A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

FIELD LAB ON DECIPHERING THE KEY ELEMENTS DRIVING GERMAN CONSUMER PERCEPTIONS AND PREFERENCES FOR FROZEN READY-TO-EAT MEALS – INTEGRATING MARKET INSIGHTS AND THEORETICAL PERSPECTIVES

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Abstract

The German frozen ready-to-eat (RTE) meals market is undergoing significant changes in product offerings, consumer perceptions, and preferences. The research gap created by a lack of insights into the German market is filled by identifying the factors influencing German consumers' choice of frozen RTE meals and focusing on generational differences. Quantitative results challenge literature and qualitative research, revealing new attributes as decision-makers. The findings show that independent brands excel in health and convenience, while private labels offer affordability. Frosta is the dominant brand across various demographics. This work offers insights for crafting successful product strategies and proposes future research implications.

Keywords: Marketing Research, Conjoint Analysis, Multidimensional Perceptual Map, Brand Perceptions, Brand Preference, Frozen Ready-to-Eat Meals, Consumer Preferences, Consumer Perceptions

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List of Abbreviations

BPM	Brand Personality Model
CA	Conjoint Analysis
CDM	Customer Decision Making
FCPM	Food Choice Process Model
Gen X	Generation X
Gen Y	Generation Y
Gen Z	Generation Z
PM	Perceptual Map
RTE	Ready-to-eat
TCV	Theory of Consumer Values

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1. Introduction

In a world where convenience is king, the global frozen RTE meals market is responding in kind, projected to balloon from a substantial US$ 51.5 billion in 2023 to a staggering US$ 122.4 billion by 2033, marking a significant shift in consumer eating habits towards RTE solutions (Choudhury 2023). It has revolutionized the concept of convenience by offering a variety of globally inspired home-cooked meals in their frozen form. This culinary offering which is available from a variety of brands in both physical stores and online, is designed to not only satisfy appetite but also to improve the overall experience of food preparation and eating.

As can be seen from the rising sales of frozen RTE meals in Germany over the last 10 years, frozen RTE meals are becoming increasingly popular in the general expanding frozen food market in Germany (Dti 2023a). These convenient meals have become an integral part of the nutritional landscape and have cemented their place in the nation's kitchen, with more than half of German households owning a freezer (Kölzer et al. 2019). As such, the market for frozen RTE meals is representative of the changing consumption patterns in German gastronomy. However, the daily consumption of convenience foods should not be viewed uncritically, and differences in attitudes towards these frozen convenience foods are particularly evident between generations. Although the benefits of frozen foods are widely known and easily accessible, there is a common but overly generalized assumption that such foods are always loaded with unhealthy additives and preservatives that may extend shelf life but can be detrimental to health (Sreeya and Malavikaa 2019). While the trend of pre-made meals is on the rise, Germans traditionally prefer to cook for themselves and to have greater control over flavors and ingredients, which is confirmed by Reagin (2016). Furthermore, the consumption behavior of German consumers varies across generations. Based on a current study from 2023, 36% of German consumers of frozen RTE meals are Generation Y (Gen Y), followed by 33% of Generation X (Gen X) and 18% of Generation Z (Gen

Z) (Statista Consumer Insights 2023). Additionally, the motivations for purchasing these products differ: Gen Z and Gen Y prefer frozen RTE meals because they are convenient and fit into their fast-paced lives. According to Cheung et al (2019) as well as Reagin (2016), these generations' preference for RTE meals is increasing, due to a wider choice of easy-to-prepare options and a strong interest in the quality and specific ingredients of their food. Conversely, baby boomers prefer home-cooked meals and are more likely to rate the nutritional value of RTE meals negatively, accounting for only 14% of German frozen RTE meals consumers (Statista Consumer Insights 2023). These generational differences in perceptions and practices related to frozen RTE meals underscore the complexity of the market and the diverse consumer base it serves.

There are numerous motivations for researching this topic. The innate preference for culinary delights that goes hand in hand with busy lifestyles often leads to the choice of frozen RTE meals. However, in today's society, people are often skeptical about these quick meals, which are often overlooked or dismissed as unhealthy. In addition, the frozen food sector serves as a microcosm for changing societal behaviors and demonstrates how today's consumers navigate the tension between time constraints and the desire for diverse, high-quality foods. This sector presents an opportunity for examination, as it holds great potential to yield valuable insights into consumers' decision-making processes, preferences, and underlying principles guiding their food choices. However, despite its significance, there is a lack of comprehensive research that captures the nuances of consumer perceptions in the German context. Prior studies have frequently taken a global or product-centric perspective, failing to consider the pure frozen RTE meals market, leading to a gap in understanding the distinctive cultural and individual factors that sway German consumers' viewpoints on these products. This thesis aims to shed light on the profiles of frozen food consumers in Germany and identify the key factors that influence their choices, making a valuable contribution to both academic discourse and industry practice. The decision to focus

exclusively on the German frozen RTE meals market is based on several strategic factors. First, despite the controversial perception, the Germans achieved record consumption last year and constant growth is expected (Dti 2023a). However, the German market struggles to implement international standards in terms of transparency and communication. For example, the Nutri-Score, which has been introduced in many EU countries, is a color-coded system for indicating the nutritional value of food on the front of the packaging (Dréano-Trécant et al. 2020; Peters and Verhagen 2022). The introduction and effectiveness of the Nutri-Score labeling system have been a major topic of debate in Germany and have been criticized for their methodology and the clarity of their ratings (Ferguson 2022). The implementation of the system has also caused problems in the frozen RTE meals sector, failing to increase transparency, and hampering the industry's efforts to find an internationally applicable solution highlighting the complexity of the German frozen RTE meals market. However, the food tech sector in Germany is experiencing significant growth with numerous start-ups reshaping the industry (Seedtable 2023). There is also a growing trend of new companies entering the market offering frozen foods that are touted as healthier, despite using similar production processes to the established companies (see 2.1.4). In addition, the authors' backgrounds and networks are predominantly rooted in Germany, giving them unparalleled access to local market insights and data. This unique position allows for a deeper and more sophisticated understanding of German consumer behavior, preferences, and trends in the RTE sector. In addition, Germany is a significant and distinct market within Europe, characterized by unique consumer habits, regulatory frameworks, and culinary traditions. By focusing on this specific market, more targeted, relevant, and actionable insights can be gained. This focused approach will enable a comprehensive and detailed analysis of the German market.

As such, the complexities and driving forces behind consumer choices in the frozen RTE meals aisle are explored, reflecting not only their culinary preferences but also their lifestyle choices,

health considerations, and cultural nuances. Thus, the aim of this Master thesis is to integrate insights from existing marketing research by critically evaluating academic papers and studies, coupled with the results of qualitative and quantitative research, to address the following research question: *What key elements drive German consumers' choices in frozen RTE meals, and how can insights into these factors be utilized to formulate a successful product strategy?* Deciphering the factors paves the way for more informed product development, marketing strategies, and overall business decisions that take into account the changing tastes and values of German consumers. This understanding fosters innovation and competitiveness within the industry, leading to industry growth. Additionally, this study provides consumers with a deeper understanding of their preferences and informs their decision-making process when selecting frozen RTE meals, leading to more knowledgeable and satisfying choices that align with their lifestyles and priorities. Finally, the academic community benefits from the expanded knowledge base presented in this thesis, potentially inspiring further research and investigation in this domain.

To establish a knowledge base, a comprehensive review of the existing marketing and food literature is conducted. A *literature review* is a systematic approach that seeks to address specific research questions by identifying, analyzing, and integrating results from different studies (Snyder 2019). To choose adequate literature, Okoli's (2015) steps to conduct a systematic literature review were consulted. Once the review's aim and keywords were identified, databases like Business Source Premier and Google Scholar were searched for relevant and high-ranked literature. First, key terms are defined and a market overview outlining the current trends and conditions affecting the industry is given, followed by an examination of consumer psychology. The discussion covers the customer journey, the decision-making process, in particular the food choice process model (FCPM), and finally the influencing factors at each of the three main stages of decision-making. In addition, a combination of qualitative and quantitative research methods was used to gain a

comprehensive understanding, with these two approaches mutually reinforcing the analysis. The qualitative research consists of semi-structured individual *interviews* with a variety of industry and academic experts, as well as users and non-users of frozen RTE meals, to identify market trends, perceptions, and preferences. Conducting interviews is a frequently used qualitative data collection method to gain insights from another person's perspective. It is often utilized to collect preliminary data before designing a survey (Qu and Dumay 2011). The presentation of personas as well as expert and consumer interviews complement the literature research and create an additional knowledge base. To further elaborate and visualize German consumers' perceptions of frozen RTE meal brands, a *multidimensional perceptual map* (PM) is conducted. This analysis is designed to provide valuable insight into consumer attitudes toward brands or products through factor analysis using attribute-related ratings of competing brands (Schmalensee and Thisse 1988). During the analysis, four brands - Frosta, Iglo, Gut&Günstig, and Ja! - are tested on their perception of 17 chosen attributes. To understand how different demographics influence the perception of RTE meals, a series of ANOVAs were applied to the data to uncover differences in perception between generations and different socioeconomic standards. Built upon the foundations of *conjoint analysis* (CA), the method for studying consumer preferences for frozen RTE meals aims to uncover how people consider different aspects of their decision-making process. A CA involves examining the trade-offs that consumers make when selecting a product from a range of competing options in the market (Auty 1995). This study delves into six key attributes - brand, price, cooking time, cooking method, meal type, and ingredients/nutritional value - with multiple levels each. The survey settings, including the incorporation of hypothetical offerings and strategic inclusion of brand, aim to ensure the robustness of the analysis, while participant data such as age, frozen meal consumption frequency, employment status, living arrangement, and schooling are collected to facilitate segmentation and interpretation of consumer preferences. The CA is also complemented

by the application of an ANOVA. All key findings are then summarized and discussed in detail: First, CA challenges qualitative research, as CA introduces cooking method, size, and ingredients/nutritional value as key considerations, whereas qualitative research establishes price, convenience, and taste as decisive factors. Second, brand is an important factor in the perception of frozen food. Furthermore, the findings show that the independent brands Frosta and Iglo excel in health and convenience, while the private labels Gut&Günstig and Ja! offer affordability. Last, Frosta is the dominant brand across various demographics. Next, a successful *product strategy* adapted to the needs and demands of the different generations is developed, taking the challenges and weaknesses of the market into account. Finally, theoretical and managerial implications are derived, rounded off by limitations and future research.

2. Literature Review

2.1 Market Overview

2.1.1 Key Terms and Definitions

RTE meals are culinary preparations that are fully cooked and can be consumed with minimal preparation efforts. These meals are created to provide maximum convenience for the consumer and are designed for people with busy lifestyles, limited cooking skills, or limited access to cooking facilities (Dottori et al. 2023, 1). RTE meals include a variety of foods such as salads, shelf-stable products, and microwavable meals, all of which fulfill the need for reduced meal preparation times (Dottori et al. 2023, 1).

Frozen RTE meals are a subset of prepared meals that have been fully arranged and cooked and then frozen to preserve their quality and extend shelf life. These meals only need to be reheated and are particularly suitable for people who want to combine the convenience of quick preparation with the benefits of longer storage (Sen, Antara, and Sen 2019). Unlike ready-to-cook foods such as frozen fish or meat that require some form of cooking, frozen RTE products are usually complete

meals that have been frozen to preserve their nutritional value and flavor until they are reheated and served (Delgado and Sun 2000). The convenience factor is high with both types of meals, but ready-to-cook meals offer an experience closer to cooking from scratch, while RTE meals are all about instant satisfaction with minimal effort.

Consumption of frozen RTE meals spans multiple generations, highlighting the importance of understanding their distinct consumer behaviors. Recognizing and delineating the unique preferences and trends within each generation is critical to fully understanding this dynamic market landscape.

Baby boomers (>59 years old): Born between 1946 and 1964, baby boomers are known for being a hard-working and disciplined generation. They value face-to-face communication and have a strong work ethic. As consumers, baby boomers tend to prioritize quality and service over price and are less influenced by trends. They also tend to be skeptical of advertising and expect high-quality customer service (Fingerman et al. 2012; Parment 2013).

Gen X (47-58 years old): People born between 1965 and 1980 belong to Gen X. They are often referred to as the "middle child" of the generations because they have a mixture of the traditional values of their predecessors and a modern attitude. Gen X values a good work-life balance, is highly educated, and has high purchasing power. As consumers, they are brand loyal, prefer quality over price, and are more easily influenced by traditional advertising than Gen Y or Gen Z (Goldring and Azab 2021; Parment 2013).

Gen Y (28-46 years old): Born between 1981 and 1996, Gen Y (also referred to as millennials) grew up during the Internet boom. This generation values experiences over possessions and is often considered civic- minded with a strong sense of community both locally and globally. In terms of consumer behavior, they are known for their willingness to spend on technology and experiences,

and they choose brands that can deliver convenience through digital channels (Johnson and Chattaraman 2019; Licsandru and Cui 2019).

Gen Z (18-27 years old): Born between the mid-1990s and early 2010s, Gen Z is the first generation to have grown up with the Internet and digital technologies from an early age. This has fostered a preference for digital communication and a competent use of technology. Gen Z's consumer behavior is marked by their emphasis on social issues, appreciation for authentic products, and preference for brands with a strong online presence. They are more pragmatic and financially focused than earlier generations, prioritize value for their money, and favor health and sustainability with environmentally friendly products (Goldring and Azab 2021; Lisboa, Vitorino, and Antunes 2022; Narayanan 2022).

2.1.2 Advantages and Disadvantages of Frozen Ready-to-Eat Meals

Frozen RTE meals bypass lengthy preparation and cooking processes, come in controlled portions that make diet management easier, and offer a variety of options for different taste buds and dietary restrictions (Sen, Antara, and Sen 2021). Freezing preserves food for longer periods, reducing food waste, and extending shelf life while maintaining quality (James and James 2016). Freezing usually beats canning and drying preserving the flavor and nutrients of fruits and vegetables for long periods of time (Hasani et al. 2022). It also allows companies to move large quantities of food over long distances (Peavey, Work, and Riley 1994). However, convenience can come at a price: The nutritional content of some meals may be compromised due to the preservatives used to extend shelf life, and frequent consumption can lead to excess sodium and additive intake (Hasani 2022). Texture and flavor can suffer from the freezing process, and the environmental impact of packaging is a growing concern, as many meals come in non-recyclable materials. Despite challenges, the industry is adapting, addressing sustainability issues, and emphasizing cleaner ingredient lists (Sreeya and Malavikaa 2019).

2.1.3 Historical Background and Evolution of the Market

Early Developments

The concept of frozen foods has its roots in the early 20th century. Clarence Birdseye invented a method of rapid freezing that allowed food to be preserved without significant loss of quality which revolutionized food storage and consumption patterns worldwide (Adam 1962; Potter 1986). The methods developed by Birdseye made it possible to preserve flavor, texture, and nutritional value and set the stage for the growth of the frozen food industry (Kurlansky 2014). In Germany, the frozen food market gained momentum post World War II, with technological advancements and increased consumer acceptance. The introduction of freezers in the 1950s and the growth of frozen food retail in the 1970s are key turning points that led to the widespread adoption of frozen food in German homes (Dawson 2014; Jackson et al. 2018; Maldonado 2018).

Market Evolution

The pandemic-induced shift to remote work and self-isolation initially spurred greater demand for RTE meal options, a trend that persisted post-pandemic as consumers developed a lasting preference for the convenience of frozen foods (Tirtawijaya et al. 2021). Lifestyle changes and globalization enhance the preference for these meals, given their longer shelf life (Çinar and Onbaşı 2021). The market is projected to hit $282.5 billion by 2023, with frozen foods' nutritional longevity being a key factor (Sowmya and Samsai 2019; Çinar and Onbaşı 2021). Technological advancements and a push for sustainability in the cold supply chain also contribute to the sector's growth (Chaabane et al. 2022). The size of the worldwide frozen food market is anticipated to grow by more than 40% between 2018 and 2026, according to a study on the “Size of the frozen foods market worldwide from 2018 to 2026” realized by Statista in 2020. The market was estimated to be worth 260.8 billion dollars in 2018. The frozen food market is expected to reach 366.3 billion USD by 2026 (Statista 2020) (see Appendix 1). In 2023, it is expected that this market will generate

US$605.40 billion in revenue, with an anticipation to expand by 6.76% yearly (CAGR 2023-2028). Worldwide, China will generate the largest income ($138 billion in 2023), being the most relevant region for this industry. Regarding the next year (2024), the volume of the market for convenience foods is anticipated to increase by 4.7% (Statista Market Insights 2023a). When it concerns RTE meals, China leads the world in revenue in October 2023 with 134 billion USD, followed by India with 64 billion, Japan with 63 billion, the United States with 46 billion, and the United Kingdom with 15 billion (Statista Market Insights 2023d). According to Gonçalves et al. (2023), there has been an increase in the consumption of frozen RTE meals in Western Europe in the last years. The primary cause for this change is that the eating habits of people have altered as a result of changes in family structures, such as the increase in the proportion of single or living alone individuals, or just out of convenience. In 2023, the RTE meals market in Europe generated US$84.68 billion in revenues until now, compared to last year (2022) the revenue increased by 6.6%. According to Statista Market Insights (2023a), the CAGR from 2023 to 2028 is expected to grow 5.28% every year. In terms of total frozen food sales in Europe, Germany had the largest market share at 19.1%, followed by the United Kingdom (17.03%), France (12.91%), and Italy (10.38%) (MRFR 2020) (see Appendix 2). This growth can be traced back to the demand for healthy, affordable, and convenient meal options in the face of busy lifestyles (see Appendix 3). The remarkable development of the RTE meals industry in Europe is driven by a number of important factors. The growing demand for convenient meals is influenced by a lack of cooking skills or time, as well as a large number of single-person households (Aceves-Martins, Denton, and de Roos 2023). In addition, the European market is experiencing a shift in demand toward plant-based products and meat substitutes, reflecting strong environmental and animal welfare concerns (Henn et al. 2022).

2.1.4 Current Market Landscape

Size, Revenue, and Customer Demographics

According to Statista Market Insights (2023c) in 2023, the RTE market in Germany has experienced spectacular revenue growth, with a notable 20.5% increase from 2021 to 2022. Based on projections, it seems that this segment will continue to develop until 2028, but at a slower rate each year (Statista Market Insights 2023c). Furthermore, a substantial increase in revenues within the frozen foods sector was also observed, notably occurring from 2021 to 2022, with figures escalating from 15.92 billion euros to 19.54 billion euros (Dti 2023b) (see Appendix 4). In 2022, the top-selling frozen food categories in Germany were as follows: 25.64% of sales accounted for baked goods, 12.82% for vegetables, 12.37% for frozen meals, and 12.04% for potatoes (Dti 2023c) (see Appendix 5). Conversely, in the United States, the top-selling frozen foods, in order, are pizza, ice cream, single-serve dinners/entrees, frozen novelties, and processed chicken or chicken substitutes. Each of these categories individually contributes more than a billion dollars in sales. (Circana 2023) (see Appendix 6). Despite the growing influence of online channels, offline remains the primary choice for purchasing convenience foods, including RTE and frozen food, as projected by Statista Market Insights (2023b). Appendix 7 shows the total sales of frozen RTE meals (excluding frozen pizza) in Germany in the years 2011 to 2022. In 2022, 483,547 tons of frozen RTE meals were sold in Germany, which is more than in the previous year. There is a growing trend as well as a trend in the frequency of consumption, German consumers are eating more and more frozen RTE meals compared to previous years, but the majority of respondents remain skeptical (VuMA 2022a; Dti 2023a). In terms of price development between 2021 and 2022, there was a notable price increase from €5.15 to €6.10 per unit due to the impact of the COVID-19 pandemic. As Statista Market Insights (2023b) reports, this trend is expected to continue each year, culminating in an expected price of €7.08 per unit in 2028 (see Appendix 8). Concerning the consumer demographics for RTE meals, the generation with the highest proportion of buyers was Gen Y, constituting 36% of consumers, followed closely by Gen X with 33%. In contrast, Gen Z

exhibited lower engagement with this meal type, accounting for 17% of the consumer base while baby boomers only accounted for 14% (see Appendix 9). Looking at the income profiles of consumers, it is evident that 38% belong to the low-income category, 32% are situated in the medium-income bracket, and 29% are categorized as high-income individuals, accounting for a relatively stable distribution (see Appendix 10). In terms of gender distribution, it is evenly distributed with 50% of consumers being male (see Appendix 11). Looking at household classification, 27% of respondents live in single households, followed by 26% of families and 25% living in couple households, indicating a broad market appeal for frozen RTE meals, catering to different household sizes and their unique needs (Statista Consumer Insights 2023).

Product Types and Distribution Channels

The segmentation of Germany's frozen RTE meals market is evident in its product range and distribution methods. The store offers a wide selection of frozen RTE meals that mimic practically any home-cooked meal, featuring a variety of selections like “Nasi Goreng”, “Tagliatelle with Mushroom Sauce”, and “Chicken Paella”. It also sells meat, fish, seafood, pizza, potato products, and baked goods. Notably, due to their high quality and customizability, frozen bakery items have been leading the market in recent years (Statista 2023). Whilst frozen pizzas are becoming increasingly popular, particularly with younger demographics, this paper focuses on complete meals within the frozen food sector. The frozen pizza sector, with its specialized brands and unique players, stands apart and is excluded from this analysis to maintain relevance to the wider trends in the frozen food industry. A comprehensive list of RTE meals from the four selected brands can be found in Appendix 12.

Regarding distribution channels, the market is divided into offline and online channels. Offline channels, especially hypermarkets and supermarkets such as Edeka, Rewe, Aldi, Lidl, and Netto, constituted over 60% of the market in 2016 according to a market report by Hexa Research (Cooper

2018). Nonetheless, the online sector is poised for substantial growth, driven by the ease of online shopping and evolving consumer habits that favor the variety and competitive prices of online retail (Dannenberg et al. 2020; Fresh Plaza 2020; Seitz et al. 2017). Catalog ordering represents an alternative distribution channel, employed by entities such as Eismann or Bofrost. This method is categorized as direct sales and is therefore considered an offline channel. Despite the differences from traditional retail shops, catalog ordering does not mainly depend on Internet-based transactions, which is why it is classified as an offline channel. With catalog ordering, customers usually order by phone or by filling out a form in a physical catalogue, which is then delivered to their homes (Timoumi, Gangwar, and Mantrala 2022). It is a more traditional form of shopping that predates online retailing. However, many of these companies also offer online ordering, which then overlaps with online sales channels, underscoring the hybrid nature of their business model (Bofrost 2023a; Eismann 2023).

Key Players

A 2020 VuMA survey revealed that among German consumers, the most favored frozen product brands in household packs included Iglo, Käpt'n Iglo, McCain, and Frosta, with Wagner and Dr. Oetker also being popular for their pizza offerings, alongside confectionery brands like Coppenrath & Wiese. The data indicated that approximately 36.7% of the German-speaking population aged 14 and older had consumed frozen food products from Iglo within the past three months at the time of the survey. Additionally, private labels were highly favored, with a preference rate exceeding 50% (VuMA 2020). As pizza is excluded in this Master's thesis and only frozen RTE meals are considered, the primarily relevant brands are Iglo, Frosta, and the private labels.

Iglo Germany, a subsidiary operating since 1961, is a major player in the German frozen food sector. Iglo is headquartered in Hamburg and offers a wide assortment of products, including fish, vegetables, meat alternatives, various dishes, and vegan dietary options. The brand is known for its

focus on quality and variety and aims to provide its customers with convenient and nutritious meal solutions (Iglo 2023).

Frosta AG differentiates itself on the German market with its “Purity Promise”, a unique concept for high-quality frozen RTE meals without additives. As the market leader in Germany, Frosta is active in several European countries and offers an extensive range of frozen meals (Frosta AG 2023). The company's business model includes not only the production of its own brand but also the development of products for other national and international customer brands through the COPACK service. In addition, Frosta's Foodservice division covers institutional needs and offers a tailor-made product range for canteens, hospitals, caterers, and other large organizations (Frosta AG 2023). Their 2022 annual report reveals a remarkable 47.3% sales increase, totaling 268 million EUR in RTE meals and related categories (Frosta AG 2022).

Furthermore, private label products such as Rewe's Ja! and Edeka's Gut&Günstig have significantly impacted the market with their frozen RTE meals (VuMA 2020). These products were created by drawing inspiration from well-known brand lines and offering them at a more affordable price point. Discount chains such as Lidl, Penny (belongs to Rewe Group), and Aldi also feature similar frozen products under their private labels. This research will primarily examine Gut&Günstig and Ja! due to their broad range of products. As the most prominent and frequented supermarket chains in Germany, Rewe and Edeka not only have exclusive private labels available for purchase but also provide the widest variety of consumer products, including well-known, independent brands like Iglo and Frosta (VuMA 2022b).

Bofrost, founded in Germany in 1966, is another leading company in the German frozen food market. It specializes in delivering a wide range of frozen foods directly to customers' homes, a service provided by around 7,000 delivery drivers. Bofrost's range includes high-quality frozen food and ice cream and supplies over four million households across Europe. The company stands

for quality, which is reflected in the strict control of the entire process, from the procurement of ingredients to the delivery of the finished products (Bofrost 2021; 2023b). Eismann, like Bofrost, emphasizes a direct-to-home delivery model as a fundamental component of their business, fostering robust customer relationships and offering personalized service. Additionally, Demeter, known for its biodynamic and organic certification, is becoming increasingly significant in the frozen RTE meals market as consumer demand for organic products continues to rise (Eyinade et al. 2021; Michels 2015).

Online sales of frozen RTE meals have experienced significant growth in Germany, driven by increasing demand for convenience among busy consumers. Germany is a perfect market for the expansion of online grocery services because of its strong e-commerce infrastructure (Statista Market Insights 2023e). German customers value the convenience and time savings that come with placing an online order for frozen meals and having them delivered right to their homes. Companies like Every., Prep my Meal, or Juit are capitalizing on this by offering different menus and meal options to suit different dietary preferences and needs (Every Foods 2023; Juit 2023; prep my meal 2023). This sector is competitive as both local start-ups and established supermarkets are expanding their online presence to offer frozen RTE meal delivery in response to the consumer shift towards digital shopping.

2.2 Consumer Psychology

2.2.1 The Concept of Customer Journeys and the Decision-Making Process

Consumer Behavior

To understand the concept of customer journeys it is necessary to define the term consumer behavior. Belch and Belch (2009, 105) express consumer behavior as “the process and activities roducts and services so as to satisfy their needs and desires”. The entire path to purchase is called

the customer journey and, in each stage, consumers are affected by touchpoints and influencing factors, which are either under the firm's control or influenced by other customers (Lemon and Verhoef 2016). The topic of customer journeys is already a well-established theory, therefore different models and variations exist in the literature (Belch and Belch 2009; Court et al. 2009; Hamilton et al. 2021; Lemon and Verhoef 2016). Within the context of this thesis, the emphasis lies first on the Customer Decision Making Model (CDM), which is applicable to multiple product categories, and on the more food-specific FCPM that specifically addresses the dynamics of food and beverage choices (Catellani and Carfora 2023; Furst et al. 1996; Sobal and Bisogni 2009). The CDM Model is a versatile and comprehensive framework for examining how consumers make decisions across product categories that transcend the realm of food. Together, these two models offer insights into the complexity of consumer behavior in this market.

Customer Decision Making Model

The traditional model, depicted by Kotler and Armstrong (2010), is a five-stage decision-making model, as shown in Figure 1, indicating that consumers move through stages when making purchase decisions.

Figure 1: The Decision-Making Process; Source: adapted from Kotler and Armstrong (2010, p. 177)

Need Recognition: The buying process begins when individuals identify a problem or need, which can be caused by either internal or external factors. (e.g. appetite) or external stimuli (e.g. advertisement) (Kotler and Armstrong 2010).

Information Search: Once consumers perceive a need that can be satisfied with making a purchase, they begin to search for information about the desired product or service (Belch and Belch 2009). This search can either be conducted by accessing personal memory or the external environment (Hamilton et al. 2021). Due to new technologies, access to several information sources has increased whereas search costs have decreased (Hamilton et al. 2021).

Evaluation of Alternatives: After acquiring information, consumers need to evaluate the findings by comparing products or brands and assess if it satisfies the need that initiated the decision process (Belch and Belch 2009). Brands are ranked and purchase intentions are created based on the sender of the information and the consumers' preferences (Hamilton et al. 2021).

Purchase Decision: People intend to buy the most preferred brand. However, two factors can lead to different purchase decisions, "the attitude of others" and "unexpected situational factors" (Kotler and Armstrong 2010, 179). This reveals that the opinion of a consumer's related party, as well as unexpected events (e.g., price changes, promotions), have an impact on the purchase.

Post-Purchase Behavior: After using the product, consumers evaluate and review it by comparing the performance with the expected one. As a result, they are either satisfied or dissatisfied. A consumer's satisfaction determines if they will buy the product again and talk favorably or unfavorably about it (Kotler and Armstrong 2010), which then again affects others in their customer journey (Hamilton et al. 2021).

Consumers do not always go through all five steps of the decision-making process. Depending on previous knowledge (e.g. routine purchases) or product type, steps can be skipped (Belch and Belch 2009).

Food Choice Process Model

The FCPM serves as an invaluable framework for navigating this complex decision-making activity. Due to the intricacy of the topic and the fact that people do not always make rational food

choices, there is a wide range of studies on FCPM. Researchers and practitioners recognize the vital role of food choices in various aspects of life, including biology, psychology, economics, sociology, culture, and epidemiology. Numerous approaches have been used to create these models, including the application of inductive methods like qualitative research, the development of deductive models, and the utilization of pre-existing frameworks. In this Master's thesis, the focus will be on the inductively developed model by Furst et al. (1996) (see Appendix 14), which integrates a biopsychosocial perspective and emphasizes a constructionist approach, acknowledging that individuals actively shape their food choices amidst various factors. It's important to note that while there isn't a specific body of academic literature tailored to the food choice process for frozen RTE meals, examining the general model of food choices allows for a comprehensive understanding of the decision-making process. With this knowledge, valuable insights and conclusions can be drawn for the frozen RTE meals segment.

Life course

The life course concept highlights the evolving nature of individual food choices over time. It recognizes that people are not static in their food preferences but are continuously shaped by past experiences, current situations, and future expectations. Major life events and role shifts, particularly in childhood, have a significant influence on these decisions. As exemplified in a study conducted by Furst et al. (1996), it significantly impacts food choices. Individuals craft their unique life course from past and present food experiences, cultural backgrounds, and future aspirations.

Food choice trajectories comprise a person's "persistent thoughts, feelings, strategies, and actions over the lifespan" (Devine et al. 1998, 361). These trajectories are actively built throughout one's life, shaping pathways that influence future food choices (see Appendix 15). For instance, early family food experiences and preferences create "food roots" and "food upbringing", contributing

to the establishment of food roles and food identities that develop enduring patterns of food choice over time (Devine et al. 1998; Shepherd et al. 2006; Sobal and Bisogni 2009).

Transitions and turning points mark pivotal shifts in an individual's life that influence their food choices (Wethington 2005). These food choice trajectories are dynamic, constantly evolving due to personal experiences and events. Transitions, like marriage or retirement, alter food choices while turning points can drastically change diets. For example, adopting a low-fat diet after heart surgery (Sobal and Bisogni 2009; Falk, Bisogni, and Sobal 2000).

The *timing* of life events plays a crucial role in shaping how individuals make food choices. When specific transitions or turning points happen, they can affect the way people make food decisions, as they are influenced by age and cultural norms (Gee and Elder 1986; Sobal and Bisogni 2009). Unexpected timing of life events can make it more difficult to adjust food choices to societal norms. For example, teenage moms are more likely than adult mothers to struggle with choosing healthy foods during pregnancy because of their younger age (Devine et al. 2000).

Contexts are the settings in which people live, influencing their food choices over time. These settings, whether at the macro or micro level, shape how individuals make decisions about food (Sobal et al. 2006). On a larger scale, societal conditions such as economics and culture create constraints and opportunities for stability and change in food choices. For example, those who grew up during the Great Depression developed lasting concerns about food scarcity and waste (Falk, Bisogni, and Sobal 1996). On a smaller scale, factors such as family, friends, and communities establish enduring food choice patterns learned during crucial developmental stages.

Influences

Food choice decisions are shaped by a wide range of physical, psychological, and social factors that individuals continually weigh when deciding what, when, where, with whom, and how much to eat. The FCPM categorizes these into five types: ideals, personal factors, resources, social

factors, and contexts. These elements evolve over a person's life, intertwine, and shape their individual eating practices and decisions.

Ideals in food choices refer to the taught norms acquired through socialization and acculturation, ingrained in individuals through family and societal institutions. These standards serve as benchmarks for individuals to evaluate and judge food behaviors. For instance, Falk, Bisogni, and Sobal (1996) found that older persons frequently retain beliefs such as the "meat and potatoes" concept, which substantially impacts their food choices (Devine et al. 1999).

Personal factors are individual attributes that shape food choices and behaviors that evolve over time. These factors encompass biopsychosocial aspects, including physiological elements (genetic predispositions, sensory sensitivities), psychological factors (food preferences, personality), and social factors (gender roles, parenting responsibilities). Within personal factors, individuals develop and embody food-related identities, such as being a "picky eater," a "vegetarian," or a "good cook," allowing them to express their uniqueness in their dietary decisions (Bisogni et al. 2002; Sobal and Bisogni 2009).

Resources encompass various assets individuals consider. These assets come in different forms of capital, including financial (income, wealth), material (equipment, space), human (skills, knowledge), social (relationships, connections), or cultural (values, traditions) and can either facilitate or hinder food choices. Individuals can also exchange different types of resources, such as trading money for equipment or relying on social connections when lacking specific skills (Sobal et al. 2006).

Social factors encompass relationships that can either facilitate or restrict food choices. Dining often involves group settings where the preferences of multiple individuals are considered. These communal dynamics often shape food choices collectively, rather than individually. Some relationships encourage particular food choices, like supportive families promoting healthy

options, while others, such as workplace obligations, may limit food choices (Bove and Sobal 2006; Sobal and Nelson 2003).

Contexts incorporate both social and physical influences on food choices. Social institutions, like economic conditions and government policies, affect decisions. Changing contexts drive people to modify their food choices, whether due to seasonal food availability or shifts in mass media marketing while physical conditions, such as climate and infrastructure, also shape choices, impacting what and how much people consume (Shepherd et al. 2006).

Personal Food System

Personal food systems are cognitive processes that convert external influences into specific eating behaviors. This concept is particularly relevant in societies with an abundance of food options and not many rules. People negotiate and balance personal food choices, prioritize values in particular circumstances, arrange foods and eating scenarios based on these values, and define primary values for their food choices. They simplify recurring food decisions by developing strategies that lead to decision rules, routines, and habits. Personal food systems are dynamic and adapt to new influences or changing situations (Furst et al. 1996; Sobal and Bisogni 2009).

Food choice values encompass the considerations, meanings, and emotions that individuals attach to their food choices. In their research involving U.S. adults, Furst et al. (1996) observed several values (see Appendix 16). These values are not static; they evolve throughout a person's life and are selectively employed in specific situations. When making choices, individuals consciously weigh their current values, guiding their decisions, yet many decisions are less mindful, reflecting more automatic and less deliberate choices (Sobal and Bisogni 2009).

Individuals *categorize foods* based on attributes, context, and personal experiences to simplify food choices. These categories, ranging from cultural norms to personal classifications, guide individuals in evaluating food options based on their values. For example, people also classify

foods and eating situations, like believing that eating at home is healthy but eating out is not (Connors et al. 2001). Nevertheless, a single food item can be viewed as both healthy and unhealthy by different people within the same household (Blake et al. 2007; Furst et al. 1996).

Negotiating values is critical when making food choices, as it is often difficult to satisfy all values in every food context. Individuals must prioritize their values and evaluate food options based on their preferences. The hierarchy of values varies by individual and context. This often results in trade-offs in which individuals must choose between conflicting values, such as taste versus health or cost versus convenience (Connors et al. 2001; Sobal and Bisogni 2009).

Strategies are mental guidelines or heuristics that individuals develop through reflection to align their food choices with their values. The deliberation occurs within one's frame of reference, which may be based on time, eating occasions, places, or company (Connors et al. 2001). In general, there are several types of strategies, including avoidance, regulation, substitution, addition or modification of certain foods, and routine (standardization of choices) (Sobal et al. 2006). For instance, some individuals choose healthy foods during the work week and then enjoy less nutritious options on the weekend. People often use multiple strategies, building a toolkit of approaches suitable for various circumstances. In contrast, *scripts* are the procedural knowledge individuals have for specific food-related situations they encounter on a regular basis. These scripts include expectations for the situation, action plans, and behaviors to follow. Successful scripts and strategies eventually become *routines* and provide predictability and confidence in decision-making (Blake et al. 2007; Furst et al. 1996; Falk, Bisogni, and Sobal 1996).

The model provides a detailed understanding of the food choice process, linking diet to lifestyle and advocating for a comprehensive view. It also highlights the necessity for people to modify their food habits in order to eat a healthier diet, emphasizing that these changes take time, effort, and support from the community.

2.2.2 Pre-Purchase Stage: Factors Shaping Frozen Ready-to-Eat Meal Selection

In addition to the factors already highlighted within the FCPM and its components, it is crucial to recognize that numerous other influences come into play during the consumer's pre-purchase stage, which will be explored in the following section.

Theory of Consumption Values

Introduced by Sheth, Newman, and Gross in 1991, the theory of consumer values (TCV) is a concept from marketing and consumer behavior that elucidates why individuals select specific products or services. It states that consumers make decisions based on a combination of functional, social, emotional, epistemic, and conditional values associated with a product. Functional values are practical benefits such as quality and price, while social values reflect how a product expresses one's identity or status. Emotional values relate to the feelings a product evokes, epistemological values relate to personal development, and conditional values change depending on context. This study is considered because it has been previously utilized in food consumption research (Chakraborty and Dash 2022; Liu et al. 2021; Sen, Antara, and Sen 2021).

Moreover, it is found that functional and emotional values emerged as relevant facets. Functional value, which emphasizes factors such as convenience, taste, and nutritional content, is central in the context of frozen RTE meals. These products are chosen primarily for their ease of preparation to ensure a quick and satisfying meal, which underscores the relevance of functional value. The emotional value, however, should not be underestimated, as it resonates strongly with consumers who associate certain brands or flavors of frozen food with feelings of comfort, nostalgia, or personal experiences. (Sheth, Newman, and Gross 1991). For instance, someone might choose a specific brand of frozen noodles because it evokes memories of their grandmother's cooking (Grandma’s Frozen Noodles 2023). However, values differ among individuals, emphasizing the need for marketers to develop products and marketing strategies that appeal to consumers'

motivations and desires. To assess emotional value, the research employs the brand personality construct, allowing for a comprehensive analysis of consumer preferences and motivations.

Brand Perceptions

The theory of brand personality makes it possible to attribute human characteristics to a brand and promotes emotional resonance and consumer engagement. This concept goes back to the work of Jennifer Aaker from 1997, in which five core dimensions of brand personality are described: sincerity, enthusiasm, competence, sophistication, and ruggedness. These dimensions are characterized by a variety of circumstances, such as the product category, marketing communication, and cultural nuances, and are supported by specific characteristics. The importance of these characteristics is emphasized by the theory of self-congruence, which states that consumers are attracted to companies that reflect their own personality or self-image (Aaker 1995; Freling and Forbes 2005; Keller 1993). In the frozen RTE meals sector, brand personality holds relevance. Although there is a lack of research exclusively on frozen RTE meals, insights on brand differentiation through personality from other sectors may be relevant to this domain (Paetz 2021). Another study highlights the interaction between food marketing and consumer choice, and the crucial role that brands can play in differentiating themselves from competitors in this industry. (Martinho 2020; Saifullah et al. 2014). Given that frozen RTE meals are often synonymous with convenience and efficiency, a brand that skillfully conveys traits like competence (depicting reliability and high quality) and excitement (representing innovative flavors) can capture consumer trust and preference over competitors. Perceived brand personality can foster emotional ties that influence purchasing choices and promote loyalty, even in such utilitarian product categories.

Beyond brand personality, the crucial concepts of brand awareness and loyalty are essential in understanding their broad impact on consumer behavior. Brand awareness, defined as the extent to which consumers are familiar with the distinctive attributes or image of a particular brand, acts as

an antecedent to brand loyalty by promoting recognition and recall (Aaker 2012; Ghafoor et al. 2013; Keller 1993). While brand loyalty, a measure of consumer fidelity and repeated preference for a brand, results from a complex interplay of satisfaction, trust, and value perception (Chaudhuri and Holbrook 2001; Keller, Apéria, and Georgson 2008; Oliver 1999). In the context of frozen RTE foods, both brand awareness and brand loyalty are essential. High brand awareness can significantly increase brand recognition, recall, and accessibility in this competitive market, making it a preferred choice for consumers seeking convenience and quality. Simultaneously, brand loyalty, often built over time through consistently positive experiences and the delivery of value, can foster a stable customer base that ensures sustainable revenue streams and positive word-of-mouth (Chaudhuri and Holbrook 2001; Oliver 1999; Rossiter, Percy, and Bergvist 2018). Further, the halo effect is a cognitive bias in which the perception of a positive attribute (e.g., good brand reputation) leads to the assumption of other positive attributes or improvements (e.g., superior product quality or excellent brand image) (Nguyen and Leblanc 2001; Leuthesser, Kohli, and Harich 1995).

General Consumer Perceptions

Consumer preferences are a dynamic and complex force, driven by individual needs, societal trends, and evolving awareness, which significantly influence market dynamics and product innovations across industries. This examination aims to provide a holistic view of the evolving consumer preferences in the intersection of sustainability, nutrition, and economical factors within the frozen RTE meals industry.

Sustainability Perspective

Consumers' view of sustainability in the frozen RTE meals and frozen food sector in general covers a variety of dimensions. One important aspect is packaging, which plays a decisive role in

consumers' purchasing decisions. A report by the Paper and Packaging Board (2018) found that 72% of 1,000 U.S. adults surveyed frequently buy or increase their consumption of prepared foods, valuing sustainable packaging along with the convenience offered by these meals. It will be investigated whether this trend also applies to Germany (Morrison 2023). Recently, there has been a growing interest among consumers, especially younger ones, in the sustainability of packaging and the reduction of plastic waste (Herrmann, Rhein, and Sträter 2022; Prakash and Pathak 2017; Wood 2022). Sustainability in the food sector isn't solely achieved through improved packaging; there are other benefits and drawbacks to consider. A study from Cornell University's Dyson School of Business (AFFI 2023) suggests that frozen goods, owing to their extended shelf life, can significantly reduce food waste, endorsing "freezing as a food waste solution". However, the environmental impact of producing, packaging, and distributing these meals cannot be ignored. The energy-intensive freezing process, the use of plastics and other non-biodegradable materials, and the long transportation of these meals contribute to their environmental footprint (Tyndall 2019; Wróbel-Jędrzejewska and Polak 2022). Nevertheless, innovations such as energy-efficient freezing processes, environmentally friendly packaging technologies, and optimized supply chain management are key to reducing the environmental impact associated with frozen RTE meals (Zanoni and Zavanella 2012; Zhao et al. 2021). In contrast, fresh food, which is often associated with the "local and seasonal" ethos, can cause lower transportation emissions when sourced locally. Yet their perishable nature leads to higher spoilage rates and, consequently, higher food waste. A 2019 report by the United Nations' Intergovernmental Panel on Climate Change (IPCC) as well as a study by Buzby (2022) underscores the sustainability challenge for fresh food due to frequent restocking and disposal of unsold items, noting that transportation's carbon footprint can constitute a significant portion of the total emissions from food production, distribution, and storage.

Nutritional Perspective

Consumer perceptions and preferences regarding the nutritional value of frozen meals are diverse and include various aspects such as freshness, nutrient preservation, and convenience. Central to these perceptions is the nutritional comparison between fresh and frozen meals. Research shows that fresh and frozen meals tend to have similar nutritional value on the day of purchase (AFFI 2023). Over time, fresh products lose important nutrients such as vitamins A, C, and folic acid, with over 50% of micronutrients lost within a few days stored at room temperature (Rickman, Barrett, and Bruhn 2007). In contrast, frozen meals retain more than 50% of vitamins and nutrients for up to six months due to the freezing process, often referred to as “nature's pause button” (Beloveshkin 2019; Li et al. 2017; Staff 2015). Further, changing consumer preferences reflect an inclination toward more sustainable and health-conscious choices as evidenced by the increasing demand for healthier, but also gluten-free and vegan products (Sen, Antara, and Sen 2021). Perceptions of frozen foods have improved, and manufacturers have responded to consumer needs by including wellness claims on packaging. Claims such as "non-GMO", "organically grown", and "free of artificial colors and flavors" have increased, indicating a consumer-driven shift toward transparency and health-conscious choices (Mueller 2021; Rybak et al. 2021). Demand for preservative-free foods is also notable, indicating consumers' desire for fresher and more natural frozen food options. Moreover, the demand for organic products is also rising, which is in line with customer preferences in the frozen food industry for less processed and more natural meals.

Economical and Technological Perspective

In addition, cost has a significant impact on consumer preferences between fresh and frozen meals. A survey conducted by Renner et al. (2021) found that the price of fresh food has increased significantly, with 65% of consumers indicating this, up from 57% the previous year. Many consumers perceive the price of frozen food as stable, which could make frozen meals more

attractive from a cost standpoint. Technological advancements in the freezing process, which preserve flavor and nutritional integrity, have the potential to positively alter consumers' outlook on frozen food (Zhan et al. 2018). Furthermore, modern kitchen appliances enhance the feasibility of preparing frozen RTE meals due to improved performance and availability. As outlined in subsequent sections of this study, there are various methods to warm up the food, including the pan, the oven, and the microwave. Advanced kitchen gadgets like high-wattage microwaves, convection ovens, and multi-cookers have simplified the reheating procedure and increased the convenience of frozen RTE meals for customers. Pre-programmed settings for different types of frozen food are often available on these appliances, which help to optimize the heating process to preserve the flavor and texture (He et al. 2022; Xanthakis, Le-Bail, and Ramaswamy 2014). Moreover, certain frozen meals can be heated directly in their containers due to the advancements in packaging technology, which reduces the time required for preparation and cleaning expenses.

Despite the nutritional and cost benefits, consumers still prefer fresh meals, which can be explained by the traditional and misleading belief that freshness equates to higher nutritional value. This belief is challenged by the aforementioned nutrient retention in frozen meals (Li et al. 2017; Mallett 1993). The frozen RTE meals industry is at a point where misconceptions and misbeliefs about frozen food products are main challenge. It is important that companies understand the origin of this, adapt their product to customers' demands and respond to false perceptions.

Attributes influencing CDM (Choice of attributes)

Besides the previously noted attributes of brand reputation, sustainability, nutritional value, and price, additional factors such as taste, packaging design and size, convenience, and the required time to cook the meal are also crucial in the CDM process of consumers (Sen, Antara, and Sen 2019). Taste is critical for the success of RTE meals, with consumers expecting flavors that match or surpass those of fresh meals for repeat purchases (Sen, Antara, and Sen 2019). Packaging, both

in design and size, serves dual roles of protection and communication, influencing perception and purchase suitability for different consumer demographics. Convenience is a defining attribute, with easy and quick preparation being essential for consumers with fast-paced lifestyles (Daniels and Glorieux 2015). Finally, the cooking time of an RTE meal can greatly influence the purchasing decision, with shorter preparation times being more attractive to those with limited time (Sen, Antara, and Sen 2019). Altogether, these attributes are intricately weighed by consumers, shaping their preferences, and guiding their choices in the competitive landscape of frozen RTE meals. This will be further investigated through interviews and surveys.

2.2.3 Purchase Stage: Making Informed Choices among Frozen Ready-to-Eat Meals

The purchase phase is a crucial moment in the CDM process, where the confluence of various influencing factors determines the final choice. Building on the pre-purchase factors already discussed, this section focuses on the dynamics of the purchase stage and highlights the key determinants that guide consumers in their decisions. It is essential to point out that this is based on general marketing research. This master's thesis will further elaborate and analyze the factors that influence the actual buying process. The aim is to determine whether the scientific literature is consistent with the perceptions and actions of German consumers in relation to frozen RTE meals. Purchase decisions are significantly influenced by the in-store experience. The layout of the frozen food aisle, brand visibility, and the visual appeal of packaging can all influence a consumer's choice. Eye-catching product placements and (in-store) promotions, such as discounts or tasting sessions, can impact the decision (Sorensen 2017). Besides packaging, nutritional information, ingredient lists, allergen warnings, and sustainability certifications can impact the purchase decision. As already discussed, health claims resonate with consumers seeking transparency and health-conscious choices. While the pre-purchase stage highlighted the perception of price stability in frozen RTE meals, the actual price point at the purchase stage can be a decisive factor.

Consumers weigh the cost against the perceived value, which encompasses not just the product's quality but also its convenience, brand reputation, and emotional resonance (Yang et al. 2019; Zeithaml 1988). Word-of-mouth, both offline and online, can significantly influence purchase decisions (Thies, Wessel, and Benlian 2016). Recommendations from friends, relatives, or online reviews can either reinforce the consumer's decision or lead them to consider alternative products. The wide range of options available in the frozen RTE meal sector can help or hinder the decision-making process. While a diverse assortment caters to different preferences, it can also lead to the "paradox of choice", where consumers feel overwhelmed by too many options (Sorensen 2017). However, stockouts or limited brand availability can push consumers to explore alternatives. As highlighted in the pre-purchase stage, brand loyalty is a powerful determinant. Rooted in past experiences, brand loyalty can streamline purchase decisions. Loyal consumers often prioritize their preferred brands over others (Keller 1993; Keller, Apéria, and Georgson 2008; Leckie et al. 2016). Despite all the factors and considerations, impulse buying remains a significant aspect of the purchase stage. Attractive packaging, promotional offers, or even mood can lead to unplanned purchases (Sorensen 2017).

2.2.4 Post-Purchase Stage: Consumer Reactions and Evaluations of Frozen Meals

Consumer responses after purchasing frozen RTE meals are shaped by their experiences with the product's convenience, taste, nutritional content, and variety. Positive experiences in these domains often result in repeated purchases and brand loyalty (Batra, Ahuvia, and Bagozzi 2012; Chaudhuri and Holbrook 2001; Keller 1993). The industry has responded by improving overall post-purchase satisfaction by making recipes healthier, adopting sustainable packaging, and expanding the menu to accommodate a broader range of dietary preferences. In Germany, the potent combination of convenience and time efficiency offered by frozen RTE meals caters to the lifestyle of the busy modern consumer. The trend of increased freezer installations worldwide, as reported by

Euromonitor (Barry 2023) further supports the sector's growth, with freezer sales remaining robust through 2021 and 2022, even post-lockdown (Abdul-Samad, Zidan, and Odette 2021).

3. Preliminary Interviews

3.1 Interview Methodology

The qualitative approach entailed conducting 17 initial interviews with a diverse group of professionals and third-party individuals who aligned mostly with the demographic criteria specified in the personas' profiles. The script for the expert interviews (see Appendix 17) is structured into three distinct sections. The first section explores the market, aiming to uncover significant market trends and challenges, distribution, and the competitive landscape, while the second section focuses on identifying consumers' values, preferences, and choices from the experts' viewpoint. The third section concentrates on the experts' perceptions of the valued attributes among consumers. Five semi-structured individual interviews were carried out with a diverse pool of interviewees using Microsoft Teams Calls, leading to a comprehensive understanding of the market. The industry experts included Rieke Mindermann from Business Development at the market leader in the private label sector of frozen RTE meals in Germany Uniqfoods GmbH (full interview transcript in Appendix 18) and Lazaro Campuzano from the Sales and Marketing at the organic producer Demeter-Felderzeugnisse GmbH (full interview transcript in Appendix 19). In addition, Tabea Hieke from the marketing department at the large German discounter Penny of the Rewe Group (full interview transcript in Appendix 20) and Lara Boettcher from Key Account Management at the German frozen RTE meals market leader Frosta AG (full interview transcript in Appendix 21) were consulted. Lastly, the nutritional epidemiology and prevention strategies researcher from Fulda University of Applied Sciences Prof. Dr. habil. Anja Kroke (full interview transcript in Appendix 22) was interviewed. The interviews had durations ranging from 30 to 58 minutes and the key findings are summarized in section 3.2.

4. Consumer Perceptions

Lastly, the self-reported motivations behind purchasing frozen RTE meals were analyzed. *Convenience* stands out as the predominant factor, influencing 85.5% of consumers. *Price* is another significant consideration, influencing 40.6% of purchases, along with *availability* (40.6%) of the products at the store. *Health* and *quality* also play roles, influencing 20.3% and 17.4% of consumers (see Appendix 23). Conversely, non-users claim health concerns and low quality as primary deterrents, each cited by 70% of respondents. Pricing can also be a hindrance for 25% of users, where it can be noted that most of the non-user respondents fell into categories with lower and average food budgets (see Appendix 24).

4.3.4 Matching Perception with Personas

Having acquired some initial quantitative information, the findings were allocated to the four personas, assessing whether the data aligns with the qualitative information gained in the interviews.

Findings of the PM are congruent with the first persona Ben, who represents Gen Z, living in a shared flat with a rather low income. The analysis of variance confirmed that younger generations are less influenced by the importance of brands, having a more positive perception of private labels. Moreover, due to restricted financial possibilities, brands that are price-sensitive, such as Ja! and Gut&Günstig, are also perceived as more favorable.

Secondly, the description of the second persona, Karo, is consistent with quantitative findings in terms of a critical perception of frozen food. Participants from Gen Y were the most critical towards perceived *freshness* and *naturalness,* underlining that perception of product-quality is the most important factor for this generation.

The characteristics of the third persona Helen illustrate the increased influence of emotional values for Gen X consumers. These findings are confirmed by the analysis of variance, as compared to

the younger generations, Gen X and people living with families perceive independent brands as healthier and perceive other product attributes such as *price-quantity* as more critical.

Lastly, the PM analysis was able to detect findings that agree with the personality of Hermann, the fourth persona. Older generations have a significantly better perception of independent and traditional brands. Furthermore, single households also have the best perception of *price-quantity*. Lastly, it was found that males opt significantly more often for frozen RTE meals than females, which is congruent with the description of Ben and Hermann.

Acquiring a comprehensive and explorative understanding of consumers' preferences regarding attributes and shopping behavior proves invaluable for confirming the findings of the qualitative analysis. Furthermore, the findings provide a foundation for refining the expectations of the CA and understanding which factors are important to meet market demands.

5. Consumer Preferences

5.1 Conjoint Analysis Methodology

A CA is an extensively acknowledged and powerful research method used to understand consumer preferences and decision-making processes across diverse industries, including the food sector (Green and Srinivasan 1990). CA is predicated on the notion that individuals assess the worth or practicality of a product, service, or concept (whether actual or hypothetical) by aggregating the individual quantities of utility offered by each attribute (King, Labas, and Renaudin 2019; Kotler 2000). The research aims to assess the relative importance of different attributes and levels, such as brand, price, cooking time, etc., in the context of frozen RTE meals.

5.1.1 Selected Attributes and Levels

For the CA, six key attributes with different respective levels relevant to frozen RTE meals were identified (see Appendix 25). These traits were derived from a comprehensive literature review and conducted interviews with industry and academic experts and consumers.

Brand: Four brands were assessed – Ja!, Frosta, Gut&Günstig, and Iglo. The inclusion of brands is supported by studies that show the influence of brands on consumer food choices (Bettman and Park 1980; Islam and Ullah 2010)

Price: Three price levels were chosen based on the actual price ranges in the German supermarkets to record various price sensitivities across brands – 2.99€, 3.99€, and 4.99€.

Cooking Time: Three realistic cooking times based on the German market offerings were considered – 5 minutes, 12 minutes, and 20 minutes. Cooking time is a vital attribute affecting consumer convenience (Hawa et al. 2014; Horning et al. 2017).

Cooking Method: Three cooking methods – pan, oven, and microwave – were selected based on current offerings to understand consumer preferences regarding convenience and taste.

Meal Type: Three meal types were included – comfort/convenience meals, health/fitness meals, and vegetarian/vegan meals. Consumer preferences are influenced by their dietary preferences and health concerns (Nestle et al. 1998, Rozin 1990).

Ingredients/Nutritional Value: Four levels were included– all-natural/organic emphasis, low-calorie/light option, no additives/flavor enhancers, and locally sourced/sustainable. The focus on ingredients aligns with the growing trend of health-conscious consumer choices (Hayakawa 2017).

Meal Size: Three levels were considered – Single Serving (Portion for 1), Couple Serving (Portion for 2), and Family Sized Serving (Portion for >3).

In order to enhance the reliability and applicability of the CA, specific survey parameters were carefully selected:

Inclusion of Hypothetical Offerings: Selecting hypothetical offers, such as a price level of 4.99 for Ja! products and fitness offerings, was a deliberate and intentional decision. The objective was to assess consumer preferences by considering attributes, without being limited by the existing product portfolio. This approach allows for uncovering underlying preferences and is in line with CA methodology (Ben-Akiva, McFadden, and Train 2018; Manski et al. 1981). Appendix 26 shows that all levels for each attribute could be chosen and no combinations were eliminated.

Relevance of Brand: While the brand may not be the sole determinant in consumer choices, interviews, and prior research suggest its relevance in the context of frozen RTE meals. Strategically incorporating the brand into the study enables the identification of its comparative significance in relation to other attributes, hence adhering to well-established CA methodologies (Ben-Akiva, McFadden, and Train 2018; Manski et al. 1981).

In addition to attribute-based data, relevant participant information was gathered (see Appendix 27), including age, frequency of frozen RTE meal consumption, employment status, and educational degree. These demographic and psychographic variables are crucial in segmenting and interpreting consumer preferences (Green et al. 2001).

5.1.2 Revision, Selected Channels, and Data Processing

The survey was distributed through diverse channels, utilizing platforms like WhatsApp and "SurveyCircle", as well as social media channels such as Instagram and LinkedIn. Notably, a targeted approach was employed to reach respondents without electronic means, such as elderly individuals in care homes, ensuring a more inclusive representation. The utilization of the Conjoint.ly software was crucial in facilitating survey administration as well as data processing. The software was utilized to gather responses, and subsequent data processing encompassed several procedures, such as establishing segments for crosstab data and creating baselines for

simulation situations to guarantee comparability. Additionally, persona-specific data was gathered to refine insights.

6. Conclusion

6.1 Discussion

Brand Discussion

The first topic that carries through past literature, as well as qualitative and quantitative research, is the importance of *brands*. While interviewed experts Hieke and Mindermann deem the brand to have a limited influence on consumers in the RTE meals market their statement contradicts several consumer psychology models such as the CDM or the BPM. Those theories include brand as a noteworthy component of the resulting consumer behavior, although it should be noted that these theoretical models have not been directly applied to the frozen RTE meals market. Furthermore, the experts statement also contradicts findings in the PM and the CA of this research: The PM showed that brands that currently perform best in the market also tend to have more favorable perceptions associated with their products. The CA confirms that the brand is an important factor in consumer choice and both surveys indicate that certain associations and attributes can be tied to a brand. A possible reason for this contradiction could be either the different views of experts and consumers in the decision-making process or temporary changes in consumer behavior that have impacted the expert's judgement. As Frosta pays attention to sustainability and follows modern food trends, the brand has gained a competitive edge in the industry, which is confirmed in the PM, the qualitative research, and the CA. Iglo shares the positive perception regarding product quality and uses their traditional brand image as a point of differentiation. Notably, the private labels perform worse in terms of perceived product quality. This finding can be explained through the halo effect, where a favorable brand reputation can subsequently improve product perception as

well, explaining the similar profiles of independent and private labels in the PM. Furthermore, when putting the market dynamics into perspective of this research, the scope of possibilities and objectives of each brand should be considered as well. As independent brands, Frosta and Iglo focus exclusively on their frozen products, while their fellow competitors Ja! and Gut&Günstig offer products in various categories of food and household items. Thus, associations with these private labels tend to be less focused on specific categories but on more generic product attributes, often leading to being perceived as less competent in a single category. Therefore, the results of this thesis indicate that brand is an important factor in the decision-making process of German consumers for frozen RTE meals.

Attribute and Level Discussion

The literature stated that people are negotiating values, stating that individuals must choose between conflicting values (Connors et al. 2001; Sobal and Bisogni 2009). This is also evident when comparing the various attributes and levels of relevant facets and preferences among the different interviews and surveys. Consumers have different strategies, besides brand preference, to choose products in store. Contrary to the expectations, the CA found that attributes like cooking method, meal size, and ingredients/nutritional value were important for people overall and within different demographic groups. Traditional factors like meal type, cooking time, and price were given less priority. This result challenges parts of the qualitative research which identified taste, convenience, and price as critical factors. This aligns with the functional and emotional values that emerged as relevant facets, which emphasize factors such as convenience, taste, and nutritional content. Taste and convenience thereby align with the CA and are therefore important decisive factors. However, the importance of price varies across the findings. According to the literature review, prices have been increasing recently and differentiating price points can be a decisive factor (Statista Market Insights 2023b). This unexpected CA outcome could be attributed to the contextual

nature of decision-making. The attribute of price appears more significant in the physical shop when spending money, yet when theoretically contemplating important attributes in a CA survey, other factors such as cooking method and ingredients take precedence. The survey's close price choices (2.99€, 3.99€, and 4.99€) may have contributed to this pattern, making individual price differences less obvious and thereby less of a decisive factor. Thus, the survey results suggest that, while price may influence in-store decisions, other attributes like cooking method and ingredients take precedence in the theoretical evaluation of consumer preferences. Frozen RTE meals are chosen due to their ease of preparation to ensure quick and satisfying meals, which especially underscored the functional values (Sheth, Newman, and Gross 1991) but is also evident in the data gathered in the CA. In addition, the literature revealed that purchasing decisions are significantly influenced by the in-store shopping experience, in particular the design of the frozen food shelf, the visibility of the brand, in-store promotions, and the visual appeal of the packaging. These influencing factors were also observed in the expert and consumer interviews, as well as the self-report in the first survey and can additionally influence the consumer at the point of sale. This could be another explanation for the discrepancy between the quantitative and qualitative research. It is therefore concluded that price is a key element in German consumers' perception and preference for frozen RTE meals.

Furthermore, the analysis led to the deduction that a low price is associated with low quality in the minds of customers. As indicated by industry experts, for today's broad target group quality is not a deciding factor. While quality may not be of primary importance to the current broad consumer base, neglecting its importance completely ignores the potential for market expansion by attracting new consumers who value qualitative ingredients. Disregarding product quality could prove harmful when it comes to appealing to a diverse audience. This underlines the need for a differentiated product range that caters to different consumer requirements.

The recognition of plant-based diets as a niche trend by industry experts is a complex issue. On one side, the CA indicated that consumers are not prioritizing these options when choosing frozen RTE meals, even though experts deemed this trend to be disruptive and long-lasting. On the other side, vegetarian/vegan meals were more popular with the cheaper brands Ja! and Gut&Günstig, which may be due to concerns about the meat quality in the products of these brands. This could confirm that vegetarian and vegan meals gain popularity among meat eaters as well, which would then in turn confirm the experts' findings. This complex dynamic underscores the importance of aligning market strategies with actual consumer behaviors and to challenge preconceived notions about the universal appeal of certain product categories.

According to experts, there is also a niche preference for healthier meals. However, a widespread skepticism in the literature on the healthiness of frozen RTE meals was apparent. The general misconception of labeling all frozen RTE meals as unhealthy has led many people to refrain from buying frozen meals, a trend that was confirmed during the interviews conducted for the supplementary part of the study. These findings are in line with the results of the CA, which consistently highlights health-orientated or fitness meals as the most popular. As suggested by experts, there is a significant and still unused opportunity in the market to offer truly healthy RTE meals and to improve communication about the health benefits of these healthy RTE meals. In addition, the decreasing interest in light meals observed in the CA and in the interviews emphasizes the dynamic nature of what is perceived as healthy. Companies need to observe trends and changes in the market more regular and adapt where necessary.

Based on the literature review, consumers exhibited a clear preference for locally sourced and sustainable options, as evidenced by the discernible inclination towards more environmentally friendly and health-conscious products. This trend is particularly noticeable in the CA, reflecting the preferences of Frosta and Ja! customers, who leaned towards sustainability and health

consciousness, and Iglo and Gut&Günstig customers, who showed a distinct preference for all-natural and organic products. Industry expert Campuzano also emphasized the diverse expectations of consumers who want ethically produced, ecologically sustainable, organic, and healthy products, but at a relatively low price, which is sometimes not acceptable to offer by the industry. Thus, in theory, consumers want sustainable and high-quality products, although in practice those are often disregarded due to their high price points. Furthermore, according to expert Hieke, demand for sustainability has declined due to recent economic events such as COVID-19 and inflation, as consumers have become more price-sensitive, making them perceive sustainable products as too expensive, resulting in increased price sensitivity and shifted preferences to simplicity and speed. Additionally, the interviews revealed that only Gen X consumers displayed a strong commitment to sustainability and made an effort to choose seasonal and regional products. This leads to the conclusion that, while sustainability may be important to consumers, the current economic situation compels the majority to prioritize other factors, influencing the final purchase decision at a greater extent. Lastly, the literature and qualitative research suggested that recommendations from friends, family, experts, or online reviews exert a significant influence on consumer attitudes (Thies, Wessel, and Benlian 2016). Therefore, positive word-of-mouth through influencers, nutritionists, and user of frozen RTE meals could have a positive impact on consumer acceptance and become an important element driving German consumers' choices in frozen RTE meals. However, the substantial influence of word-of-mouth recommendations could also lead to an increase in negative word-of-mouth, as non-users generally have bad perceptions of the products and brands and may be difficult to convince. Thus, the perception of frozen RTE meals could be very susceptible to the personal opinions of the public, with non-users having the potential to exert an opposite effect and prevent potential users to try frozen RTE meals. Nevertheless, social media offers an enormous

reach, meaning that its use poses a great opportunity for the industry to improve the general perception of frozen RTE meals.

Demographic Diversity Discussion

The result of this research indicates a clear preference of baby boomers towards Frosta. Older generations significantly value quality over price (Fingerman et al. 2012) and want a nutritious, qualitative meal. Surprisingly, however, baby boomers in the PM showed a high perception of Gut&Günstig. This contradicts the literature and cannot be confirmed by the CA, as both private labels have a negative utility value in all demographic groups. Consequently, baby boomers mostly opt for high-quality RTE brand meals, but also occasionally go for private labels probably due to rising prices and the improving reputation of private labels. In contrast to the baby boomers, Gen Z is, according to the literature, more critical and pays attention to value for money (Goldring and Azab 2012) preferring convenient and quick meals. It was therefore not surprising that the PM found that younger generations perceive private labels better than older generations.

Based on the CA, the most frequent buyers of frozen RTE meals are Gen Y and baby boomers, with a higher level of regular consumption compared to students (Gen Z). This is partly consistent with the literature, which showed that Gen Y increasingly prefers frozen RTE meals due to their convenience and fit with their lifestyle. Surprisingly, the baby boomers, who were ranked second in CA, are clearly in last place in the literature. Yet, according to CA retired individuals value frozen RTE meals due to their convenience, possibly due to factors such as simplified meal routines or ease of preparation. This contradiction could be explained by the different samples. The CA of this thesis worked with a sample of 125 individuals which is significantly smaller in comparison to the Statista survey with over 2,000 respondents, resulting in potential differences. Another

explanation could be that the preferences of the generations have changed over the period of the Statista data collection (2017) and the data collection of this work (2023).

According to the CA, students exhibit the least frequent consumption of frozen RTE meals, while individuals with work experience or self-employment demonstrate higher frequencies. This pattern is consistent with the Statista 2023 report, which reveals that 62% of consumers fall into the medium to high-income bracket. Conversely, the low-income bracket, encompassing students, constitutes only 38% of consumers.

The literature showed an even gender distribution with 50% male consumers (see Appendix 11), which can be confirmed with CA and PM results. Males consumed significantly more frozen RTE meals and perceived Iglo's products as tastier. Moreover, throughout the CA the difference in utility for each brand varies less for males than it does for females. The observed pattern may suggest that current products of the frozen RTE meals market may cater more towards male preferences or tastes. These discrepancies could also be due to differences in the consumer decision-making process, caused by gender, as the CA shows that females are influenced more heavily by the brand during the purchasing stage.

Lastly, *living arrangements* yielded similar results across the different surveys and the literature review. The literature showed increasingly more people living in single households (Gançalves et al. 2023) and the PM demonstrated that people who live in a single household or with a partner have a better perception of Iglo products, suggesting that the brand is well positioned for the future. This can also be confirmed through the CA where a single household's preference for Frosta and Iglo are very close together.

In essence, these similarities as well as surprises among the various data results underscored the dynamic nature of consumer preferences, emphasizing the need for a more granular understanding of the intricacies within the frozen RTE meal market. The discrepancies between expert and

consumer opinions, literature expectations, and survey outcomes illuminate the complexity of consumer decision-making, urging industry stakeholders to recalibrate strategies based on real-world behaviors rather than generalized assumptions.

Overall Conclusion

The overall aim of the study is to answer the research question: What key elements drive German consumers' choices in frozen RTE meals, and how can insights into these factors be utilized to formulate a successful product strategy? Both the qualitative and the quantitative analysis detected that consumer's choices and perceptions are influenced by social and demographic factors, especially factors related to age and living arrangements. In general, the brand Frosta established itself as the brand catering to most consumer preferences. Moreover, it became evident that the brand image is an important factor in the decision-making process of German consumers for frozen RTE meals. Furthermore, discrepancies between previous literature, qualitative research, and quantitative research show the high volatility of this market toward societal changes. Emotional value as well as functional value (practical attributes) are key elements that drive consumer behavior. Whereas many studies focus on functional attributes, the emotional value should not be underestimated. Taste, convenience, and price serve as additional decisive factors, alongside the acknowledged niche preference for healthier, high-quality, or vegan/vegetarian options. Moreover, while no factor is a sole determinant, consumer preferences also strongly depend on their demographic and socioeconomic background and can be positively as well as negatively influenced by word-of-mouth. This research has discovered a strong influence of social changes impacting consumer perception and a shift in prioritization of attributes, which shows the potential of gaining new insights on undiscovered market and research opportunities. The product development has given an indication of the opportunities that this market offers. With constantly changing societal

norms that influence consumer behavior and attitudes toward food, brands will have a major challenge keeping up with the trends and unfolding their full potential.

6.2 Managerial Implications

From a practical perspective, the analysis provided significant results for guiding strategic decisions across the competitive marketplace. The strategic implications of the thesis are based on the classic four Ps framework of the marketing mix - product, price, promotion, and place (the focus here is more on distribution). This provides a comprehensive approach to navigating the competitive frozen RTE meals market, taking into account everything from product innovation and pricing strategies to promotional tactics and distribution channels.

First, the PM and CA allowed for a much more detailed product positioning strategy, showing gaps and opportunities in the market that also align with consumer preferences. To be successful in the market, brands need to ensure that they have a strong strategic positioning relative to their competitors and understand the strengths and weaknesses of their own position in the market. The research revealed that there is a clear distinction in perception between private labels owned by supermarket chains and independent brands that focus solely on frozen products. When looking at the opportunities and challenges in the market it is important to carefully consider brand as a factor, when developing new products. Depending on the goals and objectives of the product launch, it should be ensured that the new product is congruent with the values of each brand, so the product will feel authentic in connection with the brand. In the competitive frozen RTE meals market, differentiation is key, and each brand should leverage its unique selling proposition while maintaining its core values and strategic direction. Iglo, with its sophisticated and traditional appeal, should continue to emphasize its industry experience and commitment to quality ingredients and nutritional value. Further, a collaboration between high-end chefs or restaurants

could be an opportunity for Iglo to salvage its perception as a high-end brand and gain a larger customer base. Ja! and Gut&Günstig could differentiate themselves through more generous portions and taste, or superior brand perception with improved dishes and recipes. If private labels improve their brand perception in relation to product quality, they have the chance to gain customer loyalty across other product ranges as well, making use of cross-selling opportunities. For example, Gut&Günstig could collaborate with influencers to improve the perception of product quality brands, as they already target younger generations. Collaborations with influencers could also further expand Frosta's reach into a younger audience. In addition, the current market leader Frosta could further capitalize on its modern, diverse, and innovative image by continuing to offer fresh and natural options and emphasizing cooking methods and portion sizes that appeal to health-conscious consumers.

All brands should stay true to their essence but be adaptable and recognize the need for strategic compromises to meet different market demands without compromising their established positions and values too much. This implies that brands should also be willing to take trade-offs into account, as it is impossible to cater to all niches in the market at the same time. This personalized lens provides actionable insights for businesses, allowing them to tailor offerings and strategies to meet the diverse preferences within the frozen RTE meals market.

In terms of promotional strategies, brands can use influencer collaborations for promotions and discounts to increase affordability and capitalize on the flexible brand preferences of younger generations and regular consumers of frozen RTE meals. Both the CA and the analysis of variance in the PM showed that younger generations have less extreme brand preferences. This also applies to people who regularly consume frozen RTE meals two to four times per week and switch brands to vary their diet. As these consumers tend to switch brands for variety, such targeted promotions can effectively attract and retain their attention in a competitive market. Moreover, the findings of

this research indicate how brands can enhance customer experience by examining which aspects of the customer journey are vital for a positive experience.

Service and decision support were found to be often neglected by most brands. Younger generations in particular were increasingly concerned about the poor nutritional communication of frozen RTE meals. However, the information provided in advertising rarely has an active influence, therefore the implementation of new strategies, such as an educational campaign, could meet the needs of consumers. Another way of changing consumer perceptions and disseminating information could be to make more effective use of mass media advertising. Especially food related content such as morning TV shows (German "Frühstückfernsehen") or other cooking shows, could offer the right platform to inform consumers adequately about the benefits of healthy frozen RTE meals, but also about the products themselves.

To influence consumer perception of frozen RTE meals, long-term strategic engagement with nutritionists and influencers is critical and recommended. Working with nutritionists adds authority and legitimacy to nutrition claims. Exclusive discounts and limited-time promotions, combined with in-store product sampling, create a sense of urgency that encourages interaction and quick purchases. The campaign expands its audience through social media integration in the form of collaborations with health and fitness influencers, customer feedback, and live streaming to highlight positive experiences, as well as advertising.

In the food industry, it has been observed that customers are often influenced in their purchasing decisions by direct taste experiences. Special attention should therefore be paid to in-store promotions. Similar to eye-catching advertising, this can include tasting stands, where a company representative is on hand to offer customers food to try. If the stand is located close to the freezer cabinets, a positive taste experience can encourage customers to buy spontaneously and at the same time convince them of the taste of the products. In addition, such face-to-face interactions provide

an ideal opportunity to clear up any uncertainties about nutritional values, thereby building confidence in the product.

Furthermore, the findings of this research can be used to understand how different price points influence consumers. The competitive landscape is led by brands that charge higher prices. Especially for ingredients like meat or fish, higher prices are often associated with qualitatively high products. Brands also make use of frequent discount models, keeping the unique value proposition high to indicate higher quality but selling for lower price points.

Moreover, meal sizes, cooking method, and nutritional value/ ingredients have shown to be important attributes that enhance product experience. It is crucial to understand each generation's preferences and tailor the variety of meals to their needs (as proposed in 6.1). Regarding packaging, there is a lack of personalization that needs to be addressed. It is crucial to create visually appealing and simple packaging that is suitable for consumers with limited space. The packaging should be redesigned to highlight freshness and clear nutritional information, ideally in a sustainable format. Through surveys and social media interactions, customers can be engaged, giving a platform to answer complaints and improve the campaign and the products in real-time based on input.

According to interviews with younger generations, packaging that can be heated up would be ideal. On this basis, it is important to meet students' need for convenience by producing microwaveable cartons so that frozen RTE meals can be easily heated in the microwave on campus and eaten straight from the tray. This packaging option is also ideal for young professionals for whom saving time during their lunch break is crucial.

Lastly, the distribution channel is an important part of the customer journey. Enabling further access to a wider variety of products and also enabling subscription services that allow for home-delivery will improve the experience of older consumers. Establishing partnerships with supermarkets is essential to the subscription service's success. Supermarkets have to be registered

in the app so consumers can subscribe to the service. Through the app customers can order and track their purchases. To increase awareness of this service it's crucial to have marketing campaigns.

Furthermore, the brands must think about how to implement the changes in the long-term and how to form strategic partnerships with supermarkets and influential individuals. The research has shown the volatility of consumer preferences and food choices to societal changes and trends. In order to sustain long-term success, brands should be able to both fulfill the need for trendy food options as well as offer a staple of traditional meals. Brands have to make sure that they implement mechanisms to monitor dynamic shifts in the market and maintain a sense of flexibility to allow for adaptations.

6.3 Limitations and Implications for Future Research

While this study provides valuable insights into the consumer perception and preferences of frozen RTE meals, it is crucial to acknowledge the limitations that may impact the generalizability and applicability of these findings and in conclusion, propose how future research could explore gaps that were not covered by this research.

First of all, the focus of this study was to primarily elaborate on existing models of consumer behavior like the FCPM, despite the existence of various other models that could provide additional insights into food selection behaviors. This model in particular attempts to cover a broad range of factors and does not go in depth when examining specific elements that influence food choice. Complex dynamics in the living arrangements of families and cultural dynamics of non-post-industrial Western societies of the early 21st century are not thoroughly considered. While the cultural scope of this study is congruent with the scope of the model, applicability and relevance in other cultural settings and non-western societies might not be given. Future research should take

cultural differences into account that influence the eating habits and preferences of the sample. Further, it is difficult to capture the full spectrum of ever-changing market dynamics and the latest trends, thus in perspective of the quickly changing societal norms that influence eating habits and consumer behavior, the applicability of models developed in the past 20 years should be tested more thoroughly and adapted to modern societal standards.

RTE market trends are fast-moving and driven by constant technological innovations that affect production, preservation, and distribution. This rapid development can lead to relevant innovations and findings being missed if they are not captured within the timeframe of the included studies. Therefore, to keep this study relevant, new studies and surveys will have to be consulted to include the changing environment and account for any evolvements in the frozen RTE meals industry. The thesis did not extend its analysis to other distribution channels to keep some constants in the analysis. However, this will change over time as it is an area that is poised to gain even greater importance as online food shopping grows more prevalent. Furthermore, economic factors, such as changes in consumer purchasing power or supply chain disruptions, are also critical and have not been considered. They are complex and not well understood, mainly due to missing research dealing specifically with the German market for frozen RTE meals. This scarcity also made it necessary to rely on broader, more general studies for this research which may not provide the precision that more focused research would offer. Future research could focus on comparing different sales channels, which would also introduce other successful brands of frozen RTE meals such as Bofrost or LiveFresh. A comparison that includes different sale channels could give a more dynamic overview of the current frozen RTE market and also gain a more in-depth and exhaustive picture of the industry.

The interpretation of the interviews is inherently influenced by the subjective viewpoint of the researchers, introducing the possibility of personal biases impacting the analysis. The limited

number of interviews, with only five experts from industry and academia, suggests that further interviews could enhance the robustness of the results. Adding the perspectives of experts from more private labels and the independent brand Iglo could also improve and refine the results. Additionally, the small sample size of two users and one non-user gaining insights into the target group and validating the personas limits the generalizability to the broader population, as the selection of interviewees focused on consumption behavior. The same limitations apply to the confirmative interviews that were conducted in the last part of this research to test ideas for future product development. Differences in demographics were only partly considered, thus, to represent more diverse demographics a bigger sample would provide a more accurate depiction. The accuracy of this study is generally limited by practical constraints such as time and space, which limits the scope of the research. Both the literature review and the qualitative analysis hinted at the big shifts in eating habits and emerging trends such as sustainability in food consumption. While the CA was able to slightly pick up on the topic of meal type, more research should be constructed in terms of offering even more options. Moreover, sustainability is a concept that is a very faceted and multidimensional concept that needs to be examined on its own. People's associations with the meaning of sustainability in foods can vary greatly, going from the packaging to the way of sourcing to the type of meal. Thus, understanding customers raising demands for more organic and natural foods, sustainability is also a trend that is further emerging in the food industry and needs to be examined in detail.

While the construction of the multidimensional PM offers a nuanced understanding of consumer perceptions, it is essential to acknowledge the limitations of this technique. The high correlation of perceived attributes only allowed for a narrow and limited view of general perception, possibly missing other important factors that influence the perception of RTE brands. Furthermore, as already pointed out in the analysis, no demographic group has significantly different perceptions

of an attribute that is related to all four brands. The few significant results could be explained by a possible confounding variable like individual taste preferences or dietary habits that were not considered in the study. Furthermore, ANOVA also has limitations as a statistical tool, as the method assumes that the means of the groups being compared are the only relevant sources of variation. If interactions between demographic variables exist or if the influence of a particular factor is contingent on another, one-way ANOVA may not be the most suitable analytical approach. Future research may benefit from a more extensive exploration of potential confounders and the incorporation of control measures to enhance the precision of the analyses, as well as implicating more advanced statistical analyses like regression analysis with interaction terms to unveil more intricate relationships.

Lastly, both surveys have several limitations caused by possible individual differences. First of all, while both sample sizes, 157 and 125 were able to conduct statistically significant results, larger samples would provide a more generalizable and robust representation of results. Furthermore, there is a potential bias introduced by the sampling technique. Convenience sampling can introduce a higher level of homogeneity in a sample with respondents being more likely to have similar demographic backgrounds making the sample less representative of the general population. Certain demographic groups, such as older individuals, professionals, or those from diverse backgrounds, are underrepresented in both samples. In such cases, expanding the participant pool to include a more diverse range of individuals with varied backgrounds, lifestyles, and preferences could enhance the generalizability of the findings. Additionally, reassessing and broadening the scope of demographic variables, including psychographic variables or cultural influences, may uncover previously overlooked associations. Another significant limitation arises from the diverse ways participants accessed and responded to the survey. Especially as the CA was mainly constructed to be answered on a computer, the high rate of respondents using mobile phones could have caused

difficulties in survey comprehension and response consistency due to the different interface layouts (see Appendix 28). Nevertheless, it was decided that in favor of higher response rates, this limitation was considered willingly. However, for future research, it would be advised to limit the CA completion to the desktop format.

Lastly, the qualitative findings of the last interviews are currently not applicable to a large scale of consumers. Only a total of 16 interviews were conducted, thus, to ensure viability of the product development in the market, a substantial quantitative analysis should be conducted to confirm the findings.

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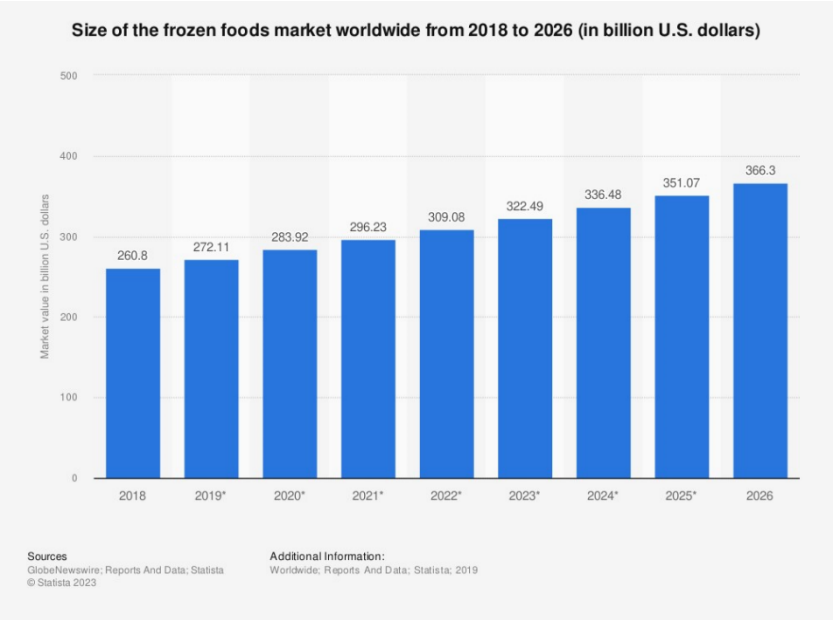
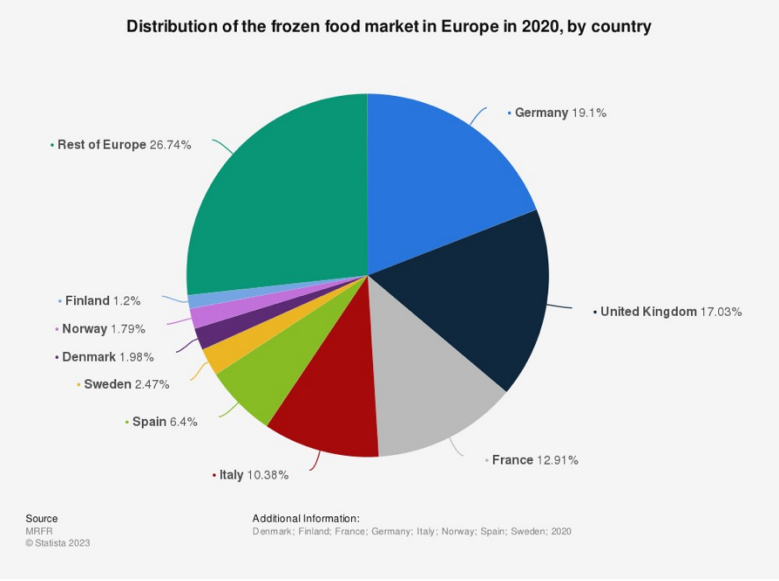
Appendices

Appendix 1 – Size of the Frozen Food Market Worldwide from 2018 to 2026



Source: Statista 2020

Appendix 2 – Distribution of the Frozen Food Market in Europe by Country (2020)

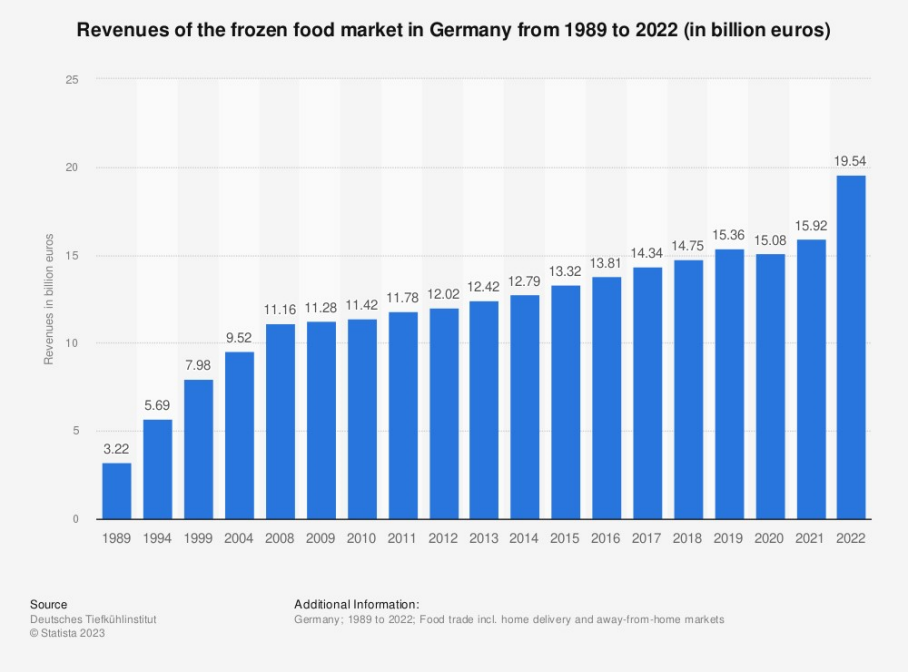


Source: MRFR 2020

Appendix 3 – Ready-to-Eat Meals Revenue

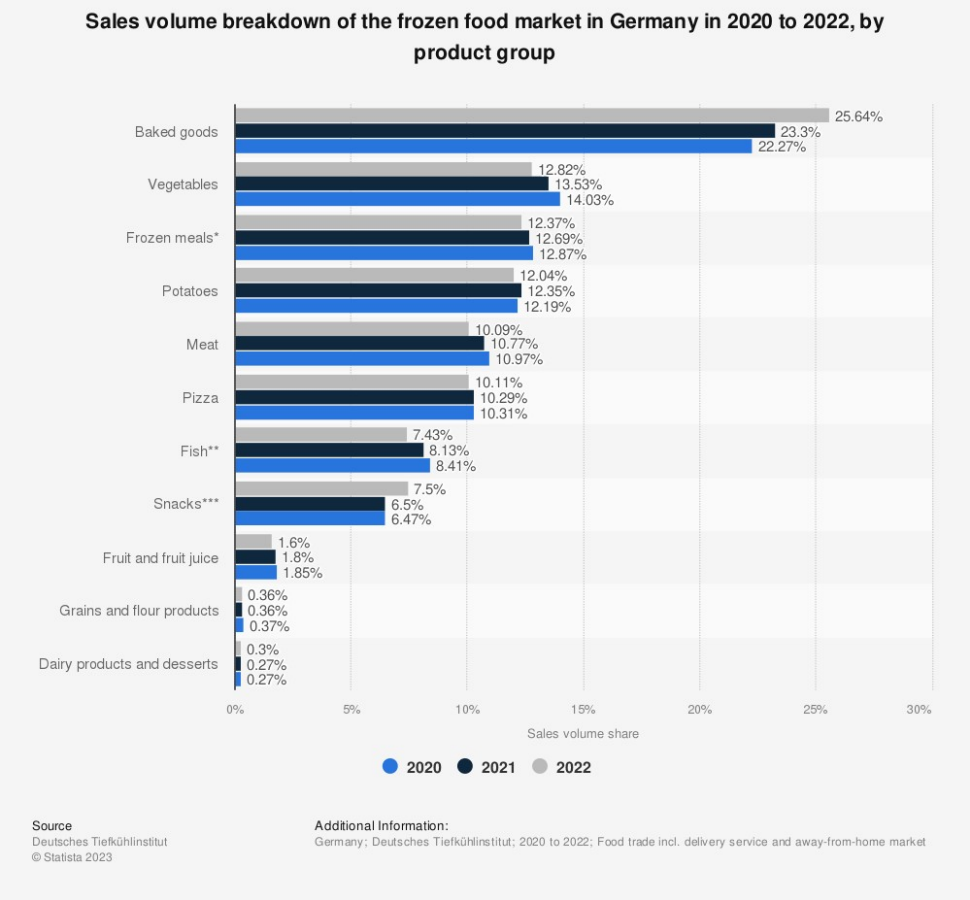
Source: Statista Market Insights 2023d

Appendix 4 – Revenues of the Frozen Food Market in Germany from 1989 to 2022



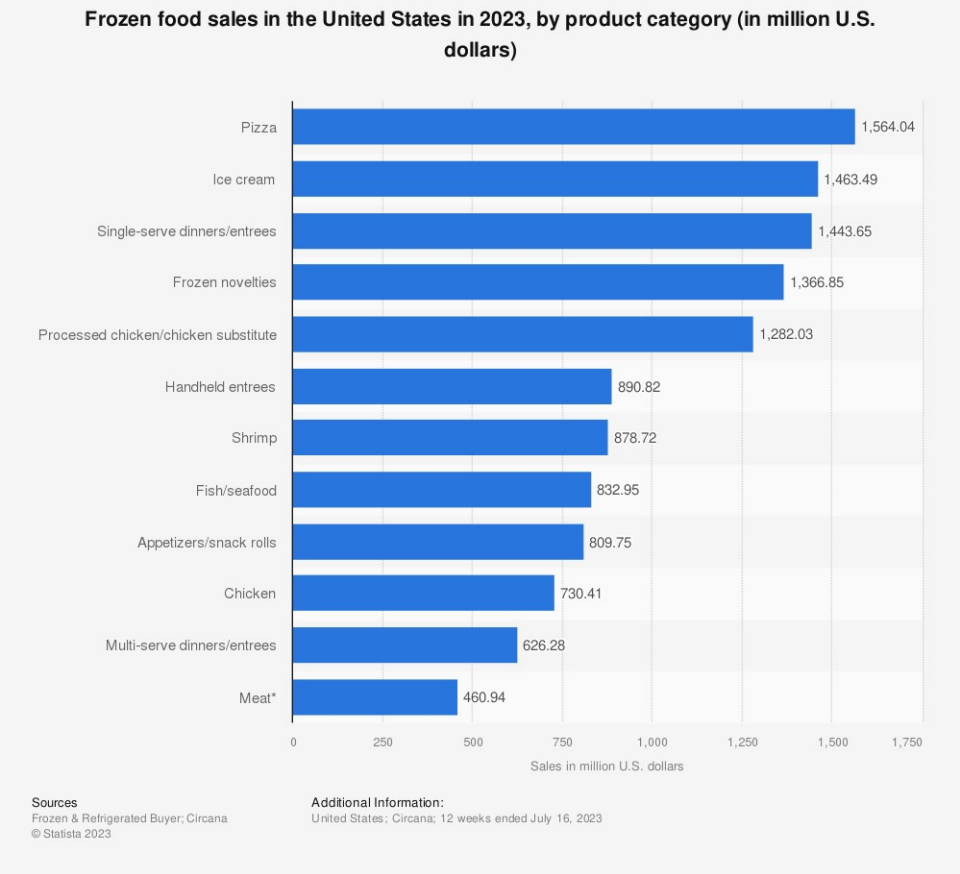
Source: Dti 2023b

Appendix 5 – Sales Volume Breakdown of the Frozen Food Market in Germany in 2020 to 2022, by Product Group



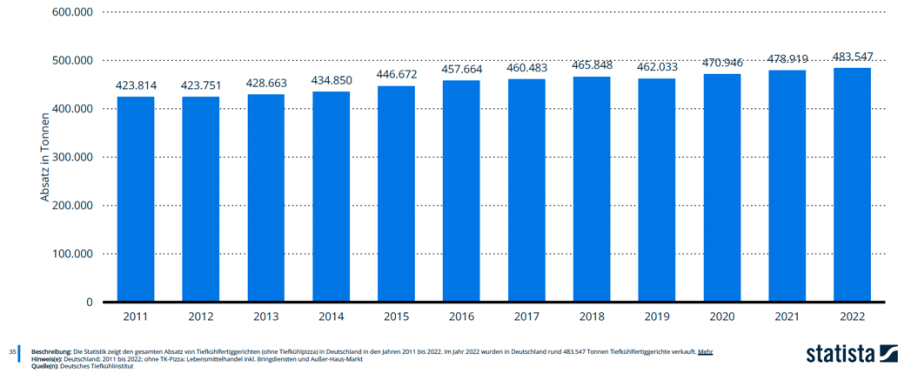
Source: Dti 2023c

Appendix 6 – Frozen Food Sales in the United States in 2023, by Product Category



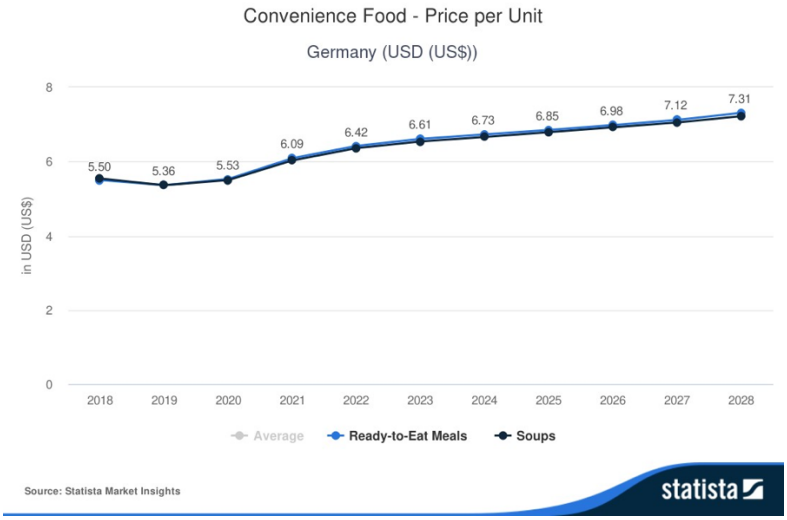
Source: Circana 2023

Appendix 7 – Sales of Frozen Ready-to-Eat Meals in Germany from 2011 to 2022



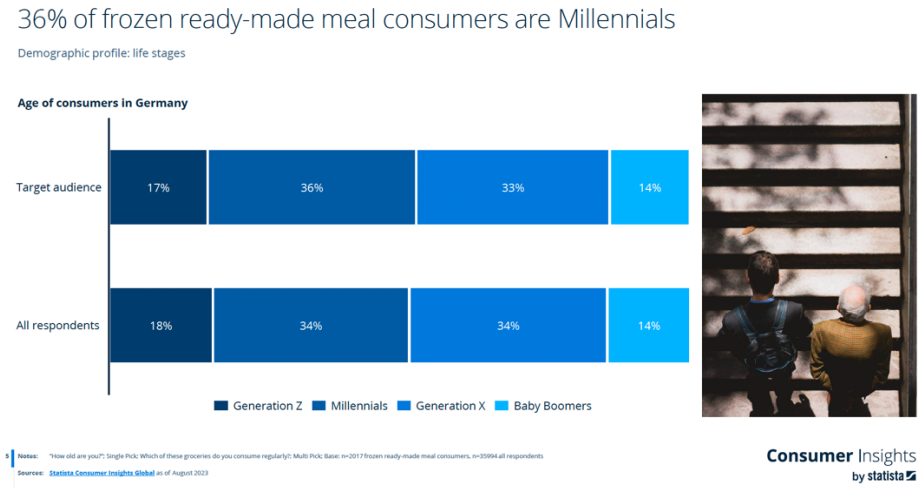
Source: Dti 2023a.

Appendix 8 – Convenience Food – Price Per Unit in Germany



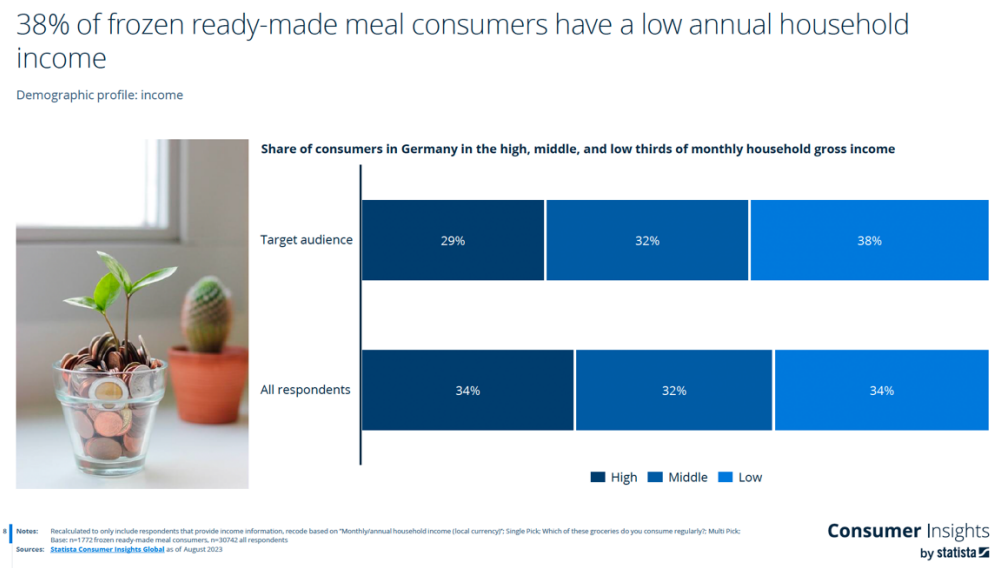
Source: Statista Market Insights 2023b

Appendix 9 – Ready-to-Eat Meals – Users by Age in Germany



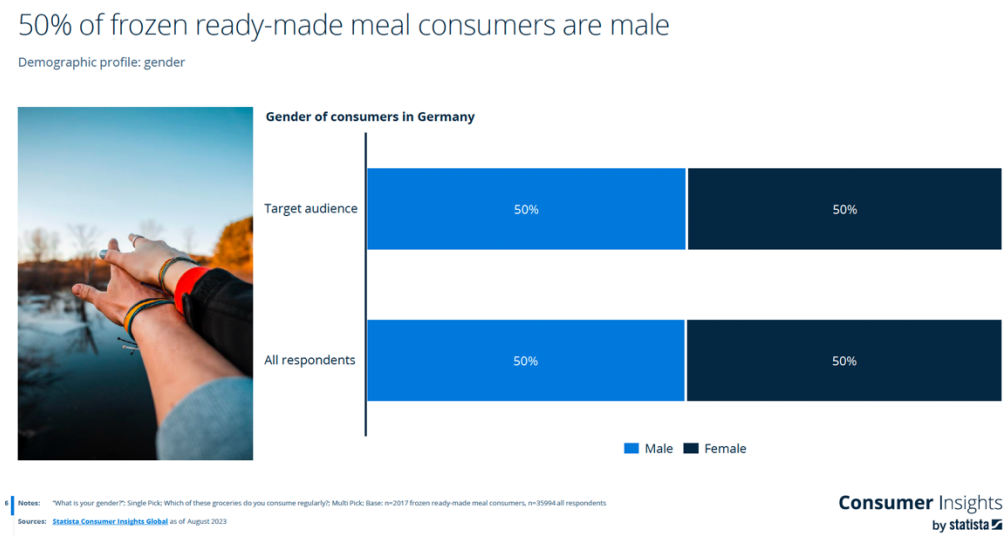
Source: Statista Consumer Insights 2023

Appendix 10 – Ready-to-Eat Meals – Users by Income in Germany



Source: Statista Consumer Insights 2023

Appendix 11 – Ready-to-Eat Meals – Users by Gender in Germany



Source: Statista Consumer Insights 2023

Appendix 12 – Overview of Selected Brands and their Ready-to-Eat Products

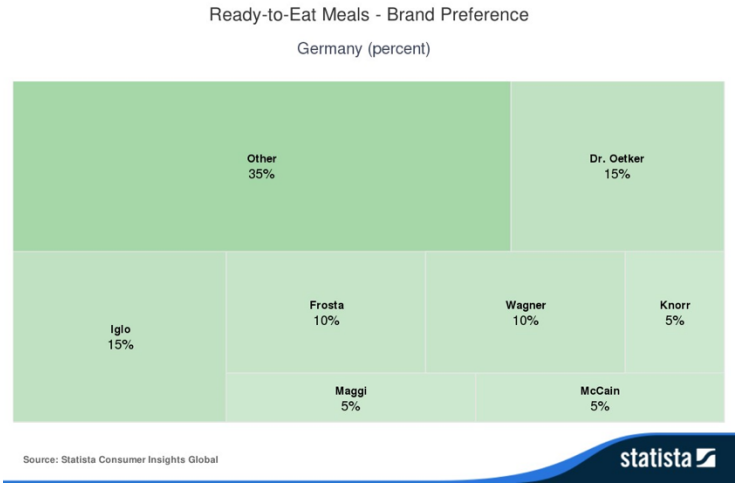
Brand	Product Name	Time in Minutes	Product Size in Grams	Price (in €, per 1kg)	Dietary Categories	Package Type
Iglo						
	Tagliatelle Pilz-Pfanne	About 8	450g	7.98€	Vegetarian	Box
	Penne Creme Spinaci	About 8	450g	7.98€	Vegetarian	Box
	Tortelloni Käse-Sahnesauce	About 8	450g	8.98€	Vegetarian	Box
	Kartoffel-Hähnchen Pfanne	About 8	450g	9.98€	Meat	Box
	Veggie Love Reis-Curry mit Gemüse	About 13-14	450g	9.53€	Vegetarian	Bag
	Ravioli mit dem BLUBB und Ricotta-Spinatfüllung	About 11	450g		Vegetarian	Box
	Gnocchi mit Blattspinat	About 13	450g		Vegetarian	Bag
	Pasta Primavera	About 11	450g		Vegetarian	Bag
Frosta						
	Veganes Geschnetzeltes mit Spätzle	About 8	450g	11.76€	Vegan	Bag
	Lasagne Bolognese	About 12 - 35	375g	12.51€	Meat	Box
	Lasagne Grillgemüse	About 12 - 35	375g	12.51€	Vegetarian	Box
	Macaroni & Cheese	About 10 - 25	375g	12.51€	Vegetarian	Box
	Yummy Tummy Soup	About 6	500g	10.58€	Vegan	Bag
	Nom Nom Noodles	About 7	500g	10.58€	Vegan	Bag
	Nice Rice	About 7	500g	9.38€	Vegan	Bag
	Vegane Bratkartoffel Hähnchen Pfanne	About 8	450g	11.76€	Vegan	Bag
	Vegane Hähnchen Paella	About 7	450g	11.76€	Vegan	Bag
	Veganes Bami Goreng	About 8	450g	11.76€	Vegan	Bag
	Veganes Hühner Frikassee	About 8	450g	11.76€	Vegan	Bag
	Hühnerfrikassee	About 6	500g	9.38€	Meat	Bag
	Bami Goreng	About 10	500g	9.38€	Meat	Bag
	Bratkartoffel-Hähnchenpfanne	About 11	500g	9.38€	Meat	Bag
	Hähnchen Curry	About 10	500g	10.58€	Meat	Bag
	Nasi Goreng	About 9	500g	10.58€	Meat	Bag
	Hähnchen-Geschnetzeltes	About 6	500g	9.38€	Meat	Bag
	Hähnchen-Paella	About 12	500g	9.38€	Meat	Bag
	Indian Style Chicken	About 9	500g	10.58€	Meat	Bag
	Spätzle Pfanne	About 12	500g	9.38€	Meat	Bag
	Mexican Style Chicken	About 9	500g	9.38€	Meat	Bag
	Zwiebel Sahne Hähnchen mit Spätzle	About 9	500g	10.58€	Meat	Bag
	Tagliatelle Wildlachs MSC	About 6	450g	10.42€	Fish	Bag

	Wildlachs in Kräuterrahm	About 6	450g	11.76€	Fish	Bag
	MSC Paella	About 11	450g	10.42€	Fish	Bag
	Fettuccine Wildlachs	About 8	450g	11.76€	Fish	Bag
	Steakhouse Pfanne	About 8	450g	11.76€	Meat	Bag
	Bandnudeln in Champignon-Steinpilz Sauce	About 9	500g	10.58€	Vegetarian	Bag
	Tortellini Käse-Sahne	About 9	500g	9.38€	Vegetarian	Bag
	Pappardelle Crème Spinaci	About 7	500g	9.38€	Vegetarian	Bag
	Penne Gorgonzola	About 7	500g	9.38€	Vegetarian	Bag
	Tortellini Tomaten-Sahne	About 8	500g	10.78€	Vegetarian	Bag
	Chili con Quinoa	About 10	500g	10.58€	Vegan	Bag
	Rotes Curry mit Hähnchen und Reis	About 6	375g	9.31€	Meat	Bag
	Tagliatelle Rahm Hähnchen	About 7	375g	9.31€	Meat	Bag
	Rahm Geschnetzeltes mit Hähnchen und Spätzle	About 5	375g	9.31€	Meat	Bag
	Paprika Sahne Hähnchen mit Bandnudeln	About 4	375g	9.31€	Meat	Bag
	Thai Style Hähnchen mit Bandnudeln	About 8	375g	9.31€	Meat	Bag
	Wok Pfanne Hähnchen mit Basmatireis	About 8	375g		Meat	Bag
	Reis Hähnchen Pfanne	About 10	800g	9.74€	Meat	Bag
	Tortellini Rahmspinat	About 8	800g	9.74€	Vegetarian	Bag
	Nudel Hähnchen Pfanne	About 8	800g	9.74€	Meat	Bag
	High Protein Hähnchen & Blumenkohlreis in Teriyaki-Sauce	About 5	400g	13.23€	Meat	Bag
	Bratnudeln Bami Style	About 9	375g		Meat	Box
	Bratkartoffel Pfanne mit Hähnchen	About 9	375g		Meat	Box
	Hühner Frikassee mit Reis und gelben Möhren	About 8	375g		Meat	Box
	Pappardelle Rahmspinat	About 7	375g		Vegetarian	Box
	Pasta Wildlachs	About 6	375g		Fish	Box
	Pfeffer Rahm Hähnchen mit Spätzle	About 8	375g		Meat	Box
	Gemüse Bowl Cremiges Linsen Curry mit Kürbis und Spinat	About 9	480g	7.27€	Vegan	Box
	Gemüse Bowl Gegrillte Zucchini mit Kichererbsen	About 9	480g	8.73€	Vegan	Box
	Gemüse Bowl Kerniges Quinoa mit Erbsen & Grünkohl	About 9	480g	8.73€	Vegan	Box

	Gemüse Bowl Pikanter Bulgur mit schwarzen Bohnen	About 9	480g		Vegan	Box
	Gemüse Bowl Würzige Falafel mit Blumenkohl	About 8	480g		Vegan	Box
	Gemüse Pfanne Asia Curry Küche	About 9	400g		Vegan	Box
	Gemüse Pfanne Kartoffel Champignon	About 9	480g		Vegetarian	Bag
	Gemüse Pfanne Nordische Küche	About 9	400g		Vegetarian	Box
	Gemüse Pfanne Toskanische Küche	About 12	400g		Vegetarian	Box
	Gemüse Pfanne Traditionelle Küche	About 9	400g		Vegetarian	Box
	Gemüse Pfanne Wok Mix	About 9	480g	8.73€	Vegetarian	Bag
	Gemüse Pfanne alla Toscana	About 12	480g	7.27€	Vegetarian	Bag
	Gemüse Pfanne Sommergarten	About 10	480g	7.27€	Vegetarian	Bag
	Gemüse Pfanne à la Provence	About 10	480g	7.27€	Vegan	Bag
	Gemüse Pfanne Style Asia Curry	About 8	480g	7.27€	Vegetarian	Bag
	Gemüse Pfanne Curry Kokos	About 10	480g		Vegan	Bag
	Gemüse Pfanne alla Mediterranea	About 8	480g		Vegan	Bag
	Gemüse Pfanne all‘ Italiana	About 7	480g		Vegetarian	Bag
Ja!						
	Tortellini in Sahnesauce	About 35-40	400g	4.73€	Meat	
	Penne Gorgonzola mit feinem Blattspinat	About 8-14	750g	3.59€	Vegetarian	
	Cannelloni Vier Käse mit Spinatfüllung	About 35-40	400g	4.73€	Vegetarian	
	Lasagne Bolognese	About 35-40	400g	4.73€	Meat	
	Bami Goreng	About 6-16	750g	4.52€	Meat	
	Makkaroni Auflauf	About 30	400g	0.73€	Meat	
	Nasi Goreng	About 5-14	750g	4.52€	Meat	
	Western Pfanne	About 7-14	750g	4.52€	Meat	
	Bratkartoffelpfanne	About 8 -14	600g	4.82€	Meat	
	Paella Pfanne mit Meeresfrüchten, Seelachsfilet und Hähnchenbrust	About 8-16	750g	4.52€	Fish, Meat	
	Bratnudeln Soja vegan	About 10-14	600g	4.98€	Vegan	
	Nudel Frikadellen Pfanne	About 10-14	600g	4.82€	Meat	
Gut&Günstig						

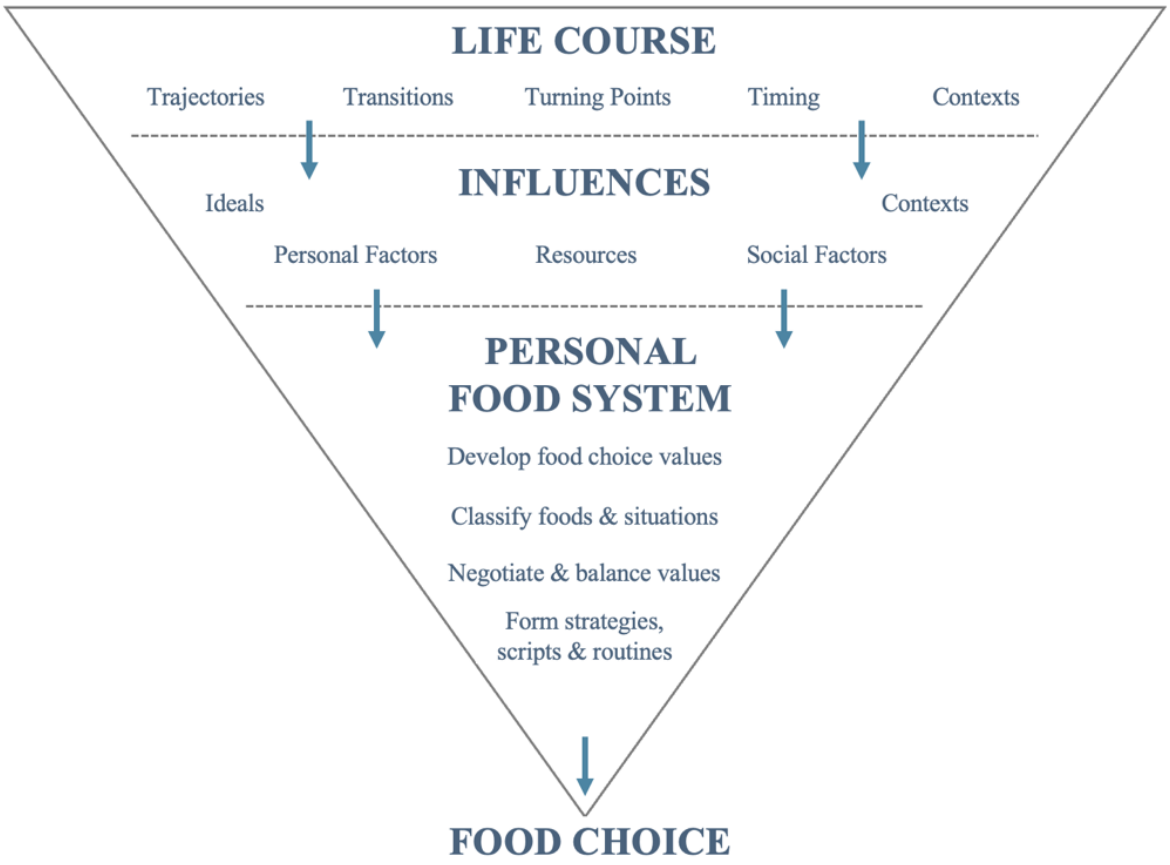
	Hühnerfrikassee	About 10-25	450g	5.09€	Meat	Box
	Paella	About 14-20	750g	4.52€	Fish, Meat	Bag
	Steakhousepfanne	About 8-12	750g	4.52€	Meat	Bag
	Pfannengemüse "Rustikale Art"	About 6-10	750g		Vegan	
	Pfannengemüse „Asiatische Art“	About 10-14	750g		Vegan	
	Pfannengemüse "Französische Art“	About 6-10	750g		Vegan	
	Hähnchen süß-sauer	About 10-25	500g	5.78€	Meat	
	Fleischklößchen nach ungarischer Art	About 10-25	450g	4.42€	Meat	Box
	Cannelloni Frischkäse-Spinat	About 9-35	400g	4.98€	Vegetarian	Box
	Fettuccine	About 9-35	400g	4.73€	Vegetarian	
	Lasagne Bolognese	About 9-35	400g	4.73€	Meat	Box
	Tortelloni Schinken	About 9-35	400g	4.98€	Meat	
	Tortelloni Käse-Sahne	About 8-12	750g	3.59€	Vegetarian	
	Pastapfanne	About 12-16	750g	4.52€	Meat	Bag
	Bami Goreng	About 13-20	750g	4.52€	Meat	Bag
	Penne Gorgonzola	About 8-12	750g	3.59€	Vegetarian	
	Nasi Goreng	About 16-20	750g	4.52€	Meat	Bag

Appendix 13 – Ready-to-Eat Meals – Brand Preference in Germany



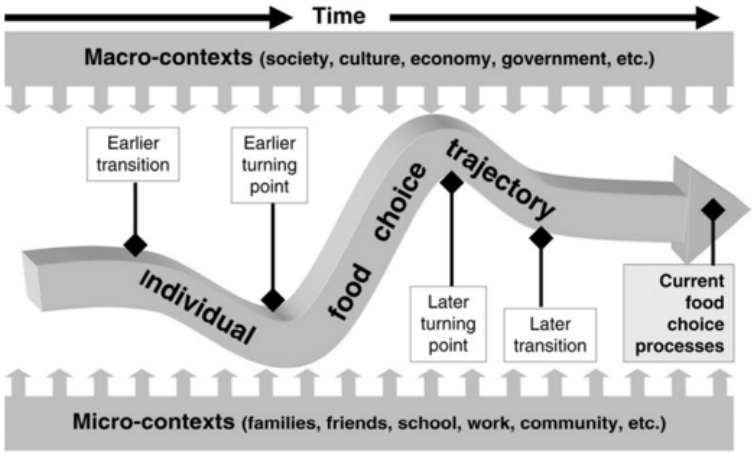
Source: Statista Consumer Insights Global 2020

Appendix 14 – Food Choice Process Model



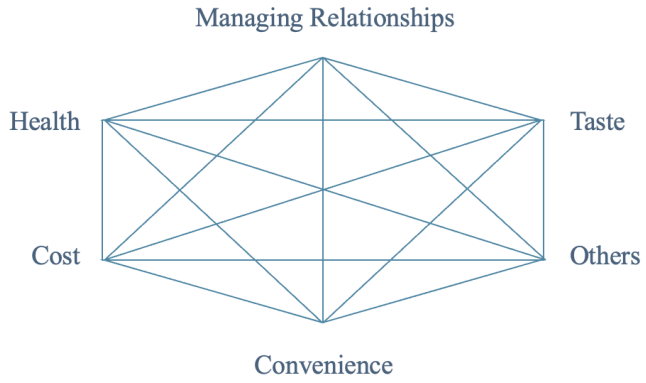
Source: adapted from (Furst et al. 1996; Sobal and Bisogni, 2009; Falk et al. 1996)

Appendix 15 – A Conceptual Model of How Food Choice Is Shaped by Contexts Over Time to Form a Food Choice Trajectory



Concept adapted from (Devine et al. 1998; Shepherd, Raats and Nutrition Society (Great Britain) 2006).

Appendix 16 – Detailed Overview of Six Food Choice Values



Taste	Taste encompasses sensory perceptions in eating and drinking, influencing food enjoyment and aversions. It includes factors like appearance, odor, flavor, texture, and is a primary criterion in most food and drink choices. Taste preferences can evolve over time and are influenced by physiological, cultural,

	social, developmental, and life stage factors. It's a critical factor in deciding whether a food or drink will be consumed.
Others	Additional values in food choice include quality, variety, symbolism, ethics, safety, and waste. These values can be highly significant for some individuals, while others may consider them only in specific circumstances. Factors like religious beliefs, ethnic identity, and environmental concerns can be primary considerations for some, while others may focus more on their personally constructed expectations for food quality.
Convenience	This value reflects considerations of time and effort. It involves evaluating the time, physical and mental effort required to acquire, prepare, consume, and clean up after meals. Convenience is subjective and varies based on individual circumstances. For older adults, it might focus on ease of access and simple preparation methods, while for students and working individuals, time-saving options are often prioritized. Further, cooking skills and lifestyle factors influence what is considered convenient, making this a highly personalized aspect of food choice.
Cost	Cost is the monetary consideration in food choices, with most food being purchased in post-industrial societies. This value includes not only the price of food in relation to financial resources but also the concept of "worth". The value of cost is relevant regardless of income level, where even those with high incomes may resist price increases if they don't perceive the food as "worth it".
Health	Health encompasses considerations related to physical well-being, including immediate responses to food (like allergic reactions or energy levels) and

	longer-term consequences (like weight control or chronic disease prevention). Public perception often categorizes foods as “good” or “bad” based on health implications. Definitions of health in relation to eating are varied and can include aspects like nutrient balance, naturalness, and disease management.
Managing Relationships	This value involves considering the interests and well-being of others in one's social world in food-related contexts. It often leads to compromising personal preferences to accommodate others, playing a significant role in situations like family meals, hosting events, or workplace dining. For instance, a parent may choose foods based on their child's nutritional needs and tastes, or a host might select a menu that caters to the dietary restrictions of guests. In these contexts, the act of choosing, preparing, and sharing food becomes a way to build and maintain relationships, reflecting the social and emotional dimensions of eating.

Source: (Shepherd et al. 2006)

Appendix 17 – Script for Interviews with Industry Experts

Part 1: Market

1. Market Dynamics, Future, and Challenges:
    a. What are the most important trends or developments that have shaped the market in the last few years?
    b. What are the biggest challenges that companies have to face in the frozen RTE meal industry?
    c. Do you expect a rapid and substantial growth in the German frozen RTE meal industry in the next five to 10 years?
2. Distribution:
    a. Are there changes in distribution channels or partnerships that are noteworthy?

b. How have distribution channels for frozen RTE meals evolved in Germany, especially in light of changing consumer preferences for online shopping and home delivery?

3. Competitive Landscape:
    a. In your opinion, who are the major players in the German frozen RTE meal industry?
    b. Are there specific strategies that brands employ to build and maintain trust?
    c. Are there any emerging or innovative companies that are disrupting the market?

Part 2: Preferences

1. Do you have personas or insights for different customer types that you would share with us?
2. What are the predominant consumer preferences and trends in the frozen RTE meal segment?
3. Have you observed any notable shifts in taste, for example demand for different cuisines?
4. Health and Nutrition Considerations:
    a. How are health considerations influencing consumer choices and product development in this market?
    b. Are there specific certifications or labeling trends that are gaining importance?
5. Sustainability Concerns: How are sustainability considerations influencing consumer choices and product development in this market?

Part 3: Attributes

1. From your experience, what product attributes do consumers value most when choosing frozen RTE-eat meals?
2. Are there specific qualities or features that tend to differentiate one product (/brand) from another?
3. In your opinion, how do you want to position your brand in the market?
4. Product Quality:
    a. How do you perceive the overall quality of frozen RTE meals in the market?
    b. How important is the quality of ingredients in consumers' perceptions of frozen RTE meals?

5. Brand and Trust: To what extent do consumers rely on brand reputation and trust when selecting products in this market?
6. Ingredients and Nutritional Value:
    a. Do you foresee a growing demand for products catering to specific dietary requirements or preferences? Are there trends toward more natural or healthier ingredients?
    b. How important is nutritional value to consumers, and are there particular nutritional aspects gaining prominence?
7. Flavor and Taste: Are there particular flavor profiles that are particularly popular or emerging in the market?
8. Price Sensitivity: How does pricing influence consumer perceptions and their willingness to purchase frozen RTE meals?
9. Packaging and Presentation:
    a. Is there an ideal product size and if yes, what would it be?
    b. To what extent does packaging and presentation influence consumer perceptions and purchasing decisions in this market?
    c. Are there packaging trends or innovations that have gained prominence?
10. Convenience Features: In what ways do convenience attributes, such as microwave ability or portion size, affect consumer perceptions and purchases?
11. Emerging Attributes: Are there any emerging or niche product attributes that you believe have the potential to impact the market significantly in the future?
12. How has product innovation evolved in the frozen RTE meal sector? Are there any recent breakthroughs or innovations?
13. In terms of product development, what aspects or attributes are you particularly interested in understanding better?
14. In your opinion, how can research on consumer perception and behavior regarding frozen RTE meals benefit the industry?

Appendix 18 – Industry Expert Interview with Rieke Mindermann from Uniqfoods GmbH

Interviewer: "Hello Rieke, I'm really looking forward to conduct the interview with you and appreciate your willingness to participate. I'm excited to gain insights from the industry through our conversation."

Interviewee: "Hi Thea. I'm excited to provide some insights and hope that I can assist you with your Master's thesis."

Interviewer: "Could you provide some details about your current position and Uniqfoods?"

Interviewee: "Uniqfoods is the market leader in the private label sector of frozen ready-to-eat meals in Germany. In my current role at Uniqfoods, I am part of the business development department, and I am currently researching and evaluating European markets for their potential for expansion. We are working on this through a combination of methods, including in-depth analysis of market data, conducting expert interviews and site visits to different countries to obtain important first-hand information. An important aspect for your Master's thesis could be the frequent mixing of data and graphs in the pizza and meal market. At Uniqfoods, we maintain a strict distinction between these two categories, as pizza is a separate market with a very different dynamic."

Interviewer: "Sounds very interesting! The first part of the interview delves into the frozen ready-to-eat meals market. Our focus in the Master's thesis is on the German market, and we are eager to delve into its intricacies. Could you share the key trends or developments that have significantly influenced the market in recent years?"

Interviewee: "There has been a noticeable shift in consumer attitudes towards health-consciousness. More consumers are now prioritizing healthier options, seeking out frozen ready-to-eat meals that offer nutritional benefits and align with their dietary goals. This shift has led the industry to prioritize products that align with these health-conscious preferences, although it currently represents a relatively small portion of the overall market. We've witnessed a notable

increase in the demand for vegetarian and vegan options. I would characterize this growth as exponential. Consumer preferences are also shifting to low-carb options. Consequently, we are adapting specific meal components to cater to the increasing demand for low-carb alternatives. Further, we've observed a shift in the regulatory landscape, particularly concerning the regulation of food additives in frozen ready-to-eat meals, and this actually regulates the entire food industry."

Interviewer: "And what are the main challenges faced by companies in the frozen ready-to-eat meal industry?"

Interviewee: "There is an ongoing challenge related to consumer perception. Many consumers perceive frozen meals as being less healthy and fresh compared to freshly prepared options and the options in the fridge. Overcoming this perception is a continuous endeavor for companies in the industry. The second thing is COVID. The post-COVID landscape has brought challenges to the supply chain, particularly in terms of ingredient availability. Supply chain disruptions have made it difficult to source key ingredients, impacting production schedules and leading to potential shortages. And, finally, there is continued pricing pressure in the industry. Consumers often associate frozen meals with affordability, which can be challenging for companies."

Interviewer: "And if you think about the German market for frozen ready meals, would you expect the German market to grow quickly and significantly in the next five to ten years, let's say?"

Interviewee: "In the next five to ten years? Hmm... Well, we will definitely see growth in the market over this period. However, I wouldn't describe this market growth as fast or significant."

Interviewer: "Are there notable regional variations in consumer behavior within Germany?"

Interviewee: "Yes, there are regional variations within Germany. These variations can particularly evident when comparing northern and southern regions, as well as east and west. For example, Southern specialties such as "Sauerkraut," are available in the South but absent in other regions.

This distinction becomes also apparent when you compare the product offerings of Aldi Nord with those of Aldi Süd."

Interviewer: "I would like to delve deeper in the distribution aspect. Are there any notable changes in distribution channels or partnerships that have taken place?"

Interviewee: "Let me think for a moment... None."

Interviewer: "And how have distribution channels for frozen ready-to-eat meals evolved in Germany, especially in light of changing consumer preferences for online shopping and home delivery?"

Interviewee: "It's a frequently asked question in the industry, and although online sales are on the rise, I don't have specific data regarding frozen food. Traditionally, people tend to do their grocery shopping in physical stores, with a typical visit to the frozen food section occurring towards the conclusion of their shopping trip. If the purchase is shifted to an online platform, the order of selecting items may change, and the delivery process would need to be carefully tailored. The constant need for refrigeration could be a logistical challenge."

Interviewer: "And in your opinion, who are the major players in the German frozen ready-to-eat meals market?"

Interviewee: "The most important brand in the German industry is Frosta. Frosta is the largest supplier with a broad product range and a strong marketing strategy. I would also mention iglo, although they are primarily known for their components and in Germany especially for their spinach."

Interviewer: "Are there specific strategies that Frosta employ to build and maintain trust?"

Interviewee: "Frosta employs a clear marketing strategy with a strong emphasis on transparency to build and maintain trust. For instance, they include a QR code on the packaging's backside, allowing customers to access additional information easily. Interestingly, only a small percentage

of customers actually scan this QR code. And Frosta has its Purity Promise since 2003, resulting in the complete removal of additives and artificial flavors from its product line. The aim of Frosta clearly is transparency for consumers."

Interviewer: "And are there any emerging or innovative companies that are disrupting the market?"

Interviewee: "Yes, indeed! For example, there's LiveFresh. The company is famous for its juice cures and also offers frozen ready-to-eat meals. Another notable player is Every, which focuses on simplicity and a minimalist approach to ingredients. These companies have a very different sales model. They cater to niche markets and don't necessarily target the tastes of the average consumer, which sets them apart from traditional players."

Interviewer: "Now, let's proceed with the second part of the interview, which is focused on identifying consumer values, preferences, and choices from your viewpoint. The first question: do you have personas or insights about different types of customers that you would share with us?"

Interviewee: "We have personas for specific meal types, such as meatballs. For example, this persona represents a traditional consumer group. They are older, often in the 35 to 65 age range. What's particularly interesting is that this demographic consists of an equal split, with 50% male and 50% female consumers. This gender distribution is unusual as it includes a significant number of males. Also, these consumers are often divorced or single, they belong to divorced or single households. They are definitely employed, but I can't tell you exactly what kind of job they have. We also have personas for other types of dishes, such as Penne Gorgonzola and various others."

Interviewer: "That is really interesting! And what, in your view, are the predominant consumer preferences and trends within the frozen ready-to-eat meal segment?"

Interviewee: "Let me think about this for a moment… As mentioned earlier, there is a noticeable increase in health consciousness among consumers, although this is rather a niche trend. Consumers are showing a strong demand for lower prices, and that pressure is certainly evident.

And there is a degree of uncertainty regarding which segment, whether refrigerated or frozen, will ultimately establish dominance in the market."

Interviewer: "Have you observed any notable shifts in taste, for example demand for different cuisines?"

Interviewee: "Currently, older consumers are still leaning towards traditional dishes. However, it is quite interesting that the most popular dishes in Germany are 'Bami Goreng' and 'Nasi Goreng', which highlights a clear demand for different cuisines. This shows that the younger generation does not have a preference for the typical German dishes. And as the older generations decline over time, the demand for these classic dishes will also decrease. And of course, due to globalization! With globalization on the rise, we expect a continued rise in demand for a wide range of dishes and cuisines."

Interviewer: "Building on the discussion of the health trend, could you elaborate on how health considerations shape consumer decisions and influence product development in this market?"

Interviewee: "Consumers increasingly prefer products with a simplified ingredient list and value transparency and simplicity in their choices. There is a growing demand for locally sourced ingredients, which is in line with the general trend toward sustainability and supporting local communities. However, companies in the German industry are not yet fully embracing locally sourced ingredients."

Interviewer: "During industry research, I observed that the products from Frosta, for instance, indicate 'Country of Origin: Germany.' How can this then be explained?"

Interviewee: "In Germany, this is allowed because Frosta has its production facility in Germany, for example, to assemble together different ingredients or add sauces. This allows them then to call the country of origin of the product Germany."

Interviewer: "Oh that surprises me, but it is super interesting! The next question is also related to packaging: are there certain certifications or labeling trends that are gaining importance in the industry?"

Interviewee: "For older consumers, who generally consume more meat, certifications and labeling are not important. For the younger consumer group, on the other hand, factors such as vegan/vegetarian labeling and Nutri Score have gained significance."

Interviewer: "How are sustainability considerations influencing consumer choices and product development?"

Interviewee: "Sustainability issues are gaining importance, especially in terms of packaging. For example, Frosta had developed a paper bag to replace plastic packaging, but they encountered problems. For example, beet juice or sauce leaked through the packaging."

Interviewer: "We now get to the third and final part of the interview. This part is aimed at giving us a deeper insight into your opinion on specific attributes that may or may not be important to consumers. From your experience, what product attributes do consumers value most when choosing frozen ready-to-eat meals?"

Interviewee: "Convenience! In my experience, it is evident that consumers place great value on convenience when choosing frozen ready-to-eat meals. This includes, for example, ease of preparation, short cooking times, and minimal effort to ultimately enjoy a satisfying meal."

Interviewer: "How important is the quality of ingredients in consumers' perceptions of frozen ready-to-eat meals?"

Interviewee: "Product quality is not that important. When it comes to frozen prepared meals, consumers often focus on convenience, how quickly the meal is ready and the price, and as long as the product meets these main criteria, quality is not a decisive factor."

Interviewer: “And how would you rate the importance of brands, meaning to what extent do consumers rely on the reputation and trust of brands when choosing frozen ready-to-eat meals?"

Interviewee: “Well, I would say that brands don't seem to have much influence in this market. In fact, brand loyalty within the frozen ready-to-eat meal sector is relatively limited."

Interviewer: "How are health-related attributes such as low calorie or low sodium affecting product development and consumer choices?"

Interviewee: "In our production process, we focus primarily on the preferences and needs of the average consumer. This means that while we recognize the importance of health-related attributes such as low-sodium options in the market, we still focus on delivering products according to the general tastes and requirements of the majority of consumers."

Interviewer: "How does the price influence consumer perceptions and willingness to buy frozen ready-to-eat meals?"

Interviewee: "Very important! Pricing plays a crucial role, influencing consumer behavior in the market. Consumers are very price sensitive and frequently anticipate extremely competitive pricing for frozen meals."

Interviewer: "And is there an ideal product size and if so, what is it?"

Interviewee: "This is an interesting question and one that we are currently working on. In Germany, the standard package size is typically 750g packs, which is different from other countries. We are currently in the process of determining the optimum size for the market."

Interviewer: "To what extent do the packaging of frozen RTE meals and presentation in the supermarket influence consumers' perception and their purchasing decisions?"

Interviewee: "Presentation plays a role in consumer choice! When consumers browse the freezer aisle, the way a product is presented can make a significant difference in its attractiveness. For example, if a product has two piles in the freezer, it tends to be more important than a product that

only has one pile in the supermarket freezer. This is a rough indicator of the importance of a product on the market.”

Interviewer: "Are there any new product features or niche markets that you think have the potential to have a significant impact on the market in the future?"

Interviewee: "An emerging product attribute that could significantly impact the frozen ready meal market is the 'point of sale,' or the way these products are conveniently accessed by consumers. As previously mentioned, consumers add frozen products to the shopping cart last in a physical supermarket visit. But there is definitely an increase in online sales and when they shop online the order of shopping, and the demand might change. Unlike non-frozen products, frozen meals must be constantly refrigerated during transport, which requires the presence of special freezer compartments in delivery vehicles. This presents a logistical challenge."

Interviewer: "How has product innovation evolved in the frozen ready-to-eat meal sector? Are there any recent breakthroughs or innovations?"

Interviewee: "Product innovations often coincide with new competitors entering the market. Frosta is a good example of this. Frosta's market entry has significantly changed the landscape of frozen ready-to-eat meals."

Interviewer: "And in terms of product development, what aspects or attributes are you particularly interested in understanding better?"

Interviewee: "Um… I would be particularly interested in determining the optimal weight of the product. This also involves consumers' motivations for choosing frozen prepared meals. For example, are these meals preferred for a quick and convenient lunch at work, or do consumers choose them for convenience after work, and so on? Uncovering the factors that influence consumers' choices can enable us to tailor our product development efforts more accurately to their preferences and needs."

Interviewer: "Last question: In your opinion, how can research on consumer perception and behavior regarding frozen ready-to-eat meals benefit the industry?"

Interviewee: "In my opinion, research is always helpful! Otherwise, it is not possible to gain insights into consumer preferences and trends that enable companies to adapt their strategies and offerings accordingly. I have also received quite a few interview requests recently, which indicates that there is a strong demand for such research in the industry."

Interviewer: "Thank you for the interview and the valuable insights!"

Interviewee: "A pleasure!"

Appendix 19 – Industry Expert Interview with Lazaro Campuzano from Demeter-Felderzeugnisse GmbH

Interviewer: "Hello Mr. Campuzano. Thank you very much for taking the time for this interview! I am looking forward to your insights from the industry! Before we start with the questions, could you please briefly describe your current position and the company."

Interviewee: "Hello Ms. Gässler, my name is Lazaro Campuzano, I am the sales and marketing manager here at the company. We originally emerged from a producer group of organic farmers, Demeter farmers. We've been around for over 30 years, originally the company was founded as a distribution company to market the raw materials, the products of the farmers directly, but over time we have also organized the processing of the agricultural products, so that today we sell not only the raw materials, but everything that can be made from them, so mainly frozen food, but we have also developed from the cereal sector, for example animal feed. That is a small part of it, we are still the sales company of a producer group."

Interviewer: “Thank you! Now let's start with the questions. The first question is about the key trends and developments in the market. Which ones have you observed in recent years that have shaped the market?”

Interviewee: “Well, I would say that the trend is increasingly moving towards products that are already available in the conventional trade also being offered in the organic sector of the market. So, you can say that the trends in the conventional area a short time later can also be found in the organic area. That is the rough trend. If you look at the different convenience products, you have to say that number one is of course pizza, but also frozen ready-to-eat meals are then more and more part of the convenience area."

Interviewer: "What are the main challenges faced by companies in the frozen ready-to-eat meal industry?"

Interviewee: “It depends on how you want to look at it. So, you can either simply copy the others or, like us, develop your own quality that really deserves the organic label. That is, not what is already available conventionally simply implement one-to-one with organic ingredients, because that then usually requires the addition of additives, which are partly allowed in organic, but in our opinion make the whole just a copy of conventional goods. In our opinion, the points that make a product beneficial to the consumer from an organic and nutritional point of view would be important. That certain points are made better, at least in the organic sector, meaning that salt content, sugar content or other additives are omitted accordingly. We consider this to be very important and it stops us from making even more convenience products. We have a strong self-image, but the market sometimes demands products that go beyond our self-image. If a product tastes conventional and we can't make it with purely natural ingredients, we prefer to avoid such production. If something from this and that and us looks and tastes the same and everything is exactly the same, except that we put an asterisk after the ingredients and the others don't, then that's

not enough for us. Um... but the market ... the general consumer expectation is that what I get conventionally, I also want in organic."

Interviewer: "Do you anticipate rapid and substantial growth in the frozen ready-to-eat meal market in Germany over the next 5-10 years?"

Interviewee: "The growth of organic is related to the economic situation. And not only from the economic situation, but also, for example, if there is any news of disasters found in any food, then these are always the moments in which people increasingly turn to organic. But basically, the market situation is also always decisive for organic. Without any peaks, we think organic would have a continuous increase. But just as there was a big peak in times of COVID-19 and the lockdown, there was now a big drop due to inflation, price increases and this and that, that has then affected organic particularly strongly. However, interestingly, often unfairly: we have found products in organic that were cheaper than products in the conventional area. Prices of conventional products have then risen much more sharply in price than organic products. But consumers have the association: organic is always more expensive and if now all prices rise, then the price of organic has definitely also been increased. However, many organic products have not been increased at all, but they still suffered. Even under the price of conventional products, the organic products have not done better, that's quite interesting. I could show you pictures of our peas being sold at the same retail price as conventional branded product, but we have 450g in and 400g. 12.5% cheaper, if you look at the number of grams, than the conventional product, and yet no more of ours were sold. If consumers are price sensitive, they really should have bought ours, but they didn't see that because they thought organic had to be more expensive anyway. That is very interesting! In the event of a food scandal, people buy organic food because they think the entire conventional sector will be affected. These are simply irrational motives that you can't predict. That's why growth is so difficult to predict."

Interviewer: "To get even more details related to price, how does pricing influence consumer perceptions and their willingness to purchase frozen ready-to-eat meals?"

Interviewee: "The general consumer expectation is that what I get conventionally, I also want to have in organic and if possible, at a similar price. But this is difficult because you can only achieve a similar price if you convert conventional production one-to-one into organic and then only have the additional costs of an organic carrot and a conventional carrot, and that doesn't make much difference with five grams of carrots in the product. The product can then run on the assembly line and be produced exactly like the other and then you also achieve the low prices. If that's what you want! But organic ready-to-eat meals should have a higher quality somewhere, if they are already organic in our opinion and that is a bit of the background."

Interviewer: "Very interesting! And are there notable regional variations in consumer behavior and market dynamics within Germany?"

Interviewee: "We generally offer our products nationwide. We market through wholesalers, so it's likely influenced by what each wholesaler in Berlin, Hamburg, or Munich can sell best in their respective regions. But this is not very prominent at convenience, so you can overlook it. When it comes to special products, for example "Käsespätzle", then it is of course clear that these are less known in the north and are bought less than in the south. So, there are differences in typical dishes, but not otherwise."

Interviewer: "And are there changes in distribution channels or partnerships that are noteworthy?"

Interviewee: "Actually less, it is relatively stable. We have some wholesalers who distribute nationwide, other wholesalers who distribute regionally. We also collaborate to some extent with conventional retailers, meaning independent retailers who can decide part of their product range and are not entirely dictated by the corporate head office regarding their shelf structure. However, overall, it remains relatively stable for us."

Interviewer: "And how have distribution channels for frozen ready-to-eat meals evolved in Germany, especially in light of changing consumer preferences for online shopping and home delivery?"

Interviewee: "Yes, it's starting to happen now, but the problem has always been that online and frozen food don't necessarily go together. Shipping frozen products is something different than shipping fresh products or dry goods, for example. It's much more difficult: the cold chain can't be broken, and that's been relatively difficult until now. A lot is happening at Amazon at the moment and there is also a bit of movement among the others. So, we can only wait and see whether this will continue to evolve. But I think it's still a problem because frozen food needs this closed cold chain. It can happen quickly if the frozen goods are transported in normal vehicles and with other parcels, even if the frozen goods are isolated and delivered in appropriate containers, delays/interruptions in the cold chain can occur, especially in summer. Who is responsible if the temperature is no longer correct? Um... that's a difficult issue."

Interviewer: "And in your opinion, who are the major players in the German frozen ready-to-eat meal market?"

Interviewee: "The biggest players are those who also make conventional products. So, a company such as Frosta or Um... These are the ones who make large quantities of convenience anyway and for them it is easy to change the recipe moderately and convert their assembly line production to organic."

Interviewer: "Are there any new or emerging or innovative companies that are disrupting the market?"

Interviewee: "There are always new starters, but in the frozen food sector/ convenience/ ready-to-eat meals, these are usually just new brands. So, companies that say, oh, I have a recipe here or an idea of a recipe, I'll do some nice marketing and ask whoever is producing it anyway to just do the

whole thing under my brand. These are actually marketing companies and not real companies. So today you can buy the same ready-to-eat meal from five brands, all of which are the same manufacturer... they are actually just additional brands. One puts more emphasis on this, the other more on that, but in the end it's one production, one manufacturer, just packaged differently. It's also a bit sad, because the consumer is suggested a variety that doesn't exist, and he always ends up buying the same product. The biggest difference might be a little more pepper or a little more salt, but the rest is the same."

Interviewer: "That's very interesting for me, I wasn't aware of that before! And do you have personas or insights about different types of customers that you would share with us?"

Interviewee: "We haven't done any research like that, but what we see when we're at consumer fairs is predominantly women dealing with it and less men and more in the middle young range, so not the very young and not the older ones either. Here you must differentiate, because everyone buys pizza from young to old and also male and female. But when it comes to ready meals, it tends to be women. And middle-aged! And working! She doesn't have much time and opts for something quick and easy."

Interviewer: "And what, in your view, are the predominant consumer preferences and trends within the frozen ready-to-eat meal segment?"

Interviewee: "That goes in the direction of vegetarian/vegan, although there is also the countertrend of people who then immediately ask for something with meat. With so many vegan options, they miss something else and want something with meat or fish. It is always so: from a trend a countertrend establishes itself. But you can definitely say that the vegan and vegetarian sector is on the rise."

Interviewer: "Have you observed any notable shifts in taste, for example demand for different cuisines?"

Interviewee: "German cuisine tends to be neglected. But Asian, Um... Italian, Mediterranean cuisine or the Um... Oriental cuisine or Indian cuisine. The demand is definitely there. But the demand for different cuisines has been there for a long time, it's nothing new. Mexican and so on."

Interviewer: "How do health considerations shape consumer decisions and influence product development in this market?"

Interviewee: “I would rather say that the health aspect is there but is reduced if a product is organic or vegan, then consumers expect that the product is good. One takes less was within organic or within vegan that there are of course better products and worse products, it is not necessarily 1:1 healthy. But the consumer simply associates that with: if I buy vegan, I have a healthy product and if I buy organic, then probably also. But that's not always rational."

Interviewer: "Are there certain certifications or labeling trends that are gaining traction in the industry?"

Interviewee: "There is no way around labeling. The consumer expects it but complains about the many labels. But I am obliged to indicate that a vegan product is vegan and that a vegetarian product is vegetarian. If it is fairly traded, I have to show that it is a fairly traded product. If it's organic, I must show the organic logo somewhere. And already you have a lot of labels. Nutri-Score is another thing, actually a good intention, but it fails because it doesn't make a difference. If I use fat, for example, I can of course use a high-quality virgin olive oil, or I can use a refined oil, or I can use an animal oil. All different fats, some better and some worse, but only the fat content is decisive for the Nutri-Score, and you end up in the bad, red area. This is such a simplification that says nothing at all about the quality of a product. And suddenly you are in the same yellow row as a conventional product that contains the worst and cheapest ingredients. That's why I don't like the Nutri-Score and think it's a mistake. The customer should not be left alone like this! The big corporations understand very well how to get a product in a better zone. Moreover, I find it critical,

because if a product is in the green zone of the Nutri-Score, it appears as a healthy product. In Germany, there is a ban on advertising with claims that suggest that something might be healthy. But the Nutri-Score is a very indirect way of doing it …Um… and just not justified. If, for example, an independent laboratory examines the products and their ingredients and then gives a rating, then I think that's good. But at the moment the consumer is lulled into security, he is led to believe something, and he relies on it. The nutritional table is the best way to see if a product is healthy or not. And the ingredient list, if I see that the product contains 2.5 g of salt per 100g, then I have to say, “For God's sake, way too much”. And if I see that there is 46% sugar in it, then I also know that is way too much. But if I just rely on the Nutri-Score and I have a fruit product that is naturally very high in sugar but very low in added sugar, ... then I have to think about leaving the dates out or eating less, but I need to know that and I can't rely on the Nutri-Score. So, nutrition table and ingredient list and then I see if sugar is used at all or just because of the high fruit content. But the consumer has to read that to be able to interpret it at all."

Interviewer: "Sounds difficult! And how are sustainability considerations influencing consumer choices and product development?"

Interviewee: "In theory, yes, very much so. In practice, it's a question of the price. You must look at it very clearly like this. The consumer wants everything: fair, sustainable, organic, healthy, and more, but it can't cost more, or be much more costly, than the conventional product, which is assumed not to have all those qualities. It's very difficult."

Interviewer: "Since time is limited, I would like to ask the last question: In your opinion, how can research on consumer perception and behavior regarding frozen ready-to-eat meals benefit the industry?"

Interviewee: "It can show ways to do without more additives, which is not easy in the area of ready-to-eat meals. We also have some dishes that we don't season at all and leave it up to the end

consumer. They can then decide whether it should be more or less spicy today, or whether it should be Asian or whatever... But these dishes are less popular. It's more popular when the dish is completely ready to eat. Then the consumer doesn't have to worry about it at all, you just put it in the microwave, and you know what to expect and you don't have to feel like a chef yourself. It's difficult to figure out which ingredients you can substitute."

Interviewer: "Thank you very much for the interview!"

Interviewee: "A pleasure!"

Appendix 20 – Industry Expert Interview with Tabea Hieke from REWE Group's PENNY

Interviewer: "Hi Tabea. Thank you so much for doing the interview with me! This helps us a lot with our Master's thesis!"

Interviewee: "Hi Thea. I'd love to! I was previously at Barilla and am now in retail, so have been in the food industry for a while."

Interviewer: "Before we start, could you briefly describe your current position and the company."

Interviewee: "I work at PENNY, PENNY is part of the REWE Group, and I work there as a Junior Marketing Manager in Brand and Campaign, which means I implement campaigns, especially on PENNY's digital platforms and all that with industrial brands. I'm responsible for industrial marketing, which means we implement sweepstakes, social media posts and so on with different suppliers like Barilla, Pringles, Pepsi, and Coca-Cola."

Interviewer: "Very exciting! The first part is about learning more about the frozen ready-to-eat meals market. What are the most important trends or developments that have shaped this market in the last years?"

Interviewee: "So definitely the topic of sustainability, climate and environment, but also social issues has become extremely big in the last five/six/eight years, has experienced an extreme peak.

Organic and Fairtrade are a topic. But it can also be observed that the peak of sustainability is decreasing. That we all must do it and if you don't do it, it doesn't work at all, so you engage sustainably or you save sustainably and so on. But that's not as strong anymore. Social issues are becoming more and more important, for example we have the "Förderpenny", which is a campaign where clubs are supported by rounding up pennies."

Interviewer: "What kind of clubs are they?"

Interviewee: "For example, sports clubs, craft clubs, all kinds of youth clubs. Then nutritional trends, which are clearly reflected in the products. For example, you can now see protein-rich products everywhere. Then no added sugar, sugar avoidance is an issue. In general, you can see here that healthy eating / balanced nutrition is becoming increasingly important. But you move away from the light products. They still exist, but they had their peak 10-12 years ago and back then, there was every product in a light version. And then, definitely, the gluten-free, vegetarian or vegan lifestyle is a big trend that can be felt. As a result, the vegan and vegetarian range has expanded significantly in almost all categories in recent years, both on the part of the industry/brands and on the part of retailers/own brands. And if you consider that 10 years ago it was totally difficult to get gluten and lactose-free products in normal supermarkets and now every supermarket like Lidl and Aldi has its own products. New is a bit keto, but that has not yet affected the range. In general, a healthy and balanced diet is strongly the focus of society, but it has also been noticed, especially in times of crisis such as COVID-19, that individual "enjoyment" has also increased again. This was especially evident during the pandemic when restaurants were closed. So COVID-19 had an impact and now also the Ukrainian war and inflation. This is reflected in very high price sensitivity on the part of customers and in very tough price negotiations between industry and retailers. Um… Then there is always the topic of digitalization. Not only online shopping, but for example Amazon now also has food. In the city, you have even more options

with Flink or Gorillas - which you don't necessarily have in the countryside now. Or Flaschenpost. And then there is also the Rewe delivery service or other delivery services that are getting involved. What has developed very strongly in recent years are social media trends. That e.g., products / certain brands get a hype, and it came to very high sales figures, that even partly the products were sold out and there were production bottlenecks."

Interviewer: "That was a very detailed answer! Thank you for that. We will discuss some topics in more detail later. But now, what are the biggest challenges for companies in the frozen food industry?"

Interviewee: "I would say that the issue of freshness and also the trend towards healthy eating is problematic. The image and frozen products are seen as unhealthy. The nutrients/ingredients usually do not fit a healthy and balanced diet. This has created a gap in the market, which is increasingly being filled by start-ups like Every Food to serve exactly these trends and needs of customers. We have a very fast-paced society and more and more single households, and I expect the range of frozen foods to change due to these trends."

Interviewer: “You just mentioned the start-up Every. Do you know of any other innovative companies that are currently disrupting the market?”

Interviewee: “I'm not aware of any, but sure.”

Interviewer: “And if you take a look at the frozen ready-to-eat meals market in Germany, how would you expect or describe its growth over the next five to ten years?”

Interviewee: “This is a personal opinion, but I think that since we live in a very fast-moving world with many one- to two-person households, I can very well imagine that frozen pre-made meals will play an increasingly important role, especially in urban areas. However, frozen ready-to-eat meals would have to serve the trends: price sensitivity, sustainability, and health. They would have to be

cheap; they would have to be produced sustainable, and they would have to be healthy. And then the market will grow! We are fast-moving and frozen products don't spoil. Fresh things do."

Interviewer: "Are there notable regional variations in consumer behavior and market dynamics within Germany?"

Interviewee: "The main difference lies in shopping behavior. There is a difference between urban and rural areas. In urban areas, the frequency of purchases is higher than in rural areas. However, the value of a purchase is higher in rural areas than in urban areas. Otherwise, there are regional differences in terms of regional traditions, so that the assortment is also adapted to the regional cuisine, e.g., in Bavaria, "Weißwurst" is part of the fixed assortment and in the north it is not."

Interviewer: "Are there changes in distribution channels or partnerships that are noteworthy?"

Interviewee: "Digitization certainly plays a major role here. Groceries can increasingly be ordered online from other sellers such as Amazon. In addition, private labels/products like Every Food have their own online store, bypassing retail as a distribution channel. New retailers like Gorillas as a grocery delivery service have also changed the market a bit. But that's more in the urban area and not in the rural areas. And to remain competitive here as a traditional retailer, Rewe, for example, has introduced the Rewe delivery service. Penny also had an online store until the end of 2021, but that was not profitable for Penny and we have abolished the e-commerce store again. A super new topic is app and own loyalty programs, Lidl is already very strong there."

Interviewer: "Again, to the Rewe app and the online store, you can order frozen products there?"

Interviewee: "That is exactly what you can do. You can pick them up or order them home. Rewe has little trucks like that can hold the cold chain. I did that myself when I had COVID-19, and it was super convenient!"

Interviewer: "In your opinion, who are the major players in the German industry?"

Interviewee: "Of course, the big players covering different categories are very strong market players like Mars, Dr. Oetker, Nestle, and Unilever. They simply have a big budget. But also specialized big brands like Barilla or Intersnack are market drivers in their category. Nevertheless, retailers have strong competition from branded products due to the now strongly established private labels, especially due to the increasing price sensitivity of customers."

Interviewer: "And in the area of frozen ready-to-eat meals?"

Interviewee: "I would also say the big brands in the frozen food section, like Frosta or Iglo ... and of course the private labels."

Interviewer: "Are there specific strategies that brands employ to build and maintain trust?"

Interviewee: "These definitely exist, or they wouldn't survive. The industry often tries to become a LOVE brand and convey a feeling, a sense of consistent quality and uniqueness. Frosta often advertises consistent quality and uniqueness and tends to have strong image communication rather than sales/promotion communication. They try to be a love brand."

Interviewer: “The second part of the interview is dedicated to exploring consumer values, preferences and choices. Do you have personas or insights for different customer types that you would share with us?"

Interviewee: "Of course we have them, but I'm not allowed to share them with you. Knowing the target group is incredibly important and an important selling point. My opinion based on data like sinus milieus and the total market is that the typical reason for using frozen ready meals is the fast pace of society, also the lack of time, and that it is just very convenient. And you don't need to know how to cook! In the past, it was common for women to attend a special school to learn cooking and housekeeping. Then it's mostly young adults who are studying or entering the workforce, and senior citizens who can't cook because of physical limitations due to age. I would say the genders are mixed, perhaps with a tendency for men to consume more convenience foods.

And lots of singles and single moms or dads. And then career-oriented people with a high number of working hours, so then there is a lack of time."

Interviewer: "I understand that, but still thank you for the insights. And what are the predominant consumer preferences and trends in the frozen ready-to-eat meal segment?"

Interviewee: "Simple, Fast, Healthy, Affordable, Sustainability, these are the four … five."

Interviewer: "Have you observed any notable shifts in taste, for example demand for different cuisines?"

Interviewee: "I find this a very interesting question! Italian and Asian cuisine are a very strong representative in the frozen food sector. Increasingly you see more and more bowls, I don't know now what kind of cuisine it is, maybe Hawaiian in doubt. Again, that reflects the health trend. It's also interesting that American cuisine has tended to become less important in the frozen food sector, which again shows that the trend is towards healthy eating. A few years ago, the product range was much larger, but today it is much smaller, so that there are no longer five variants of a product, but just one. And German cuisine is playing an increasingly important role regionally for nostalgic reasons, i.e., "eat like grandma used to"."

Interviewer: “That's so interesting! Well, we have already started to talk about the health topic, and I would like to go even more in depth. In your opinion, how do health aspects influence consumer decisions and product development in the market of frozen ready-to-eat meals?”

Interviewee: "Very strong! Since the topic of healthy eating / lifestyle has moved strongly into focus, but away from light products. And that is also reflected strongly in the broad offer of high protein and organic."

Interviewer: "Are there specific certifications or labeling trends that are gaining importance?"

Interviewee: "There has been a trend, but now it is required by law. It started as a trend, then there was an outcry, and now it's a legal requirement. A few years ago, for example, it was permitted to

state "modified starch" on the product. Today, it must be clearly stated whether it is wheat or corn starch. It is now a legal requirement for manufacturers to state on the packaging whether their product is vegan, vegetarian, organic, fairly traded, and so on. There has been a lot of work on transparency here and this will continue. Then, the Nutri-Score is a certification that tends to be newly introduced. However, it is increasingly being used by many manufacturers, but also in communications. However, there is already a countermovement here, as, for example, a vegetarian frozen dish is labeled with Nutri-Score B and there is criticism here that customers are being led to believe that it is healthy. The Nutri-Scores are limited to the respective category, and many consumers do not know that. I could imagine that there will be legal stress here."

Interviewer: "Very exciting how and if this will change! And how are sustainability considerations influencing consumer choices and product development in this market?"

Interviewee: "That’s a trend! As a result, the industry has already adapted strongly here, e.g., packaging and product manufacturing are being made more sustainable. Likewise, almost everyone advertises sustainability commitment. But a split can now be observed here. Before the pandemic, sustainability was at its peak as a purchasing decision component. However, due to events such as COVID-19, the Ukrainian war, and inflation, the trend has weakened somewhat, and price sensitivity is usually the most important component in the purchase decision process: the individual suffering beats societal good - so I don't care about the environment if I couldn't afford the product otherwise."

Interviewer: “I find that very interesting! We are already at the last part of the interview. In this part, I would like to find out more about certain attributes that could be important for consumers in the frozen ready-to-eat meals sector. In your experience, what product attributes do consumers value most when choosing frozen ready-to-eat meals?"

Interviewee: "Definitely the price, that makes the difference at the moment, especially in these times of inflation! After that comes the ingredients, because of the healthy diet, then comes the quality, the taste and with frozen products comes in my opinion then also the convenience."

Interviewer: "Are there specific qualities or features that tend to differentiate one product or brand from another?"

Interviewee: "There are definitely differences in communication, it starts with the price, it's about what kind of image is in the head. It's about the image effect, where you feel more comfortable, then the price is often decisive and therefore many consumers buy the private label or promotional items. Then it depends on the assortment, Frosta has an incredibly wide product range and has healthy things in it."

Interviewer: "And how would Penny like to be positioned in the market?"

Interviewee: "Penny wants to arouse a good feeling in everyone and deliver a top performance. We want to be genuine and appreciative!"

Interviewer: "How do you perceive the overall quality of frozen ready-to-eat meals in the market?"

Interviewee: "I would say that the crowd is a bit behind the trend and that good ingredients, quality, and health are not yet so much in the focus of frozen ready-to-eat meals. I think other categories are definitely already pioneers. It's more of a focus: convenience first, then taste, then price. These are currently the three focus elements of frozen ready-to-eat meals and I believe that ingredients, quality, and health are increasingly playing a role. Frosta as an example or Every Foods are already doing this and have worked out their USP. But the masses are still lagging behind."

Interviewer: "And how important is the quality of ingredients in consumers' perceptions of frozen ready-to-eat meals?"

Interviewee: “The current broad target group is less interested in it, otherwise they would not consume it.”

Interviewer: “To what extent do consumers rely on brand reputation and trust when selecting products in this market? Do I stick with a brand such as Frosta or choose based on the day?”

Interviewee: “Image and trust in a brand are the means by which brands justify their prices. And nostalgia also plays a role: Grandma or mom already had that. But there has been a lot of transparency, and private labels are just as good quality, but are cheaper. Since price sensitivity is a big influencing factor here, some customers are switching from branded products to private labels. This is because these now also have a strong image. Brand loyalty fluctuates, especially in the food sector, and the brands notice this. There is certainly still a lot of potential in the private label sector, but at least the trend of price sensitivity has been taken into account here. And in the food sector, people are the first to start saving."

Interviewer: "Very exciting! Are there specific ingredients that are becoming more important to consumers?"

Interviewee: "Yes: no added sugar, no glutamate, natural ingredients, healthy fats, little to no chemicals, so flavors, and concentrates. This is no longer in style and people are paying attention. Plant-based food is more important and vegan and vegetarian diets. Gluten-free also plays a role and lactose-free. And high-quality meat. If a dish contains meat, it should be of good quality and thus, it plays a role in the ingredients. And you see, individualism is a big topic! There has to be a meal for everyone, something for the vegans, something for the vegetarians, something for the gluten intolerant, such as dishes with cauliflower rice.”

Interviewer: “And do you expect a growing demand for products for specific dietary needs or preferences? So are there trends toward more natural or healthier ingredients?"

Interviewee: "This trend definitely exists, and it is growing. There are trend tendencies towards alkaline nutrition, away from industrial foods back to regional pure foods."

Interviewer: "How important is nutritional value to consumers, and are there particular nutritional aspects gaining prominence?"

Interviewee: "Strong. It is always individual and differ. But the sugar content and the proportion of unhealthy fats has become more important."

Interviewer: "Is there an ideal product size and if yes what would it be?"

Interviewee: "I guess it depends on the target group. There are many single households. I think that one to two plate sizes in particular will prevail for frozen products. After all, everything must also fit in the freezer. Not many 750g packages fit in there. But these are then perfect for families."

Interviewer: "To what extent does packaging and presentation in store influence consumer perceptions and purchasing decisions in this market?"

Interviewee: "Very strong, I even wrote my Master's thesis about it! Very strong, because it is usually the first contact with the product at POS. It is absolutely crucial, especially for impulse purchases. There are so many offers, and packaging and design play a big role. For frozen products, the presentation of the dish on the packaging is very crucial to make it look appetizing. It should look healthy and delicious, but also not too photoshopped, so it should still look natural."

Interviewer: "Are there packaging trends or innovations that have gained prominence?"

Interviewee: "For quite some time it was very colorful and there were a lot and quite a lot of photos. But now the general trend movement is towards cleanliness. Clean is synonymous with high quality, so it doesn't take a lot. And pop-up design, for example with Piccolinis, they now have blue packaging. Very smart with pizza, because there's no blue packaging, otherwise it's more red, white, yellow, brown, more Italian. And the blue is incredibly eye-catching and works, it's really cleverly done. So eye-catching colors and also color combinations that are a bit wild and don't go together at first glance. For example, a chicken fricassee with purple packaging. Or the chicken fricassee from Netto has a mint packaging. Doesn't make sense, but it's an eye-catcher. And less

product shots, so less dishes strung together and more individual elements of the dish, for example a carrot in the chicken fricassee. Especially more graphic and design elements."

Interviewer: "Are there any emerging or niche product attributes that you believe have the potential to impact the market significantly in the future?"

Interviewee: "Definitely the dishes from Every Foods. They have super clean, unique packaging. They have healthy and balanced foods, pure and natural foods. Of course, I'm not a food expert, but it's mostly about marketing/image. Every is sustainable and has a great image. I think they will disrupt the market. Simply healthy and pure foods will become more and more important. There will also always be people who like the unhealthy taste/glutamate, so the supply should still be there. But also fancy exotic foods in the form of bowls."

Interviewer: “Are there any other product innovations in the frozen ready meals sector besides the start-up Every? Are there any recent breakthroughs or innovations?"

Interviewee: "Frosta High Protein dishes. You always notice when brands do a good job, then the private labels follow, and Aldi has cauliflower rice. Oh, and cauliflower rice has become so popular through social media. There is certainly still potential here on the broad market, but in one place or another there have already been innovations that serve the trend toward healthy eating. The market is not particularly innovative and still has potential."

Interviewer: “In terms of product development, what aspects or features in particular would you like to understand better?”

Interviewee: “Hmm... I need to think for a moment. The ingredients would be interesting. What is really in it. And of course, the price, the price is always important.”

Interviewer: "Last question: In your opinion, how can research on consumer perception and behavior regarding frozen ready-to-eat meals benefit the industry?"

Interviewee: "Research can support the market by making the industry aware of the general trends. In other words, by clearly communicating and showing that customers or their target groups demand fast, healthy, and affordable meals. It's no use releasing the 10th frozen lasagna with cheap meat. Vegan and vegetarian is important, but just because a product is vegan or vegetarian doesn't mean it's healthy. But many consumers expect that. That's where research is incredibly important. How is the target audience polarized? Where are the trends going? In addition, research can shed light on how healthy or unhealthy the frozen ready meals in question really are. We now know that frozen vegetables, such as broccoli, are sometimes healthier than fresh broccoli because they are flash frozen. This could possibly change the perception that frozen ready-to-eat meals are always unhealthy. And therefore, possibly change the image that frozen convenience foods are always unhealthy."

Interviewer: "Thanks for all the insights and sorry for running overtime!"

Interviewee: "No problem at all! Very happy to!"

Appendix 21 – Industry Expert Interview with Lara Boettcher from Frosta AG

Interviewer: "Hi Lara. Thank you very much for doing the interview with me!"

Interviewee: "Hi Thea. I know this too well and am happy to help you!"

Interviewer: "The interview is divided into three parts, before we start with the questions, could you briefly describe your current position and the company."

Interviewee: "I'm currently a junior key account manager at Frosta. Frosta Frozen Food. Frosta is a German company with headquarters in Bremerhaven. I work here in Hamburg, where we have a small location that is mainly responsible for marketing and sales. And we do everything that has to do with frozen food, with ready-to-eat meals as our strongest category. But we are also active in frozen fish, vegetables, and herbs."

Interviewer: "Very interesting! The first part of the interview focuses on the German market for frozen ready-to-eat meals. The first question is: "What are the most important trends or developments in the last years?"

Interviewee: "I've only been with Frosta for just under a year myself and can't look back on super much experience. But in any case, COVID-19 has led to an upswing. We are the market leader in frozen ready-to-eat meals and COVID has led to a huge upswing. People are all sitting at home and especially home office is just much more and there many people quickly made a frozen meal in the pan in the lunch break. You always have it at home. Um… That was very good for us. And that's a continuing trend because of course home office continues to just be done much more than it was before Corona. Otherwise, I can't think of any trends in the frozen meals market."

Interviewer: "Exciting! And what are the main challenges faced by companies in the frozen ready-to-eat meal industry?"

Interviewee: "So problems in general is the price in any case. Especially due to the Ukraine war, all raw materials have become more expensive, which of course we had to struggle with. We use so many different ingredients, especially vegetables. And of course, also all the energy costs, so I mean we have through frozen, the frozen goods must be cooled in the warehouse. Frozen products actually need to be refrigerated at every stage of the supply chain. And the energy costs have also risen significantly, and that's primarily due to the war and the associated inflation. Otherwise, problems... Um... An omnipresent issue is that the freezer space in supermarkets is limited. Even if we had great ideas and wanted to introduce many new products to the market, they wouldn't all fit in the supermarket. This is even more constrained than with other products because, of course, we can't set up a display stand or something similar."

Interviewer: "In your opinion, who are the major players in the German market?"

Interviewee: "Of course Frosta. Next to Frosta, only Iglo plays a role in the market for frozen ready meals. And the private labels."

Interviewer: "And are there any emerging or innovative companies that are disrupting the market?"

Interviewee: "We haven't noticed much in that regard yet. Of course, we keep an eye on them because we also have an online shop and, in part, work with online providers where startups play a larger role, but so far... they often have a different target audience. For example, Every. could be considered a competitor, but they appeal to a completely different target audience than we do. Frosta is for everyone, and Every, I would say, with its vegan products, caters to a more niche market and targets an urban audience, while we tend to focus on the broader masses."

Interviewer: "You have already said that COVID-19 has brought a boost. Do you anticipate rapid and substantial growth in the frozen ready-to-eat meal market in Germany over the next five to 10 years?"

Interviewee: "Hmm... we hope for further growth, of course. There is potential in the market, but the customer base for frozen ready-to-eat meals is not as large as the customer base for frozen pizza. We can't grow our market share so much because we are already the market leader. But the category itself can still grow. I don't have any current forecasts or data, but we assume that the category will continue to grow. We want to continue to grow and for that the category needs to grow. This is something we are actively working on. As the market leader in the frozen ready-to-eat meals category, Frosta is positioned to support and even drive the growth of the category. This year we are celebrating the 20th anniversary of our Purity Promise. The Frosta Purity Promise has been in force since 2003 and all products marketed under the Frosta brand must meet numerous criteria, such as being free from any additives. And for this birthday we have a huge marketing campaign. It's bigger than ever before. The campaign is running in all media and in so many cities. And not only in large cities, but also in smaller ones with 100,000 inhabitants or more. Posters are

displayed everywhere, and I am confident that as the Frosta brand becomes more well-known and grows, the category will also expand accordingly."

Interviewer: "Are there notable regional variations in consumer behavior and market dynamics within Germany?"

Interviewee: "Yes, there are definitely regional differences. The differences are not radical, but for example our best-selling product, the chicken fricassee, sells better in the northern regions than in the south. Sometimes we are not quite sure what the reasons are, but it seems that the South prefers the more traditional, homemade dishes. There is sometimes a North-South divide, and this was quite noticeable with the chicken fricassee. But we don't have a different product portfolio in the north compared to the south. It's the same."

Interviewer: "Are there any notable changes in distribution channels or partnerships for frozen ready-to-eat meals that have taken place? Especially in light of changing consumer preferences for online shopping and home delivery?"

Interviewee: "In itself, there have been no changes. We work with the big players, so Edeka, REWE and Kaufland and rtg, these are many small retailers. There haven't been any changes. The changes are primarily online. For example, there's Picnic, a grocery delivery service that has been mainly in North Rhine-Westphalia and recently expanded to Hamburg. They often have region-specific offerings, creating a new dynamic in the market. Or Oda, with whom we were in business, but they've gone bankrupt, so that's changing. Then there's Getir and Gorillas. Getir acquired Gorillas. So, the online providers are growing, and of course that changes the landscape. But other than that, I would say that there aren't that many changes."

Interviewer: "Are there specific strategies that Frosta or other brands employ to build and maintain trust?"

Interviewee: "We place an incredibly high value on transparency. Um... It's part of the Frosta identity. It’s rooted in our Purity Promise. This command dictates that we cook with simple ingredients, just as you would at home. We certainly don't want our customers to feel that we are tricking them. We communicate openly about everything, on our website, and we also actively use our Instagram channel. Of course, we reach a specific audience there. But we also list all the ingredients on the back of our products, including their sources, and there's a QR code that you can scan to access an ingredient tracker. For example, we recently standardized our herb packaging, as we used to have various sizes, and we wanted them all to be the same size, which is also preferred by retailers. This led to changes in ingredients and such, and we communicate all of that openly and proactively on our Instagram channel. We're always available to answer questions and hope to maintain consumers' trust in the end.”

Interviewer: “The next part of the interview focuses on identifying consumer values, preferences, and choices from your viewpoint. The first question: do you have personas or insights about different types of customers?”

Interviewee: “Our target group is everyone! So, we are not aimed specifically at a particular group. Basically, Frosta is there for everyone. Of course, we tend to appeal more to single households because one bag is one serving. A family typically wouldn't buy four bags, they would buy something else. However, we don't focus on this aspect in our communication, we want to address everyone."

Interviewer: "That is interesting! And what are the predominant consumer preferences and trends within the frozen ready-to-eat meal segment?"

Interviewee: "There are definitely trends. Veganism is a general trend, and of course Frosta is part of it. I think since 2020, we've also introduced vegan versions of classic dishes such as Chicken Fricassee, which is our top-seller. We've created these using a meat substitute made from pea

protein. And there's also a vegan version of the Chicken Paella, Roast Potato Skillet, and um...one second ...Um Bami Goreng in vegan. And we've expanded that, for example, we introduced the vegan frame steak about two months ago. We are working on it. It's certainly a trend. But it is a trend that although is growing fast, is still niche and not as strong as our classics. Many people still buy meat. And other than that, ... Besides that, we've introduced a Butter Chicken. So, we're looking at trends in all directions, including online hashtags and statistics from delivery platforms like Lieferando, which show what people order frequently, there you can read a bit what people like. So, this helps us understand what people like. Asian cuisine is very popular, and Frosta has been offering 3 dishes called Asian Street food since last year. It started with our participation at the OMR in Hamburg, where we collaborated to create a dish based on the Korean Bibimbap. That was the beginning, and now we have a whole range of Asian Street Food dishes. But the classics are simply popular."

Interviewer: "How are health considerations influencing consumer choices and product development in this market?"

Interviewee: "I'm not aware of that, and from the feedback we gather from social media or similar, I would probably know if it were a significant issue. Sugar is mentioned sometimes, but not frequently. Even in the case of vegan products, I don't have the impression that they are purchased for health reasons but rather due to conviction. And because of our Purity Promise, Frosta is often perceived as healthier. I know this from studies."

Interviewer: "It is mandatory that a product that is vegan/vegetarian/organic must be explicitly labeled. But are there other certifications or labeling trends that are gaining traction in the industry?"

Interviewee: “The topic, of course, is the Nutri-Score, which we don't work with because we're not convinced of it. But most private labels, like those from REWE, have adopted it. It's definitely a

movement, but I'm not sure how much significance it really holds on the consumer side. Also, there are no demands from our consumers for our products to reflect the Nutri-Score. Other than that, I don't have further information."

Interviewer: "How are sustainability considerations influencing consumer choices and product development?"

Interviewee: "Frosta is very committed to this. For example, with vegan products, it's not just a trend. Frosta has set strong goals in this regard. A certain part of our product range is vegan/vegetarian. We publish a sustainability report every two years, the last one is from 2020, as we are currently working on the latest report. We also make sustainability a part of small things. For example, our CEO usually comes by bicycle and frequently takes the train rather than flying. Or many of our key account managers don't have a car anymore and take the train. We live these practices in small ways throughout our company. Our office fruit basket contains organic fruits. And so do consumers. Our plastic bags are purely made of plastic, containing 100% of the same material, which makes them easy to recycle. This is also why they are white, because lighter colors are easier to recycle. And we communicate all these aspects on our website and through our Instagram. For example, the herb boxes I mentioned earlier. They have all the same package which reduces the packaging material. Sustainability is an ongoing theme for us. We even have a dedicated sustainability team that conducts research and manages ongoing projects."

Interviewer: "Frosta had a paper package. Could you please tell me more about it?"

Interviewee: "We had vegetable mixes that were completely unseasoned and packaged in paper bags. Our aim was and still is to extend this sustainable packaging to all our products. But it's not as easy as we initially thought. There are various factors to consider, such as seasonings, sauces, like beet... Plus, the packaging needs to keep tight and does not open. But we'll keep researching it!"

Interviewer: “We are now at the last part of the interview. Now I would like to find out more about certain attributes that could be important for consumers in this industry. From your experience, what product attributes do consumers value most when choosing frozen ready-to-eat meals?"

Interviewee: "It is still the taste. That is the most important thing."

Interviewer: "Are there specific qualities or features that tend to differentiate Frosta or its products from another brand?"

Interviewee: "The Purity Promise is definitely the most important aspect. We adhere strictly to it, and sustainability also plays a role. For example, we don't do air transport, we don't have any raw materials that were transported by plane. This is quite unique, and otherwise the taste."

Interviewer: "In your opinion, how do you want to position your brand in the market?"

Interviewee: “Definitely transparent, then down-to-earth, um... international, so the company is German, but we also have other locations and also in terms of the dishes. Um... convenient, then sustainable, and also delicious.”

Interviewer: "How do you perceive the overall quality of frozen ready-to-eat meals in the market?"

Interviewee: "Good. But, of course, when you test some brands and open bags of Frosta and bags of private labels, you can usually see differences. That does not mean that the other is bad, but it may be, for example less diverse or less flavorful."

Interviewer: "And how important is the quality of ingredients in consumers' perceptions of frozen ready-to-eat meals?"

Interviewee: "This is important! Consumers, of course, have different demands, but it is important."

Interviewer: "And to what extent do consumers rely on brand reputation and trust when selecting products in this market?"

Interviewee: "Yes, but not only. It's quite mixed. So, there are occasional buyers, but also many regular and loyal buyers."

Interviewer: "How important is nutritional value to consumers, and are there particular nutritional aspects gaining prominence?"

Interviewee: "We always make sure that we have a source of protein. I've never asked the marketing department if there's a specific demand of consumers for this, but we definitely pay attention to it, so I believe it's important. In the case of vegan dishes, the protein source comes from meat alternatives. And in the vegetable mixes, for example, lentils are the source of protein."

Interviewer: "How does pricing influence consumer perceptions and their willingness to purchase frozen ready-to-eat meals?"

Interviewee: "Yes, the price, especially in times of rising inflation, definitely plays a significant role in the purchase decision. And as everywhere, we can already see that promotional sales have increased, so the ratio, and that applies to the entire retail sector. But these are challenging times, but we continue to grow due to the limited number of brands. But people prefer to buy in promotion than in the past."

Interviewer: "Is there an ideal product size and if yes what would it be?"

Interviewee: "Yes, I mean, the 500g is the standard portion size that one person needs and has. Um, and we have a few dishes with 450g. So, our standard dishes are 500g, and a few with fish because salmon and such are more expensive, so they're 450g but have the same recommended retail price as the 500g dishes. So, most of our products are 500g."

Interviewer: "To what extent does packaging and presentation influence consumer perceptions and purchasing decisions in this market?"

Interviewee: "We have a sales team that works in this area. For packaging, we conduct consumer tests beforehand to see what is well-received. There are design changes from time to time. Sometimes they are just minor details, like how well the preparation time is displayed. So people can see that better. We're always researching in that regard. Um… And in the supermarket, we pay

attention to it. The best thing is when you have a block, and then our sales staff sort products by colors. The consumer doesn't always notice, but we have a system behind it. For example, all our meat dishes are in red, the vegetarian dishes are in orange, and the ones with fish or beef are in black."

Interviewer: "Are there any emerging or niche product attributes that you believe have the potential to impact the market significantly in the future?"

Interviewee: "That's difficult to answer. It's always possible that a trend or startup will surprise us, who knows, but currently I don't know anything."

Interviewer: "And now the last question of the interview: How do you think research into consumer perceptions and behavior in relation to frozen ready-to-eat meals can benefit the industry?"

Interviewee: "It would be interesting for us to know what motivates customers to buy, i.e. how we can get them to buy even more and even more often from us. Otherwise… Um... feedback about the taste. But we already have that. We have all products on the website, and anyone can leave comments. We also publish them unfiltered, so we don't review them beforehand, and we don't delete negative comments. That is all openly visible."

Interviewer: "Thank you for the interesting interview!"

Interviewee: "Have a great day too!"

Appendix 22 – Academic Expert Interview with Prof. Dr. Habil. Anja Kroke

Interviewer: "Good afternoon, Professor Dr. Habil. Kroke. Thank you for taking the time!"

Interviewee: "Good afternoon, with pleasure!"

Interviewer: "I have of course researched online, and it seems that your area of expertise is preventive nutrition. Could you give some insights into your research area?"

Interviewee: "Yes, that is essentially correct. I have a medical background and since studying medicine I have been interested in questions of nutrition in connection with the prevention of chronic diseases. This has always been my focus and also the focus of my research activities. For a long time, my research focused on the connection between nutrition and diseases such as cancer or high blood pressure. And um... I researched what individuals can do to prevent such diseases through their diet. That's the idea. That's what preventive nutrition is."

Interviewer: "That sounds like a fascinating research project you are working on! We are currently writing our Master's thesis at the Nova School of Business and Economics, and we are conducting market research on frozen ready-to-eat meals in the German market. So, we are studying the market for frozen ready-to-eat meals and nutrition trends to find out what consumers desire/want. For example, are consumers looking for healthier products? And for us it would be interesting to get an academic perspective as well."

Interviewee: "I am happy to provide an academic perspective and insights that might be valuable for your research. We tend to use technical terms. If you don't understand a term, feel free to ask me for an explanation or please interrupt me!"

Interviewer: "Thank you! Are there any food trends that have gained popularity with consumers in the academia in recent years?"

Interviewee: "In my opinion, this has completely changed the food market and it is quite impressive how many new products have come onto the market, including ready-to-eat meals, both fresh and frozen. Also, the plant-based substitute products, which are somehow considered essential and have become very prominent on the market. I think this is a major trend. Added to this are the efforts especially of young people, who are urging the need for individual behavioral changes in the face of the climate crisis. They have been successful in driving changes in the market and ultimately setting trends."

Interviewer: "Do you think that this dietary trend will continue in the long term?"

Interviewee: "I can't assess the veganism trend that well, but I am relatively convinced that we are experiencing a long-lasting trend, ultimately a transformation, both in the food sector/ production sector and in consumer behavior, moving toward what we call a plant-based diet. From a medical point of view, there is absolutely no reason to completely avoid animal products for health reasons. But, and this has been the case for years, if you consider the recommendations of the German Nutrition Society, they have been advocating moderate meat consumption for 30 to 40 years. We have to move in this direction, not just because we want to, but because it is something we have to do. We need to change agriculture so that more resources are allocated to producing plant-based food for direct human consumption rather than animal feed. I think there will be people who choose a vegetarian or even vegan lifestyle. I think and that based on my gut feeling and without any specific data to back it up, that the vegan sector may have peaked in terms of the number of people who are willing to make that choice, so the people who are willing to do it are already live vegan. There are many people who call themselves flexitarians and eat meat occasionally. But from my point of view, there shouldn't be any significant growth in the vegan sector."

Interviewer: "How about diet culture? It used to be a more prominent topic five years ago. Do you still observe diet culture having a strong presence in people's eating habits?"

Interviewee: "This is certainly still an issue in academia, as the number of overweight/obese people, both in children and adults, is still worrying. Childhood obesity has decreased slightly, but the overall trend is still very worrying. The increase in the curve has flattened out and is constant, but ultimately at a comparatively high level and that continues to be an issue and a problem. At the moment, this is overlaid with the idea that one can now inject something against obesity. There is a medication originally developed for treating diabetes that is now being used by overweight individuals to help control their appetite, and this is currently a prominent topic. If you have a

desire for change, then definitely look at the topic of how to eat properly, that means which diet is suitable, for example low-carb or high-protein. These dietary trends frequently circulate in the media."

Interviewer: "Wouldn't something like ready-made meals be an option to counteract this? Many people have neither the possibilities nor the will to cook healthy meals for themselves."

Interviewee: "Here, we would need to talk about the definition of ready-to-eat meals and what exactly is meant by that. So frozen food is a broad term. Ready-to-eat meals are, just as the term suggests, a prepared meal, and of course the idea of having a pre-defined meal with a pre-defined quantity to do this with is not a bad idea. But at the same time, we know that ready-to-eat meals are often suboptimal in terms of nutritional composition. Some of them have high fat contents, unfavorable fatty acid compositions, which ultimately also has to do with the price of the raw materials, and comparatively high sugar and salt contents. These are the things that nutrition scientists criticize as not being good. It doesn't matter whether they are home-made or ready-to-eat meals. From the industry's point of view, prepared meals are a great opportunity to earn money with inferior ingredients. If you look at the list of ingredients in a ready-made meal, there is a lot more in it than if I were to cook the same thing myself at home. It's about extending, it's about avoiding expensive ingredients, then it's about shelf life, preserving the look – things you don't need when cooking at home. Chemical ingredients are added and sophisticated measures are taken to disguise the use of expensive ingredients, for example by pretending that there is a lot in it, which is not the case in reality. This is exactly what makes ready meals so problematic. Whether individual ingredients are harmful to health is a different discussion. I would generally say that food laws in Germany are tightly regulated, and from a scientific perspective, we have very few indications that food additives actually contribute substantially to the burden of disease. From a medical perspective, it would be important to clarify what proportion of potentially pathogenic

substances contribute to the prevalence of diseases in Germany. And then I would say that what makes people ill is ultimately the choice and the relative composition, in terms of the nutrients sugar, fat and protein, especially sugar and fats are relevant here, and alcohol of course. So how much fruit and vegetables does the dish contain and so on."

Interviewer: "Do you notice a difference between brands? For example, there are the Green Cusine products from Iglo, which contain quinoa and seem to be healthier."

Interviewee: "For me, these are issues where the industry jumps on trends, and everything that is green is attractive to certain target groups. At the end of the day, the basic problem remains the same: a ready-to-eat meal contains a lot of things you don't want, or it only contains valuable, high-quality ingredients in small quantities. Quinoa, for example, was very expensive, and so companies only add traces of quinoa and something else and still advertise strongly with quinoa. That's just the strategy, and ultimately to extend the products by adding salts and water and to increase quantities and weight proportions. The food industry is quite clever, and I believe that the profit margins for ready-to-eat meals are relatively high. Of course, the companies have an interest in selling a lot and making money with low material costs. They want to make a high profit."

Interviewer: "What do you think would have to change in the industry to make frozen meals better or healthier?"

Interviewee: "I mean, I have looked at what frozen products are most popular in Germany, with the highest sales share, and interestingly, frozen vegetables come out on top. Um... This category includes a mix of frozen raw vegetables without further preparation and vegetable blends that contain an undefined set of spices, both are considered to be a part of the product category. This accounts for about 60% of the consumption, and then you have herbs, followed by pizza, which is the first thing that comes to mind when you think of frozen foods. The unit of measurement here is consumption several times a month. And about 40% of people consume pizza. And then there's

meat, poultry, fries, and rolls, and finally complete meals, with roughly 28% of people saying they consume them several times a month. So comparatively a small proportion and that's a statistic from 2019 to 2021. And these ready meals fall under what the German government has been doing for years under the national reduction strategy to reduce fats, salts, and sugar in ready-to-eat foods, whether frozen or not. These products are often in the spotlight and some manufacturers are already making efforts to reduce this, but there is still some room for improvement. And then there's still the question of whether the consumer would accept these changes if they were implemented."

Interviewer: "And can you estimate how important nutritional value is to consumers when buying ready-to-eat meals?"

Interviewee: "I can't assess that at all. There have been efforts with the Nutri-Score, which is a labeling system designed to allow consumers to compare similar products, like frozen pizzas, in terms of critical nutrients like sugar, salt, and fat. So, if I buy a frozen pizza, what is the most beneficial one from a health point of view in terms of the critical nutrients sugar, salt and fat. That is of course possible, there are of course margins in the evaluation. To what extent the score is understood and used is still controversial, and I believe that the impact of this label is not particularly significant as it is relatively complicated. In Germany, the decisive factor for purchasing decisions is still the price. That means that if a product is cheap, then the Nutri-Score A, B or C is not the decisive criterion for buying this pizza. And there's undoubtedly a connection between quality and price."

Interviewer: "If the quality of ingredients in frozen ready-to-eat meals were to be improved, do you think it would still be marketable, considering that the price would likely increase, and many people might think they can cook for themselves at the same price?"

Interviewee: "I think Frosta is the company that makes such offensive health- and environment-related advertising claims on the market. Yes, Frosta! I mean, in general, regardless of ready-to-

eat meals and frozen ready-to-eat meals, if you have quality standards for food, the price naturally increases in many areas. Now, the question is, what defines quality? For some, the quality is that it is produced regionally and organically. Or high-quality fat. Palm fat is the cheap fat that is often used. There are many quality requirements and demands on a dish, and if I want a salmon dish with fish that wasn't caught with a trawl, but in a different way, then of course it will be more expensive. That happens in many places, for example, I want ingredients from the region to be used, that palm fat is avoided, and so on, and that naturally has consequences. Then there is price elasticity, which is quite different for the various buyer groups. Who is prepared to spend more money on what? These are aspects that also play a role at the level of climate policy, what do people want and what they don't want. The next aspect is, of course, that frozen food does not have an environmentally friendly footprint because it has to be constantly refrigerated. The frozen food chain has to be maintained. It has to be kept cold in the supermarket and at home, which costs energy. I don't know the exact figures, but I would say that compared to a fresh product bought at the market, it's obviously not environmentally favorable. An advantage of frozen vegetables is that they are frozen quite quickly and then have a relatively high vitamin content due to the low storage losses. From this point of view, you could say that it is a high-quality product. I don't want to judge whether the small percentage difference between frozen and fresh products really has any health effects. But basically, something freshly frozen will last longer. And the portioning and the reduction of waste - can't go bad in the freezer - so that can certainly be an advantage."

Interviewer: "In your field, what is your recommendation for a balanced diet? And is that compatible with frozen ready-to-eat meals?"

Interviewee: “I would stick to the usual recommendations, which recommend a plant-based diet with a high proportion of vegetables and fruit, pulses and nuts, a low intake of meat and fish and dairy products in moderation. Personally, I hardly ever buy frozen ready-to-eat meals, just the

occasional frozen pizza for emergencies. But the last one has been in the freezer for 3 months now. My impression of these meals is that they lack a good balance of ingredients. Products that are inexpensive usually have a high pasta content and few vegetables. They only contain traces of broccoli and Gorgonzola, but the rest is noodles – basically wheat and water. This is not an adequate meal for me because the proportions are not right, after all, the majority of the meal should be vegetables and not noodles. Even though it's a vegetarian dish, the vegetable portion is often comparatively small. And when I eat such dishes, I always add vegetables to enrich the whole thing. That's why I wouldn't advocate using such dishes myself in order to eat a healthy and balanced diet. However, I'm not particularly familiar with the frozen ready meal market, so I can't assess it 100%, and perhaps the offerings have improved over time. That is beyond my knowledge."

Interviewer: "We have done interviews with people from the industry so far and your critical opinion helps us a lot. After all, many products are sold by the industry as healthy."

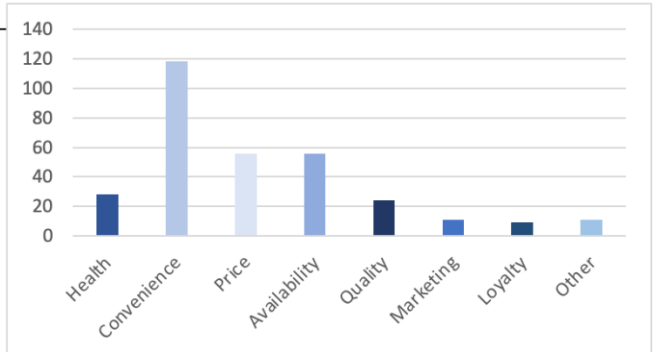
Interviewee: "The question then is, how do I define healthy? It really depends on the criterion. In Germany, as an aging society, there are seniors who need to take care of themselves and want to be independent, making frozen ready-to-eat meals an obvious choice. If I would work for such a company, I would specialize in catering to the nutritional needs of seniors and create something specifically for this demographic / target group. It works for mothers when you see what's on offer there, and many products suggest that the product is better than if you were to make it yourself. And that would certainly work with seniors, too. For example, we could tailor the product to the needs of elderly, that would be feasible! You could categorize products by age groups, which would be interesting for the industry because they could charge a premium for that. There's a baby food section and a vegan section, so why not have a section for seniors? The market would cater to that. So why not also frozen ready-to-eat meals for seniors?"

Interviewer: "Great idea! I asked you all the questions and I thank you for your time.”

Interviewee: "You're welcome! If you have any further questions, please feel free to contact me."

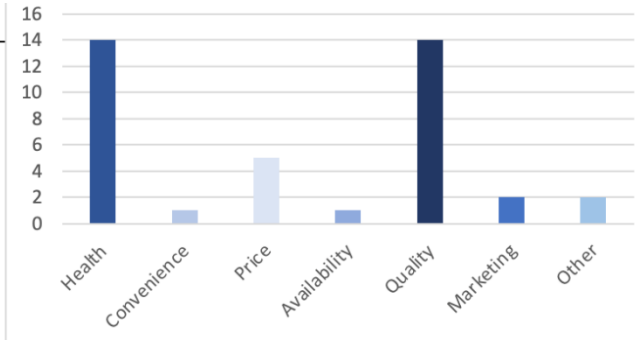
Appendix 23 – Reasons to Buy

Reasons to buy	in Numbers
Health	28
Convenience	118
Price	56
Availability	56
Quality	24
Marketing	11
Loyalty	9
Other	11

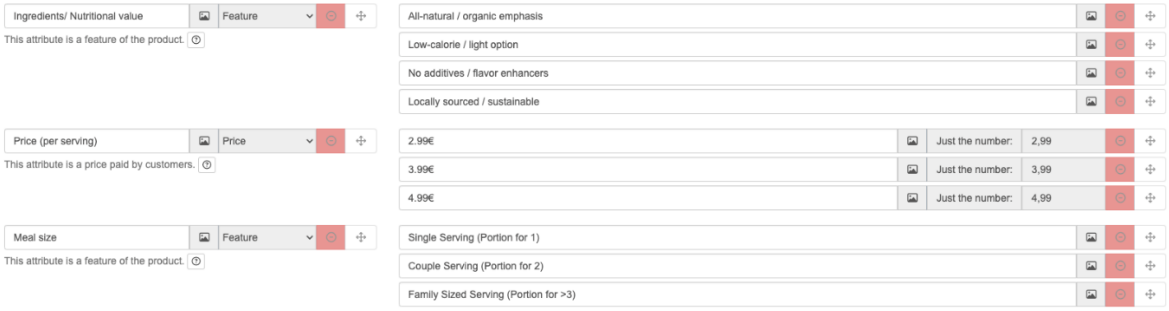


Appendix 24 – Reasons Not to Buy

Reasons NOT to buy	in Numbers
Health	14
Convenience	1
Price	5
Availability	1
Quality	14
Marketing	2
Other	2



Appendix 25 – Attributes and Levels Overview



Appendix 26 – Attributes and Levels per Brand

Levels	Frosta	Iglo	Ja!	Gut&Günstig
Cooking time				
5 minutes	✔	✔	✔	✔
12 minutes	✔	✔	✔	✔
20 minutes	✔	✔	✔	✔
Cooking method				
Pan	✔	✔	✔	✔
Oven	✔	✔	✔	✔
Microwave	✔	✔	✔	✔
Meal type				
Comfort / Convenience Meals	✔	✔	✔	✔
Health / Fitness Meals	✔	✔	✔	✔
Vegetarian / Vegan Meals	✔	✔	✔	✔
Ingredients/ Nutritional value				
All-natural / organic emphasis	✔	✔	✔	✔
Low-calorie / light option	✔	✔	✔	✔
No additives / flavor enhancers	✔	✔	✔	✔
Locally sourced / sustainable	✔	✔	✔	✔
Price (per serving)				
2.99€	✔	✔	✔	✔
3.99€	✔	✔	✔	✔
4.99€	✔	✔	✔	✔
Meal size				
Single Serving (Portion for 1)	✔	✔	✔	✔
Couple Serving (Portion for 2)	✔	✔	✔	✔
Family Sized Serving (Portion for >3)	✔	✔	✔	✔

Appendix 27 – Additional Questions

How often do you eat frozen ready-to-eat meals?

2-4 times per week	Once a week	Every two weeks
Once a month	Every few months	Almost never

What is your Age?

<18	18-27	28-46
47-58	>59	

What is your Gender?

Female	Male	Other
Prefer not to say		

What is your education level?

None	"Mittlere Reife" (GCSEs)	"Abitur" (A-Level/High school)
"Ausbildung" (Apprenticeship)	Bachelor	Master
Doctorate	Prefer not to say	

What is your occupation?

Student	Employed	Self-employed
Unemployed	Retired	Prefer not to say

Please indicate your living arrangements

Single Household	Living with Flatmates	Living with a Partner
Living with a Family		

Would you like to share any other thoughts about this product?

Type here

Appendix 28 – Desktop vs. Mobile Phone Layout

Which of the following Frozen ready to eat meals would you choose?

Brand	Iglo	Ja!	Gut&Günstig	Frosta
Ingredients/ Nutritional value	Low-calorie / light option	Locally sourced / sustainable	Locally sourced / sustainable	All-natural / organic emphasis
Meal size	Single Serving (Portion for 1)	Single Serving (Portion for 1)	Family Sized Serving (Portion for >3)	Single Serving (Portion for 1)
Cooking method	Microwave	Oven	Oven	Microwave
Meal type	Health / Fitness Meals	Health / Fitness Meals	Vegetarian / Vegan Meals	Health / Fitness Meals
Cooking time	20 minutes	5 minutes	5 minutes	12 minutes
Price (per serving)	2.99€	2.99€	4.99€	4.99€
	CHOOSE	CHOOSE	CHOOSE	CHOOSE

Go back

✕ NONE OF THE ABOVE

Which of the following Frozen ready to eat meals would you choose?

Ja!

Cooking method
Oven

Ingredients/ Nutritional value
No additives / flavor enhancers

Meal size
Single Serving (Portion for 1)

Cooking time
12 minutes

Meal type
Health / Fitness Meals

Price (per serving)
2.99€

✓ CHOOSE