and practical measures is needed to answer the question of whether less profound measures can achieve substantial changes fast enough, but importantly also the question of how price changes on the market—caused by reforming subsidies, taxes, and animal welfare standards—impact the offer in canteens. Second, this research has illustrated the role of middle actors and microfoundations in sustainability transitions and underlined the need to include those subjects more in policy and mitigation action research instead of only focusing on the top and bottom actors. Considering the short time left for effective action to mitigate the ecological crisis humanity finds itself in, it shall be strongly emphasised that practical action should be taken *now*. Scientific policy evaluations should be part of taking action. Yet, they should not be the cause for delayed implementation due to some uncertainties regarding the most effective or best policy mix.

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## Appendix

### Appendix 1: The Case of the Berlin University Canteens

Starting with the winter semester of 2021, the Berlin University Canteens' standard offer<sup>19</sup> is composed followingly: 68% vegan, 28% vegetarian, 2% fish, and 2% meat. The canteens are currently working with 510 recipes, of which 341 are vegan (and of these, 288 are also gluten-free), another 145 recipes are vegetarian (of which 108 are also gluten-free), 12 contain fish and 12 contain meat. With these recipes, they can offer something different every day for six weeks. (Studierendenwerk Berlin, n.d.)

#### **This is what an exemplary week could look like:**

*Note: All salads, soups, side dishes, desserts, etc., will always be vegan or vegetarian.*

	Monday	Tuesday	Wednesday	Thursday	Friday
<b>Main Dish</b>	"Paella" Spanish Vegetable-Rice-Fry	Chilli con Soja	Potato-vegetable casserole	Minestrone – Italian vegetable stew with pasta	Spaghetti Arrabbiata
<b>Climate Dish</b>	One-pot dish with vegetables, coconut milk and red lentils	Broccoli-Pasta Fry with tomatoes and roasted pumpkin seeds	Quinoa-vegetable fry with fried ginger tofu	Kale with red lentils and cardamom	Vegetable tofu ragout with steamed potatoes
<b>Dish 1</b>	Sweet potato-amaranth Patties with carrot-ginger sauce	Two veggie-skewers with spicy peanut-coconut sauce	Soy gyros with white cabbage, onions, paprika and vegan tzatziki	Two sesame-carrot sticks with curry-mango sauce	One spring roll with colourful soy sauce
<b>Dish 1</b>	Vegetarian meatballs with herb sauce	Homemade Pork Schnitzel with gravy	Fillet of mackerel with rosemary on chervil cream sauce	A slice of braised beef on sour cream jus with vegetable strips	A baked fillet of saithe with remoulade sauce

*Source: Own table adapted and translated from Studierendenwerk Berlin, n.d.*

<sup>19</sup> Standard offer means that the special offer meals are not included. In addition, there may be dishes that contain animal components, depending on the respective canteen.

## Appendix 2: Interview Guide

*The following questions represent the standardised interview guide. The order of questions was sometimes adjusted to fit the flow of the conversation and topics addressed by the interviewee, and questions were skipped if they were already answered at an earlier point. The questions under the category “other” were asked if they fit the conversation, and there was enough time to pose additional questions.*

### Status Quo

1. What is the approximate average number of lunches served per day in your canteen (under normal, i.e. non-covid circumstances)?
2. Which 2-3 measures that you are currently implementing in your canteen are the ones that you consider most effective in improving the environmental sustainability of your canteen?

### Agency

[Awareness]

3. What do you think is the most effective way to reduce the negative environmental impact of your menu offering (in an optimal scenario)?
4. (If not addressed yet) Would you say that reducing the amount of meat in your menu offering would be a effective way to reduce the negative environmental impacts of your menu offering?

[Concern]

5. In your role as head of catering, is the environmental impact of your menu offering a matter of concern in your day-to-day job?

[Sense of Responsibility]

6. What do you think, should you try to make an impact on ensuring that guests eat sustainably? Why, why not?

[Willingness]

7. Are you willing to change your offer in such a way that the choice for your guests is changed or limited, e.g. in such a way that there are more plant-based dishes and therefore fewer meat dishes on the offer? Please elaborate on the reasons why you have this perspective.
8. How do you feel about a weekly Veggie-Day in your canteens? Would you introduce a measure like that? Why, why not?

[Capacity-Knowledge & Power]

9. Would you say that you and your staff currently have the practical knowledge to implement a veggie day or, more generally, offer attractive, healthy and tasty vegetarian and vegan dishes?
10. How much decision-making power do you have to implement such measures, and who are other key stakeholders in your organisation that can exercise decision-making power in making such decisions regarding your company cafeteria?

### Structure, Regulation and the Role of the State

11. For schools, kindergartens or public canteens in general, there is often a requirement to adhere to legally defined minimum quality standards that also meet sustainability requirements. This demand is not least due to the fact that Germany has set concrete emission reduction targets for the various sectors of the economy for the coming decades. What government regulations do you think will be in place if it becomes

apparent that the supply in company canteens will not be adapted to such quality standards voluntarily in the near future?

12. Would you say that it is the state's responsibility to ensure that the population eats in an ecologically sustainable manner and that, for example, canteen menus are also designed sustainably? Please give reasons for your answer.

**Other Questions Addressed throughout most Interviews**

13. How do you assess the overall company catering industry in relation to the issues discussed? Would you say the sense of responsibility is as strong in broad parts of the industry as it is at your company?
14. If you are able to give an estimate, how high is the meat content in your offer and has the meat content in your offer decreased over the years?
15. Does it make a difference in the production and procurement costs, whether you cook vegetarian and vegan dishes or dishes with meat and fish?

### Appendix 3: List of Interviews

In text references to the interviews are made by using the abbreviation from the column “Reference used in text”. “D” refers to “decision-maker” and “E” refers to “expert”.

<b>Reference used in text</b>	<b>Position</b>	<b>Average amount of meals served</b> (before Covid Pandemic)	<b>Date</b>	<b>Duration</b> (excluding short introduction)
D1	Head of Catering (D1.1) and Procurement Manager (D1.2) (two people)	1500	Thursday, 24.02.22	37 min
D2	Head of Catering	2000 (main) 1000 250	Monday, 28.02.22	35 min
D3	Head of Catering	2200-2500 (only main canteen)	Wednesday, 2.03.22	41 min
D4	Head of Catering	2000-2500	Friday, 4.03.22	37 min
D5	Head of Catering	2500	Wednesday, 09.03.22	33 min
D6	Head of Catering	3000	Thursday, 10.03.22	53 min
D7	Head of Catering	700-800	Friday 11.03.22	45 min
D8	Head of Catering	4500	Wednesday, 16.03.22	43 min
D9	Catering Quality Manager	4000	Thursday, 24.03.22	17 min
E1	Communal Catering Journal Editor		Wednesday, 23.03.22	44 min
E2	Communal Catering Consultant		Thursday, 24.03.22	52 min
E3	Communal Catering Consultant		Tuesday, 29.03.22	38 min
E4	Communal Catering Researcher and Consultant		Tuesday, 19.04.22	28 min

## Appendix 4: Coding Structure

### Elements of Agency

- Awareness
- Concern
- Sense of Responsibility
- Willingness
- Capacity – Knowledge
- Capacity – Power

### Structural Aspects

- Norms, Culture & Preferences
- Policy Instruments, Regulation & Law
- Prices, Subsidies, Taxes
- Companies Environmental & Climate Commitments & Plans
- Shortage of Skilled Workers

### Intervention Rung

- CE – Eliminate Choice
- CE – Restrict Choice
- CS – Negative Incentives
- CS – Positive Incentives
- CS – Changed Decision Structure/Nudge
- CA – Enable Choice
- CA – Inform & Educate

### Concrete Practical Measures

- Food Waste Reduction
- Meat Share & Portion Reductions
- Organic Product Sourcing
- Regional Product Sourcing
- Seasonal Product Sourcing
- Packaging & Plastic Reductions
- Veggie Day

### Other

- Canteen as Added Value
- Corporate Health
- Insufficient veg Cooking Skills
- Production Costs
- Participation, Inclusion, Communication, Appreciation
- MOF Sideways Influence
- Status-Quo
- Sector Evaluation
- Private is More Advanced than Public