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Success factors of German meal kit providers from the
customer´s perspective compared to the USA -
A study based on an artificial intelligence (AI)-using
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Abstract

The popularity of meal kit services has grown rapidly in recent years. However, few researchers have investigated the factors that influence customers when choosing a meal service provider, especially regarding the German market. The aim of this study is to gain more insight into the customer characteristics and customer success factors of meal kit providers in Germany. In addition, the study examines whether the drivers of customer satisfaction regarding differ when comparing Germany with the trendsetter USA, where meal kits are already more popular.

After a literature analysis, the authours used the AI-based text analytics tool Caplena to compare customer reviews in the APPs of established meal kit providers from the USA and Germany to identify relevant drivers of customer satisfaction. The following online survey in Germany helped to gain even deeper insights into the customer demand.

The results confirmed that customer satisfaction drivers for meal kit services differ only slightly between the USA and Germany. In addition, the study found that a hassle-free ordering and delivery process, the variety of meals offered by the provider, and an overall convenient preparation process are the main drivers of overall customer satisfaction.

Keywords: meal kits, customer characteristics, meal kit industry, food delivery industry, text analytics tool, customer satisfaction drivers, meal-kit, Caplena, meal kit services, Hello Fresh

Keywords deutsch: Kochboxen, Kundenmerkmale, Kochbox-Industrie, Lebensmittelindustrie, Erfolgsfaktoren der Kundenzufriedenheit, Lieferdienste, Textanalysetools, Caplena, Hello Fresh

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List of Abbreviations

BMEL = Bundesministerium für Ernährung und Landwirtschaft

AI = Artificial Intelligence

e.g. = for example

vs. = versus

RTC = ready-to-cook

RTH = ready-to-heat

RTE = ready-to-eat

US = United States of America

IV = Independant Variable

DV = Dependant Variable

ANOVA = Analysis of Variance

PCA = Principal Component Analysis

KMO = Kaiser-Meyer-Oklin-Coefficient

OTD = Order to Delivery

NPS = Net Promotor Score

1 Introduction

The recent COVID-19 panadamic has changed many things and routines within our lives, including the way we purchase and consume food. National governments imposed restriction and lockdowns in order to contain the spread of this highly contagious virus (Cranfield, 2020, pp. 151-154). Naturally, those restrictions had a negative impact on many food businesses, especially restaurant as it was not possible to dine out anymore. However, certain food market niches benefited from those regulations. One food purchasing option that has gained immense populatrity during the pandemic, are meal kits. A rise in meal kit consumption followed as customers preferred non-human contact food purchasing options during the pandemic. Due to the fear of a potential corona infection, many people decided to purchase their food online instead of going to the supermarket (Lee & Ham, 2021). A further reason for the increase in meal kits orders is, that during the pandamic people consumed most of their daily meals at home and hence looked for possibilities to make the meal preparation process as easy as possible (Grunert et al, 2021, p. 1). According to a report by the Bundesministerium für Ernährung und Landwirtschaft (BMEL) (2021, p. 8), 30% all German participants revieled that the Corona-Pandemic prompted them to cook more often themselves. This development offered great chances for meal kit providers, as their boxes allow customers a high level of convenience while preparing high quality homecooked meals.

The sales figures of the popular meal kit provider HelloFresh reflect the positive impact the pandemic had on the meal kit industry. In 2021 the company listed a turnover of 5,99 billion Euros. Compared to the previous year (3,75 billion Euros), sales consquently increased by almost 60% (HelloFresh, 2022a). Rueter (2020, p. 131) explained, that meal kit companies expect that even after Corona market growth within this industry will continue. A Statista study (2021a) supports this assumption. According to this study the global meal kit market is expected to reach a valuewise market size of $24,14 billion until 2027. Consequently, the value is expected to more than double if this predicted size is compared to the $11.59 billion reported in 2021. It is obvious, that the consumption of meal kits has risen considerably within the last few years and the industry might become even more profitable.

The idea of meal kits comes originally from Sweden, where the first meal kit called "Middagsfrid" was introduced back in 2007. Since then, the concept rapidly spread around the world (Verbraucherzentrale Berlin, 2016, p. 1). The popularity of meal kits

within western countries becomes obvious by the tons of different meal kit providers available on the market.

Although meal kits are becoming more widespread, providers still encounter some difficulties. Firstly, it is extremely hard for them to achieve customer retention and loyalty. Especially within the first six months, the rate of cancellation for a meal kit subscription lies between 60 and 70% (Chen et al., 2018, p.7). Additionally, the costs of acquiring new customers are high, as strongly discounted promotion offers and further marketing costs are necessary to attract those shoppers. Hence, long-term customer retention becomes an even bigger priority, since the costs of acquiring new customers cannot be covered if the subscription period of the majority of consumers is too short (Alterman, 2022).

The problem is that although the concept of meal kit services became more popular, research involving this topic is still rather limited. Especially, regarding the German meal kit market only very few research papers have been published yet. Most researchers rather focused purely on the American or Australian meal kit market since those are more sophisticated and profitable (Marley Spoon, 2021, p. 59; HelloFresh, 2022b, p. 3). Moreover, no research was conducted that compared whether customer success factors and value propositions of meal kit providers are culturally dependant. Therefore, the following paper focuses on closing this research gap by obtaining closer insights into the German meal kit market and by assessing in how meal kits offered in Germany are different from the ones from the same provider in the USA. Hence, this research aims to give German meal kit providers closer insights into customer success factors. The results of the study can help them to develop effective future strategies and value propositions in order to maintain higher customer satisfaction and retention. The following four research questions form the centre of this survey:

1. What is the status-quo of the meal kit industry in Germany and who are the most known providers?
2. Who are the typical customers of meal kits within Germany?
3. What are success factors of meal kit providers within the German market?
4. Do value proposition and customer satisfaction drivers of the same meal kit provider differ when comparing the USA with Germany?

To address those defined questions this paper is structured the following way:

In order to introduce the research topic, the first chapter provides some general information about the meal kit industry and the relevant market, in particular at the different purchasing options. Moreover, reasons for the rising popularity of meal kits are investigated within the first part of the thesis.

Subsequently, the second chapter focuses specifically on the German meal kit market. As a starting point, the current status-quo of the German meal kit industry is analysed. In addition, a a strategic group analysis investigates the competitive landscape of German online meal kit providers. Based on the obtained data and current trends within the American meal kit market, predictions about the future development of the German meal kit industry follow. The last part of this chapter focuses on the cultural adaption of meal kit offers by comparing the value proposition and marketing mix of three prominent meal kit providers that operate in the US as well as Germany. This helps to answer the questions wether meal kits are culture bound products.

In the third chapter, an artificial intelligence (AI)-based text analysis study is conducted using the Caplena tool. In this study, customer reviews of three meal kit providers HelloFresh, Marley Spoon and Dinnerly are analyzed to determine the drivers of customer satisfaction of American and German meal kit providers. In this context, we also take a closer look at whether the results differ for customers from the two countries. Subsequently, the results of the AI-based study are incorporated into the online survey of German customers. This quantitative research method helps to obtain even more precise results regarding the satisfaction drivers for the German meal kit market. In addition, the online survey collects information on typical meal kit customers and the optimal price per serving.

The fifth chapter first provides an overview of the questionnaire design, data collection and evaluation procedure, before the sixth chapter deals with the actual data analysis. Finally, the conclusion summarizes the results and derives recommendations for German meal voucher providers from the findings of the previous chapters. In addition, the conclusion provides more detailed insights into the research limitations as well as possible future research area.

1.1   The relevant market for meal kits

As a first step it makes sense to take a general look at the relevant market for meal kits in order to understand how exactly meal kits can be categorized within this market and how the market itself is structured. Generally speaking, a meal kit can be described as a box that contains all the pre-portioned ingredients as well as recipe instructions,

which are needed in order to prepare a certain home cooked dish (Cho et al., 2020, p. 192). When it comes to meal kits, one can distinguish between two fundamental distribution channels: online purchase via App or Website versus (vs.) offline purchase at a stationary retailer.

1.1.1 Online Meal kit delivery services

When meal kits are purchased online and delivered directly to the customer's door, they are so-called online meal kit delivery services. These services are an alternative to the traditional purchase of ingredients for a particular recipe at the local grocery store (Head et al., 2019, p. 191). They represent a niche market within the online meal delivery market. In order to better understand how meal kits are positioned in this particular market, it is useful to differentiate meal kits from other online food delivery options. The online food delivery market consists of different convenience levels based on the state of preparation in which the products arrive at the consumer's home. Figure 1 provides an overview of the segments of the online food delivery market. The level of food processing increases from left to right in this graphic.

Figure 1: *The market for online food delivery*
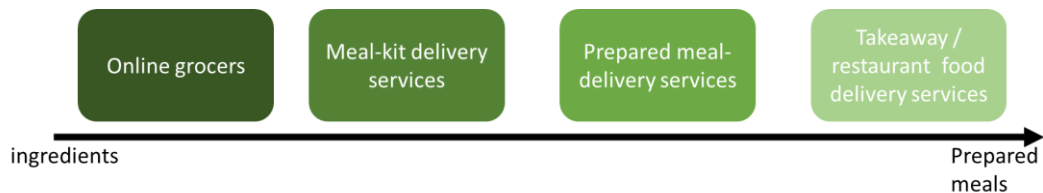
Accordingly, online grocers offer the least amount of food processing. An online grocer can be defined as either a supermarket (e.g.: Rewe Lieferservice) or an e-commerce service (e.g.: Amazon Fresh) that is operating online and delivers the chosen grocery items directly to the customers home address. However, online grocers usually do not offer prepared boxes, which means that customers have to select all the required ingredients or groceries themselves (Dannenberg et al., 2020, pp. 549-550).

In comparison meal kits offer a slightly higher level of food processing, as the delivered meal kit box already contains perfectly preportioned ingredients, which are needed to cook a previously selected meal easily at home. Some meal kit providers also offer certain ingredients in a pre-cooked or partially prepared state within their boxes, but still several steps are necessary before being able to consume the final dish (Meyer, 2017). Hence, meal kits belong to the ready-to-cook (RTC) segment, which

implies that the single ingredients arrive either raw or only minimally prepared and therefore require some sort of preparation or cooking before consumption (Cho et al., 2020, p. 192).

For individuals who are seeking an even higher level of convenience, prepared meal delivery services are a good option. Those services operate within the ready-to-heat (RTH) segment of the market, which indicates that the dishes arrive readily prepared in either in a frozen or cooled condition and just need reheating in the oven or microwave before consuming. Normally, those meals require maximum 15 minutes heating before they can be eaten (Olsen et al., 2012, p. 171).

Lastly, takeaway or restaurant delivery services offer the highest level of convenience by selling readily prepared meals that customers eat as soon as they arrive. Those businesses, as for example Deliveroo or Just-Eat, are part of the ready-to-eat (RTE) segment of the market. They allow customers to order menu items from nearby restaurents for delivery via their website or smartphone app. In return, the online food delivery service receives a commission by the restaurant where the dish was originally prepared (Lord et al., 2022, pp. 1-2).

In summary, meal kit delivery services are positioned rather in the middle of the food delivery market when regarding the level of convenience as well as the degree of food processing. Most commonly online meal kit delivery services offer their boxes on a subscription-based model where the box with all the contents gets directly delivered to one's home. Subscribers can choose their preferred meal plan - including servings, dietary preferances and the number of meals per week – directly on the provider's website or app (Ramo 2020, p. 38). For those subscription-based services, one can make a distinction between two different models. Serveral providers maintain a fixed supscription model, where the costs depend on the time span of the subscription. Normally, the price per piece gets lower the longer the commitment period of the overall subscription is. However, most providers offer flexible subscription models, the customer can cancel conveniently (Gillner 2021, pp .40-42.). Certain online meal kit providers even offer their customers the option to purchase their meal kit without any form of subscription.

1.1.2   Meal kits from supermarkets

On the other hand, there is also the possibility to purchase meal kits offline directly at a local supermarket. However, when choosing this purchasing option, some previous research on the customers' side is necessary, as currently only certain grocery stores

are selling meal kits (Ramo 2020, p. 38). One big advantage is that customers can buy meal kits from supermarkets without any subscription. Moreover, supermarket meal kits offer customers more flexibility when it comes to purchase quantities. Customers have the opportunity to buy a meal kit for one dish, whereas for online meal kit services there are usually minimum order quantities exceeding this significantly (Yoon et al. 2022, p. 1). Still, one downside is that supermarket meal kits have an overall lower level of convenience since customers still have to take a trip to the supermarket in order to purchase their meal kit, and hence do not really save that much time.

If stationary retailers sell meal kits, local ingredient sourcing, preparation, and the food expiration date are important factors to consider. While many online meal kit businesses produce on demand, this option is not possible for local grocery stores. Therefore, new technologies could help to to prelong the shelf life of supermarket meal kits. Moreover, the frequency of new recipe introductionas as well as the variety of available dishes are reduced if meal kits are sold in-store. Adjustments of the packaging might necessary. Instead of shipping a simple brown paperboard container, a clear, transparent packaging might be more appealing to shoppers in the stationary retail store, that like to see what they are actually buying (Hamstra, 2019).

1.2 Reasons for the popularity of meal kits

After defining meal kits and their distribution options, this chapter investigates in more detail, which factors apart from the COVID-19 pandemic led to a rising popularity of meal kits in recent years.

It is worth noting beforehand that there are two main purchasing barriers and problems with meal kits. The first is their huge amount of packaging waste, as the individual ingredients are usually individually wrapped in plastic or paper bags, as well as ice packs and the cardboard shipping box itself (Yoon et al., 2022, p. 1). Nevertheless, careful and extensive packaging ensures mandatory food safety and prevents damage to fragile ingredients. Fresh foods in particular, such as dairy products, meat or vegetables, need to be refrigerated to ensure that the products retain their good quality despite the long delivery routes (Wegmann, 2020, p. 329). Secondly, the relatively high prices of meal kits are a barrier to purchase for some customers. Typically, the price per portion for meal kits is more expensive than using self-selected ingredients from the supermarket to cook a meal (Fernandez & Raine, 2020, p. 9). However, convenience shoppers are less price sensitive, as they are willing to pay a little more for the convenience they seek (Brunner et al., 2010, p. 499). Despite these two hurdles,

meal kit consumption has grown significantly in recent years. But which reasons and developments have led to this rising popularity?

Perhaps the most important factor is that meal boxes are very convenient. Convenience has already been a trend in the food industry for a long time, dating back to the development of convenience foods such as frozen foods, fast food or the ability to buy ready-made meals in grocery stores. On the other hand, technological inventions such as the microwave, bread machines or blenders have also helped to make the process of preparing meals easier (Jabs & Devine, 2006, pp. 198-199). Furthermore, after World War II, a shift in dietary and lifestyle behaviors could be observed in the United States as well as in Western Europe. Due to the increase in two-income households, people had a busier lifestyle and thus less time. Therefore, many preferred to purchase convenient meal options to shorten the time spent cooking and preparing meals (Murray et al., 2016, p. 144). This shift created a great opportunity for meal kit companies as they allow consumers to save time during meal planning. Customers do not have to buy the ingredients for a particular recipe separately, as everything is already included in the box delivered. Online meal kit delivery services in particular offer a high degree of convenience as they eliminate the need to shop at the supermarket. Everything is delivered directly to the customer's address, who can then quickly and easily prepare their chosen meal by following the given recipe instructions (Cho et al., 2020, p. 193). According to a study by US market research firm The Harris Poll (2017), 46% of all customers surveyed said that they primarily buy meal kits to save time when planning meals.

Although, the term "convenience food" traditionally rather evokes negative associations such as being unhealthy, meal kit services - as a new innovative food solution - challenged these thoughts in customers minds by offering healthiness and convenience at the same time (Hertz & Halkier, 2017, pp. 232-239). Thereby meal kits are in accordance with the current soft health food trend, that combines healtly noutrishment with the enjoyment of culinary delight and sustainability. Many consumers have the aim to lead a healthier lifestyle, but also demand healthy food that still tastes good (Zukunftsinstitut, 2022). Reseachers found out that meal kits offer health-promoting qualities, since they help consumers to fullfil nutritunal requirements and thus achieve higher dietary quality (Moores et al., 2020, pp. 665-668). According to Gibson et al. (2019, pp. 1-3), meal kits even lead to an increasing vegetable consumption and help to prevent obesity as recipes align with common dietary

guidelies. In addition, meal kits also help to prevent general overeating, since the pre-measured ingredients add up to a reasonable serving size per person (Mayer, 2017). Some meal kit providers even offer the option to choose especially healthy meal kits, by selecting for example low carb or calorie conscious as food preferences.

In a study, Horning et al (2021, p. 2-7) discovered that the use of meal boxes has the potential to increase people's self-efficacy in the kitchen, as they enable buyers to prepare delicious dishes by simply following the steps indicated on the recipe cards. By following these instructions, people become familiar with new ingredients and cooking techniques, increasing their overall confidence in the kitchen. For Millennials in particular, buying a meal kit is the perfect opportunity to experiment with new recipes, develop culinary skills and learn how to cook high-quality food at home. As research shows, the majority of them have grown up without cooking regularly, and therefore most of them only feel comfortable mastering a small number of recipes (Murray et al., 2016, pp. 144-148). Although various studies have investigated the development of self-learned cooking skills through meal boxes, it is still unclear whether the cooking skills continue once the meal boxes are terminated (Fernandez & Raine, 2021, p. 10).

Another added benefit of meal boxes is that they have the potential to reduce food waste in the household. When shopping in supermarkets, many consumers buy larger packages than necessary, as smaller portions are simply not available. For example, burger buns usually sell in packs of four buns. Even if you may only need two buns, there are no smaller packs. Since the quantity in meal boxes reflects the chosen number of servings, the problem of having too much food left over disappears. Therefore, meal kits have minimal post-consumer food waste (Head et al., 2019, pp. 191-192). In addition, meals purchased in supermarkets have on average 33% higher greenhouse gas emissions than buying your meal from an online meal kit provider. This is a result of the shorter supply chain of online meal kit delivery. Meal kits may have more packaging, but the large amount of emissions saved can balance out the environmental impact. Overall, this leads to meal kits having a lower carbon footprint (Heard et al. 2019, p. 190-195).

Finally, meal boxes are a great concept for people with a special diet or people who cannot eat certain ingredients because many providers offer personalization options. For example, customers can choose whether they want a vegetarian or vegan meal kit or even specify if they are gluten or lactose intolerant. This is a great advantage as the

number of people with special dietary preferences has increased in recent years. For example, the number of vegetarians in Germany doubled compared to 2020 and reached 10% in 2021 (BMEL, 2021, p. 12).

2 The German meal kit market

2.1 Status Quo

Meal kits have been present in Germany since 2010 with the Swedish company Middagsfrid being the first to launch their products under the name "KommtEssen" within the German market (Verbraucherzentrale Belin e.V., 2016, p. 1). However, the Berlin-based company HelloFresh joined the market in 2011 and gained great popularity within a short period of time (HelloFresh ,2022b, p. 15), which ultimately led to the market exit of KommtEssen in 2015 (Rövekamp, 2016). In 2014 Marley Spoon (2021, p. 29), another Berlin-based company joined the market. In general competition within the meal kit industry growing fast. Not only do more pure meal kit providers enter the market, but also supermarkets start to offer their own meal kits (Rueter, 2020, p. 132).

In Germany, it is difficult for meal kit providers to become profitable. For example, HelloFresh only managed to make profit back in 2019, eight years after their market entry (HelloFresh, 2019, p. 6). Hence, meal kit providers within the German market are often dependant on external financing from investors to be able to achieve economies of scale and to finance their growth (Gillner, 2021, p. 42). This consequently also means that it is hard for new competitors to enter this market due to high necessary initial investments. An additional hurdle for new market entrants is the monopolistic structure of the German meal kit industry, as HelloFresh is the clear market leader with a market share of approximately 90% (Kolf, 2020). Thanks to this high market share, HelloFresh in able to influence the scope of action of its competitors up to a certain degree. Players like HelloFresh who entered the meal kit market early relish great advantages, whereas new entrants have difficulties to compete with those existing meal kit providers and it is hard for them to achieve economies of scale (Ramo, 2020, p. 39).

Looking at the current market, it makes sense to first define which icome groups are buying meal kits within Germany. HelloFresh (2022c, p. 24) defines their total addressable market as households that belong to the top 40% incomewise. Subsequently, they are addressing German households with a monthly net income higher than 3000€, which includes around 16,23 million private households out of the 40.55 million recorded households in Germany (Statistisches Bundesamt, 2021).

HelloFresh (2022c, p. 24) claims that they currently penetrate 3,5% of this potential market. Including the other meal kit providers one can deduce that currently roughly 4% of the potential German meal kit market are penetrated. Hence the current market volume of meal kits in Germany can be calculated using the following formular (Kühnapfel, 2022, p. 302):

$$current\ market\ volume = number\ of\ target\ customers * penetration\ rate$$

$$current\ market\ volume = 16{,}23\ million * 4\% = 649.200$$

Results show that German meal kit providers are currently selling their meal kits to 649.200 customers. Based on the previously defined addressable market one can deduce that a substantial, yet untapped market potential exists. Meal kit providers have to come up with new strategies to become appealing to more customers. Therefore, as a next step it makes sense to evaluate the characteristics of current meal kit customers.

When it comes to the typical customer of meal kits in Germany, a report about Hellofresh from Statista Global Consumer Survey (2022) revieled that 37% of all German customers are between 25 and 34 years old, followed by 27% with an age between 35 and 44 years. Similar results could be seen in a study from PWC (2018, p.4), concluding that especially people between 35-44 years buy groceries online. Consequently, the majority of meal kit buyers in Germany belong to the generation of Millenials.

Currently almost all meal kit providers within the German market are distributing their products purely online. The only exception is the discounter Aldi. Since the 24th February 2020 German customers got the possibility to purchase their meal kits in local Aldi Süd supermarkets. However, so far Aldi meal kits are only purchasable in seleted stores. With a unit price of 4,49€ this meal kit may be cheaper than other competitor as for example HelloFresh, however the choice of dishes is also more limited. Each month the discounter includes three new dishes to its meal kit line. Moreover, Aldi had to consider the shelf life while developing its meal kits. Therefore, refrigiated products such as meat and milk are not included within the Aldi meal kit and custumers must buy them separately. Hence, the meal kits offered are purely vegetrarian, but customers can add extra bought meat without any issues (Aldi Süd, 2020). Since Aldi is the only exception, the strategic group analysis in chapter 3.2 focuses only on competitors within the online meal kit delivery market.

2.2 Strategic group analysis of the German online meal kit market

Competition plays a significant role for the future development of a company. Even for established German meal kit providers it is important to keep an eye on competitors and market developments in order to be able to react quickly to market changes and new upcoming opportunities. Therefore, this chapter takes a closer look at the competitive landscape of the German online meal kit market. A strategic group analysis assesses the strategies of all relevant meal kit providers. This particular market research tool helps to evaluate how similar meal kit providers position themselves within the market and compete against each other (Porter, 1980, pp. 129-130). According to Hunt the term strategic group describes "a group of firms within the industry that are highly symmetric with respect to cost structure, the degree of vertical integration, and the degree of product differentiation, formal organization, control systems, management rewards/punishments, and the personal views and preferences for various possible outcomes." (Hunt, 1972, p. 8). Porter (1980, p. 129) simplified Hunt's definition by stating that members of a strategic group within a certain industry use similar or even the same strategy along a set of strategic dimensions. Based on the obtained data, decisions about strategic moves against direct rivals should be more successful. Moreover, this framework helps to identify lucrative future opportunities through segments that have limited competition or are not targeted yet (Porter, 1980, pp. 149-152).

The competitive landscape within the German meal kit industry is displayed by using the below two-dimensional strategic group map as visual aid (figure 2). The x-axis represents the preparation time needed to prepare the dishes offered by the meal kit-providers. The necessary preparation time is rising from the left to the right side of the graphic. Meanwhile the y-axis provides information about the average price – ascending from the bottom to the top of the strategic group map. Overall, six different strategic groups containing the relevant 15 competitors were identified.

Figure 2: *Strategic group map of the German online meal kit market*
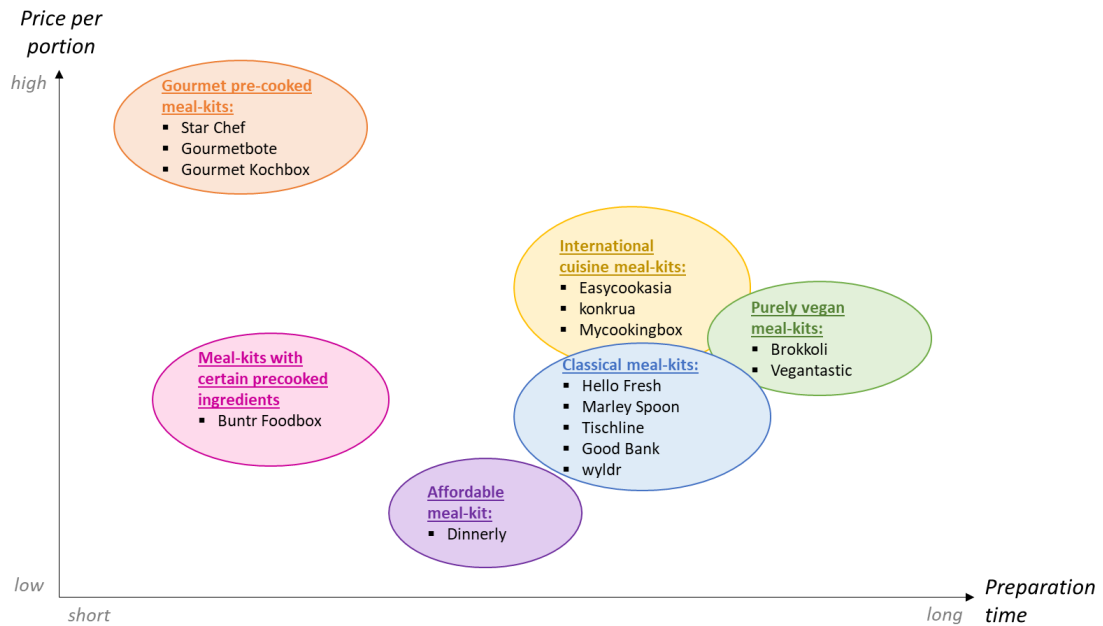
The first obvious strategic group are providers that offer classical meal kits. Those are most popular in Germany and have been present in the market for the longest time. The three meal kit providers HelloFresh (2022d), MarleySpoon (2022c) and tischline (2022) within this group all have been operating within the German market for more than seven years. The prices of providers within this strategic group range from 4,55€ until approximately 8€ per portion, depending on the amount of meals and portions ordered. All five providers within this strategic group offer meal kit options for special dietary preferences. Tischline (2022) and Good Bank (2022) both let their customers choose between the following three preferences: a) classic with meat or fish, b) vegetarian, or c) vegan meal kits. Meanwhile Marley Spoon (2022a) only offers to choose between a classical or vegetarian box. HelloFresh (2022d) and Wyldr (2022) provide the widest variety of personalisation options. To name a few options, they both for example allow customers to additionaly select recipes that are family friendly, quickly prepared, low carb, vegetarian or pescetarian. However, HelloFresh (2022d) does neither offer a fully vegan meal kit yet. The preparation time for the providers within this strategic group takes from 25 up to 45 minutes depending on the complexity of the single recipe. While HelloFresh and MarleySpoon both only offer a flexible subscription-based model, customers can oder the meal kits of Good Bank, tischline and wyldr without subscribing.

The second strategic group of affordable meal kits currently only consists of only one competitor, namely Dinnerly. The brand Dinnerly belongs to Marley Spoon. Both providers use the same supply and distribution channels (Marley Spoon, 2022b, pp. 8-9). Dinnerly was introduced to the German market back in July 2020. With this brand the company Marley Spoon managed to establish a wider market presence by positioning Dinnerly as the clear cost leader. The prices per portion starts at 3,35€ and they currently offer 18 weekly recipes to choose from. Each Dinnerly meal kit only contains six ingredients, and the cooking process should take less than 30 minutess. Dinnerly is able to sell their meal kits for such low prices because of simpler meals with less ingredients, reduced packaging and digital recipe cards (Dinnerly, 2022a).

Three meal kit providers that entered a market niche by focussing onto a certain international cuisine form the next strategic group. Firstly, the provider easycookasia only offers meal kits with authentic Asian recipes and is currently selling themed meal kits, vegetarian boxes and dessert boxes (Easycookasia, 2022). Konkrua (2022) follows a similar approach but has an even more limited focus by only offering meal kits for Thai-recipes. Instead of focusing on the Asian cuisine, the meal kit provider my cooking box (2022) decided to specialize on traditional Italian recipes. For this provider the price per portion ranges from 6€ up to 14€ depending on the portions and ingredients. For Easycookasia (2022) and Konkrua (2022) prices are ultimatly also higher. Unfortunately, both only deliver durable foods within their meal kits, so that customers still have to buy additional fresh ingredients, like milk or meat, themselves. Although the portion price for the box starts at 4€, additional ingredients that have to be bought make the meal kit ultimately more expensive. The meal kits of those three providers may all cost a bit more than classical meal kits but have similar preparation time. In addition, the big advantage of all those three companies that offer international recipies is probably, that no subscription is needed in order to try out a meal kit.

While the previous strategic group focused on international cuisine, other providers decided to penetrate a different market niche by specializing on the special diet group of vegans. These companies meet current trends since according to the BMEL (2022, pp. 12-13) report the number of vegans within Germany is rising. Currently around 2% of all Germans eat purely vegan. Especially younger generations decide to become vegan as they have the desire to buy sustainable products that do neither harm animal welfare nor the environment. The two meal kit providers Brokkoli and Vegantastic

took advantage of this trend by offering purely vegan meal kits that contain only plant-based and organic ingredients. Both providers claim that the preparation time for their recipes takes between 30 and 40 minutes. However, both have different price levels. Vegantastic has prices comparable to the market leader HelloFresh with around 5,33€ per portion. Meanwile, the vegan meal kits of Brokkoli have a higher price level with approximately 7,89€ per portion. Additionaly, Brokkoli only offers a flexible subscription model, whereas Vegantastic meal kits can either be ordered with or without subscribing (Vegantastic, 2022; Brokkoli, 2022).

Rather than only offering raw or unprepared ingredients, certain meal kit providers decided to increase convenience for customers by already including certain precooked ingredients within their meal kits. This enables customers to prepare their meal in even less time. As for example the meal kit provider Buntr (2022), that supplies ingredients with long preparation times in an already peeled, chopped, or pre-cooked state. Therefore, the whole meal preparation process takes less than 15 minutes. The prices for buntr dinner dishes start around 5,99€ per portion and are thus comparable to the prices of classical meal kits. Besides buntr also offers meal kits with desserts. Those are a bit cheaper than dinner recipes and start at 1,99€ per portion.

The last strategic group consists of Gourmet meal kits, which help customers to cook multi-course meals or meals for special occasions at home. The companies StarChefbox (2022), Gourmetbote (2022) and Gourmetkochbox (2022) promise their consumers superior restaurant like taste. Ingredients within those kits are usually precooked or prepped by professional chefs. Customers then only have to heat up the single ingredients and undertake several steps to arrange the dish professionally on a plate. Logically, Gourmet meal kits are situated in the premium price segment, as their dishes are way more expensive than normal meal kits and are rather an alternative to going to a high-end restaurant. Prices for a three-course meal start at approximately 49€ per person.

As visible in the strategic group map especially two major opportunities exist. One one hand, the strategic group of affordable meal kits is currently only penetrated by Dinnerly. Therefore, it is expected that other customers will join this strategic group in future. Additionally, it is likely that more meal kit providers will start to include certain pre-cooked or prepped ingredients within their meal kits to shorten the overall preparation time. Especially for vegan or vegetarian meal kits it is a big opportunity,

as it often takes a long time to peel and prepare the raw vegetables or fruits. However, the future development of the german meal kit industry gets closer investigated in the next chapter.

2.3 Predicted future development of the German meal kit market

According to David Sprikle, the research director of the consumer market research publisher Packaged facts "[t]he meal kit market is highly dynamic and prone to fluctuations, with the top meal kit providers falling in and out of favor since their introduction in the past few years[.]" (Packaged Facts, 2018). This factor as well as the current short-term changes in buying behaviour and increase in meal kit purchases as a result of COVID-19 make it complicated to give future market development predictions for the German meal kit industry. It is still rather unclear whether the purchase intention for meal kits will stay on the same level after the end of the pandemic (Yoon et al., 2022, p. 9). However, it still makes sense to take a closer look at trends and market developments within the USA, since the the US meal kit market is more sophisticated and advanced than the German one (Statista, 2019). This approach might help to determine future development of the German meal kit industry.

First, the competitive intensity within the US meal kit market is generally much higher than in Germany. Currently, more than 150 different meal kit companies are present within the USA (Cho et al. 2020, p.193). Due to this tough competition, many providers do not suvive in the long-term run. Various online meal kit subscription providers have already closed their business or were acquired by larger competitors or retailers (Williams, 2019, p. 19). It is likely, that also in Germany more companies will enter the meal kit industry, since some experts believe it to be a highly profitable industry in future. Nevertheless, it will be hard for those new companies to survive against big established providers, in particular the market leader HelloFresh.
Furthermore, several US meal kit providers decided to expand their offer by entering new product categories as for example by adding ready-to-heat meals to their current product portfolio. This strategic move helps to offer consumers an even higher level of convenience and simoultaniously the company is able to enter a new segement of ready-made food. The American meal kit provider Blue Apron undertook exactly this step and launched their new line of heat&eat meals (Blue Apron, 2021). It is possible that German meal kit providers will follow this example, especially to reach a wider target group and stand out from other competitors.

To keep up with the rising competition meal kit providers can also diversify their offer in other ways. As for example the US meal kit company Sunbasket that decided to offer more than just meal kits for dinner. They are now also selling meal kits for breakfast or easy lunch options (Rueter, 2020, p. 132). Another opportunity that especially providers of the gourmet-meal kit sector as StarchefBox (2022) already follow is to additionaly offer meal kits for special occasions such as Christmas or Easter.

Instead of extending their existing offer, companies also have the possibility to address special customer needs more precisely (Rueter, 2020, p. 131). For example, they could especially try to target people that plan to lose weight or prefer clean eating, when selling purely vegan or healthy meal kit dishes.

Especially HelloFresh might even be able to extend its market power within Germany further, by targeting new promising segments stated in the previous chapter. One likely strategic move of HelloFresh could be to introduce their US-based acquired meal kit brand EveryPlate in the German market. By doing so, they would also be able to target price sensitive customers and join the strategic group of affordable meal kits that Dinnerkly currently dominates. Though this strategic move, the company could realize a significant growth opportunity and diversified market presence. Within their annual report, HelloFresh even claims that they currently plan to introduce this brand to other international markets (HelloFresh, 2022b, p. 16).

Another major trend that occurred in the US since 2018 is that customers buy more meal kits via supermarkets. Within the pure online model, many difficulties come up, such as the hassle of paying high costs in order to gain new customers and retain existing ones. Selling meal kits in local supermarkets can therefore be a promising method to success, as grocery stores have a lot more frerquent shoppers (Hamstra, 2019). Some pure online players within the US already decided to cooperate with grocery stores, as it helps them to make profit more easily (Harris, 2018). Additionally, some US grocers even decided to acquire existing online meal kit services. An example is the supermarket chain Kroger purchasing the meal kit provider Home Chef. Other retailers decided to create their own meal kits, as for example the supermarket giant Walmart or Amazon in their own Amazon Go stores in the US (Harris, 2018).

However, it is questionable whether the concept of buying meal kits in supermarkets will be successful in Germany. Lidl already tried to implement meal kits into its store by acquiring the meal kit company Kochzauber back in 2015. They planned to make

the Kochzauber meal kits available in their local stores as well as via delivery. However, the market and demand did not develop as expected, which led Lidl to withdraw from this market back in 2019 (Kolf, 2019). Other German supermarkets like Rewe and Edeka have deliberately decided against entering the meal kit business. Both just offer recipes with a list of necessary ingredients on their websites, which customers than can buy themselves in their stores or order via their delivery services (Rewe, 2022; Edeka 2022).

However, selling meal kits in supermarket brings new opportunities that existing companies should consider. Especially since according to a Statista study (2021b) only 14% of Germans are buying their groceries online, while the vast majority (78%) still prefers to purchase groceries in supermarkets. Moreover, online meal kit providers mostly attract millennial customers and people that have access to the internet, whereas older generations still prefer to buy their groceries in local supermarkets. Therefore, offering meal kits in grocery stores gives companies the possibility to reach other customer groups (Ramo, 2020, p.38). Additionally, a study conducted by ING Economics Department (2018, p.10) showed that Germans are not as interested into subscription models as other European countries. They associate subscriptions as being expensive and unflexible. Meal kit subscription companies should keep this factor in mind and offer their services without subscription or in local grocery stores. Still in Germany non of the existing online meal kit companies has expanded its distribution channel to supermarkets.

2.4 Differences in Value Propositions US vs. Germany

It is commonly known, that "[t]he extent of [product] standardisation is limited by the influence of culture, climate, local taste and habits, conditions of use, spending power, and local regulations." (Whitelock & Pimblett, 1997, p. 48). Especially food is seen as a highly culture bound product and therefore not suitable for mass standardization. People from different countries have different preferences and needs regarding food that are heavily influenced by their physical environment and individual culture. Hence, food companies have to adapt their value proposition and marketing-mix to local standards in order to address customers efficiently and to be successful in the long-term run (Kapelari et al. 2020, p. 3).

Since meal kits also belong to the food industry, they should be subject to cultural adaption. However, no previous studies explored this matter in more detail. Therefore,

this chapter explores the degree of adaption of meal kits by comparing the offerings of the three prominent meal kit providers HelloFresh, Marley Spoon and Dinnerly. The chosen three brands sell their meal kits in Germany as well as in the USA. During this process the general offer, marketing mix and value proposition of the three providers is examined and compared. Table 1 provides a generalized overview of the offers of the three selected meal kit companies in the two respective markets. In order to compare each respective provider the sources stated in the last column of table 1 were used. Further sources are indicated if used.

First, it should be mentioned that all three online meal kit providers use a flexible subscription model regardless of the country they are operating in. This consequently means, that customers have the option to cancel or pause their subscription at any time. Furthermore, it was observed that Dinnerly and Marley Spoon both offer meal kits for the same number of persons in the US and Germany (2 or 4 persons), while HelloFresh has a slightly wider range in Germany (2, 3, or 4 persons) than in the US (2 or 4 persons). HelloFresh probabely decided to introduce the three persons option in Germany, as with 51% the majority of all families living in Germany have only one child (BPB, 2021). But generally, both countries have the same target groups. With the option of two portions mostly persons with double income and no kids as well as well as couples whose children have already left their home get targeted. Meanwhile the option of three or four portions is suitable for families that seek for a high level of convenience. However, the family offer focuses mostly on small families with maximum two children (Gillner 2021, S.48).

Additional differences become apparent if one compares the meal kit plans those competitors provide in the US versus Germany. Regarding the number of meals per week, Germans can choose between two till five weekly dishes, whereas in the US all three competitors offer the option to get up to six weekly delivered.

Table 1: *Comparison of prominent meal kit providers (Germany vs.USA)*

	HelloFresh 🇩🇪 Germany	HelloFresh 🇺🇸 USA	Marly Spoon 🇩🇪 Germany	Marly Spoon 🇺🇸 USA	Dinnerly 🇩🇪 Germany	Dinnerly 🇺🇸 USA
Persons	2, 3 or 4	2 or 4	2 or 4	2 or 4	2 or 4	2 or 4
Recipes per week	2-5	2-6	2-5	2-6	2-5	2-6
Weekly recipes	> 30	> 30	30	40	18	28
Starting price per portion	6,17€	$7,49	5,12€	$8,60	2,99€	$4,69
Shipping	4,38€	$7.99	5,99€	$8,99	4,99€	$8,99
Diet options	• Vegetarian • Pescetarian • Meat & Veggies • Family friendly • Fit & Wholesome • Quick & easy		Vegetarian or non-vegetarian		Vegetarian or non-vegetarian	
Value Proposition	*"The #1 meal-kit"* → market leader. Additionally in Germany: Thermomix. Same six main benefits highlighted: • Delicious • Simple • Flexible • Stress-free • Sustainable • Dietary diverse		"The meal-kit for couples, families, and friends" → Chef assessed. Special fruit boxes, cookie boxes, holiday & dinner party meal-kits. Star cook Martha Stewart as testimonial		Affordability pronounced → easily prepare a tasty dish at home. Five cooking steps & Six ingredients per recipe	
Where to buy	Online	Online or certain grocery stores	Online	Online & Amazon Fresh	Online	Online
Sources:	HelloFresh (2022d)	HelloFresh (2022e)	Marly Spoon (2022a)	Marly Spoon (2022d), Marley Spoon (2021)	Dinnerly (2022a)	Dinnerly (2022b)

…

For Marley Spoon and Dinnerly customers from the US also have the option to choose from more weekly recipes, while HelloFresh offers the same range of recipes in both countries. It is likely that the reason for this is, that Marley Soon and Dinnerly both generate more revenue within the US market (MarleySpoon, 2022b, p. 41). HelloFresh, on the other hand is the market leader in both of those operating countries and has to offer a wide variety of dishes in order to maintain this position.

All three companies offer a cultural variation of recipes and dishes from Asia, Europe, Afrika, Latino America and North America. However, the selection of dishes is slightly adjusted to local customer preferences. Consequently, for US customers they offer typically American recipes as well as more Mexian influenced recipes. Meanwhile in Germany all providers rather offer European dishes as for example of Italian or Greek origin. Surprisingly, in both countries all three providers offer a wide selection of Asian recipes. MarleySpoon and Dinnerly both provide completely different recipes for their American and German customers, while HelloFresh offers several times the same recipes in both markets but also added some extra recipes that were culturally adapted.

Regarding the food preferences, all three providers offer the same personalisation options in the US and in Germany. Alltogether HelloFresh delivers the widest amount of dietary personalisation options by letting customers choose between six different preferences for their meal kits. Marley Spoon and Dinnerly only offer the option to either get a vegetarian or non-vegetarian box. Moreover, HelloFresh gives German customers the opportunity to specifically choose recipes that are suitable for the popular kitchen device Thermomix, with which an even higher degree of convenience can be achieved.

Some differences can also be seen on the subject of pricing. Generally, all three compared meal kit providers are cheaper in Germany. Those price differences are based on two big factors: the local purchasing power and the price sensitivity of customers in the operating country. Looking at the Local Purchasing Power Index (NUMBEO, 2022)., one can see that the USA (106.34) has a slightly higher purchasing power than Germany (103.08). This also explains why meal kits in the USA a little more expansive than in Germany. Secondly, specific price adjustments could have been made based on the price sensitivity of German customers. According to the BMEL (2021, p.14 f.), for 48% of all Germans price is of great importance while buying groceries. This makes Germans far more price conscious than Americans since

a study conducted by Food Insight (2019) revieled that price is a leading factor when purchasing food for only 29% of Americans. When comparing the prices of the three providers one can see that especially Dinnerly is much cheaper in Germany than the US. The low price in Germany could be because Dinnerly e the German market in the middle of the Corona Pandemic and during this difficult period Germans were even more price sensitive towards groceries (McKinsey, 2021, p. 12).

Additionally, the shipping costs in America are far higher than in Germany. This price difference can be attributed to the longer shipment chains which the individual meal kit parcels have to traverse in the USA, since this country´s geographical area is simply 27,5 times bigger than Germany (Ratering, 2021, p. 40). In this context, it is worth mentioning that Marley Spoon (2022b, p. 9) uses the same supply chain for its two brands Marley Spoon and Dinnerly.

As a next step, a closer look is taken at the distribution channels of the three meal kit companies. While in Germany the meal kits of all three brands are only purchasable via an online subscription service, in the USA Marley Spoon and Hellofresh use additional distribution channels. US customers can also purchase Marley Spoon meal kits online on Amazon Fresh. HelloFresh on the other hand additionally distributes its meal kits through certain US supermarkets. Thanks to their cooperation with the trading group Ahold Delhaize USA, their products can be bought directly in Giant, Fareware and Hannaford stores (Ramo, 2020, p.39).

Looking at the marketing channels of the three selected companies all have chosen the same approach. To appeal to the rather younger customers, especially social media and e-mail marketing campaigns are used with a special focus on influencer marketing. In the USA the effect of celebrity endorsement is even more pronounced than in Germany. It is particularly common, to use established star chefs in order to promote meal kits. For example, HelloFresh USA, recently started a big campaign staring the Canadian chef Antoni Parawski. In this campaign the professional chef shares his cooking hacks and shows that preparing food does not need to be complicated (Kornfeld, 2021). Marley Spoon USA took it even a step further by co-creating their whole meal kits in cooperation with the famous American chef cook Martha Stewart. Additional Marketing channels of the three companies are TV commercials, Google Ads and print marketing.

As a value proposition, HelloFresh pronounces its position as market leader in both countries and therefore claims to be the number one meal kit. Moreover, the company

highlights the following six key benefits of their meal kits in both markets: delicious, simple, flexible, stress-free & dietary diverse. Meanwhile Dinnerly specifically promotes itself as being the most affordable meal kit in both markets. They claim that Dinnerly helps its customers to create tasty meals, fast and easy. Each recipe consists of only six ingredients and the customer only has to undergo five cooking steps to make a healthy homecooked meal. Only the provider Marley Spoon is using a different value proposition in both countries. In Germany, they advertise themselves as being the perfect meal kit for couples, families or friends. In contrast, they have a rather special value proposition in the US. Here they emphasize the superior tastiness of their dishes, since those were approved and tested by star cook Martha Stewart.

For all three companies' sustainability is a big part of their company mission and communication. They claim to be 100% CO2-neutral by engaging in Co2 compensation projects, as for example tree planting campaigns or green energy projects. Furthermore, they are also using recyclable and innovative packaging material (HelloFresh, 2022f; Marley Spoon, 2022c) .

To sum it up, all three investigated meal kit companies slightly adapted their approach to local culture. While the core product, dietary options as well as the general subscription model stay the same, price, the number of servings as well as the recipes to choose from get adapted to cultural preferences. The recipies themselves undergo the highest amount of cultural adjustments. The variety of recipies is accustomed to local preferences in taste and of course, the recipe cards need transalation for linguistic reasons. For marketing reasons, providers operating in the US put a higher emphasis on celebrity endorsements using famous professional chefs. Furthermore, meal kit providers in the USA use more diverse distribution channels, whereas meal kits of the compared providers are only distributed online within Germany.

3 AI-based research of customer reviews through Caplena

Within this chapter the AI based text Analytics tool Caplena was used in order to analyze customer reviews from the apps of three popular meal kit providers HelloFresh, Marley Spoon and Dinnerly. Through this approach insights into customer satisfaction drivers can be gained. Moreover, this study type helps to investigate if and how customer satisfaction drivers differ in the US and Germany. The following three research questions formed the center of the Caplena investigation:

1. What are the most frequent evaluation criteria users address in their reviews?
2. What are the customer satisfaction drivers of meal kit providers in general? And how do they contribute to the overall customer satisfaction?
3. Are there any major differences between American and German customers?

3.1 Set up and coding scheme

The below figure 3 shows the general structure of the Caplena research. In total 4525 written customer reviews from the Apps of the three meal kit providers HelloFresh, Marley Spoon and Dinnerly were analysed. Those three providers were chosen, as they all operate in the US as well as in German market. Moreover, their specific value propositions were already explained in the prior chapter.

For the analysis, only reviews out of the Apple IOS app store were taken, as this app store allows to select the reviews of only a certain country – in this case the USA and Germany. The Google Play store, on the other hand was not suitable since it does not offer the possibility to differentiate the reviews by country. As a next step, all available written reviews of the US and German app versions of the three providers HelloFresh, Marley Spoon and Dinnerly were uploaded on Caplena for evaluating the data. The amount of reviews per App is also demonstrated more precisely in figure 3.

It should be mentioned that this study set-up has some limitations. First of all, the reviews of the German app versions had to be translated automatically by Caplena through the online translator DeepL. This step had to be taken, so that all the data could be aggregated into one big project with the same coding scheme for German as well as English reviews. Of course, that might have led to translation mistakes within the German Reviews. Still, the online translator DeepL is rather reliable and looking at the translated reviews only minor translation mistakes could be found.

Figure 3 *Structure of the Caplena Research*
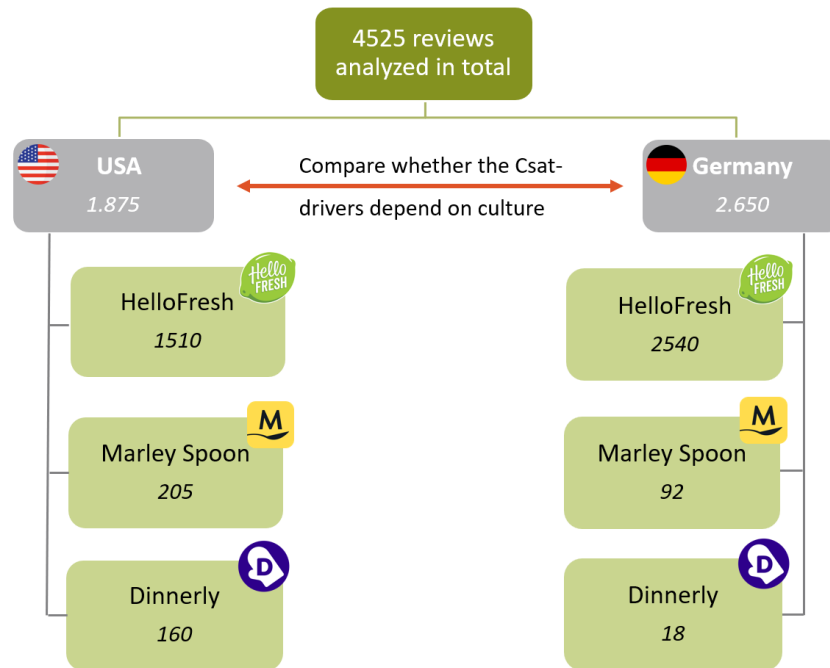
Moreover, the distribution of the reviews and hence the size of the data set is not equal for the USA and Germany.While the HelloFresh app has more available reviews in Germany; the other two meal kit providers have way more reviews in the USA. The differences in the number of reviews can be explained by the time the single providers have been present in the single country markets. For example, Dinnerly has entered the German Market recently in 2020, while the provider has been present in the US market since 2017 (Marley Spoon, 2022b, pp.8-9). Although, the amount of reviews per country differentiates, the reviews are adequate enough to get a rough understanding of customer success factors of meal kit providers for those two countries and subsequently investigate whether cultural differences exist. Especially, since no closer look is taken at the customer satisfaction drivers and differences between the separate apps.

The next step of this study type is the generation of a fitting coding scheme. After the upload of all 4525 reviews, the AI of Caplena automatically generated certain codes and put them into corresponding categories, based on the content of the reviews. Additionally, the code book was customized manually by examining part of the reviews and adjusting codes accordingly. The data was then finetuned within the "coding view" on Caplena until a model score of 79 was reached. Since according to Caplena (2022) a model score within the 70s significates that the coding scheme is in

accurate for the analyzed dataset. The final utalized coding scheme is illustrated in table 2 (for detailed version see appendix 1). Overall, the data was coded into 15 code categories with 73 subcodes. Since Caplena does not automatically recognize oppositional codes (e.g.: expensive vs. cheap), those had to be coded separately.

Table 2: *Coding Scheme of the Caplena Research*

Code categories	Subcodes
Overall Concept	• Negative vs. positive • Room for improvement
Price	• Cheap vs. too expensive • Adequate • Worth the extra money • Intransparent
Payment	• Payment options • Payment difficulties • Refund vs. no refund
Subscription model	• Flexible vs. fixed • Subscription trap • Cancel/pause subscription problem
Delivery	• Fast/on time vs. Slow/delayed • Broken/damaged during delivery • Shipping cost • Wrong content • Missing content • Lost parcek • Tracking • Cancel/skip delivery problem • Delivery address impossible
Quality of groceries	• Good/excellent vs. bad quality • Organic
Packaging	• Sustainable • Plastic • Too much packaging • Not recyclable
Recipes	• Easy to follow • Confusing/missing instructions • Healthy • Kid friendly • Delicious recipes/dishes • Many options vs. limited options • Good recipe cards vs. no recipe cards
Expenditure of time	• Convenient/less stress • takes too long
Servings	• too small vs. sufficient • less food waste
Special diet	• suitable vs. not suitable for special diet (e.g. vegetarian, vegan, gluten-free, pescetarian…)
Improve cooking	• try out new recipes • learn to cook • enjoy cooking

Code categories	Subcodes
Customer Retention	• discount/voucher • no customer rewards • voucher does not work • long-term customer
Customer Service	• fast vs. long waiting time • good vs. bad support • competent/friendly vs. incompetent / badly trained • reclamation problem • reachability problem
Functionality	• app is easy to use vs. complicated • technical problems/unstable • missing function • forced to sign up • reliable vs. slow • too much spam/push up • bad security

3.2 Analysis of the data

After the determination of the final coding scheme, the content of the reviews was analyzed. During this process the most mentioned catgories within the reviews, the sentiment of users regarding the respective categories and the customer satisfaction drivers were investigated in detail. Moreover, it was explored if customer satisfaction for the single categories differs when comparing reviews of American and German consumers.

3.2.1 Most mentioned categories

As a starting point, a look was taken at the overall distribiution of the coding categories of the whole dataset, demonstrated in figure 4. The horizontal axis illustrates how often the single categories were mentioned, while vertically the 15 coding categories are listed downwards according to their frequency. Looking at the distribution, *functionality* (N = 1872) was clearly the most mentioned coding category, followed closely by the *overall concept* (N = 1730) and *recipes* (N = 1692). Then positioned some distance behind are the codes concerning *delivery* (N = 1029), *customer service* (N = 899), *quality* (N = 863) and *time expenditure* (N = 751). Leaving the last five categories with less than 500 mentions each. This distribution gives already a rough indication about the categories that are important to customers. However, the customer satisfaction for the single categories is also examined in more detail later.

Figure 4 *Distribution of the coding categories*
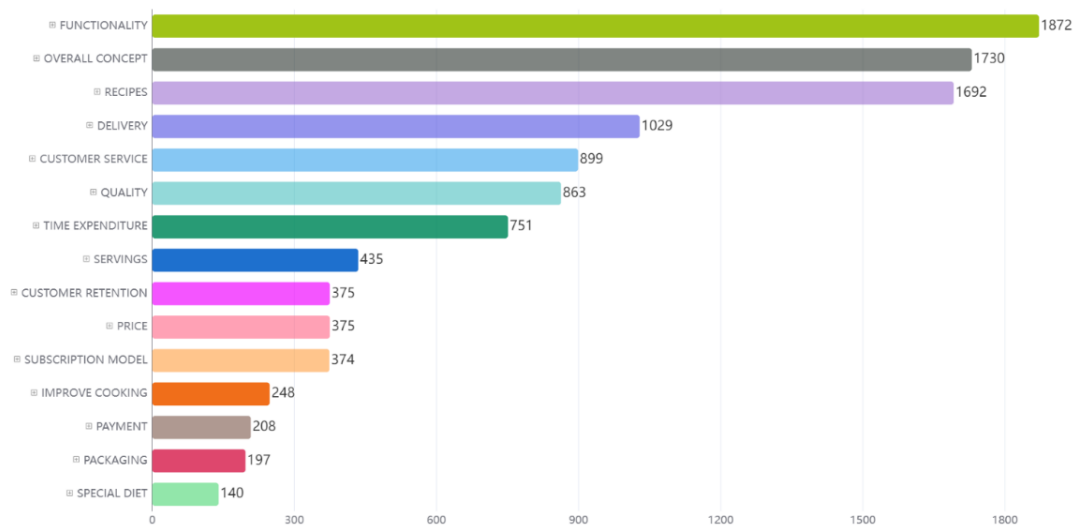
3.2.2 Sentiments per category

As a second step of the research the sentiments of the customers regarding those 15 categories was studied in more detail. The sentiments – negative, neutral and positive – are displayed as percentages in figure 5. The percentages within the single categories do not necessarily add up to 100%, as many customers referred to more than one category within their review. Again, the single coding categories are displayed on the horizontal axis.

Figure 5: *Sentiments for the single coding categories*
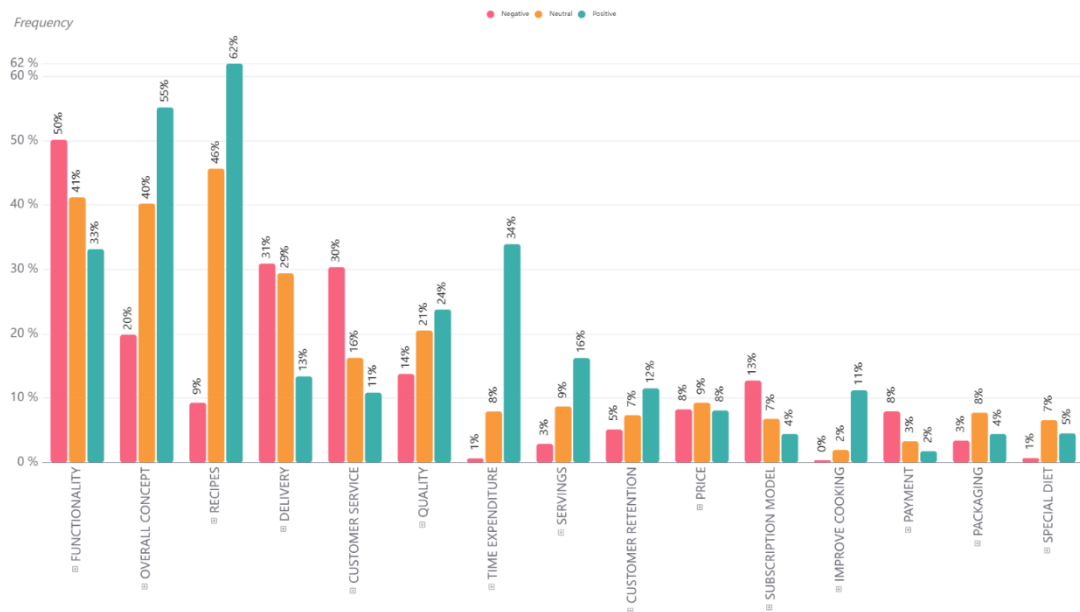
Altogether the five coding categories *recepies, overall concept, time expenditure, improve cooking* and *customer retention* were all evaluated primarly positively within customer reviews. Out of them *recipes* (62%). was the most positively rated category. Customers specifically praised the deliciousness of the recipes as well as the good cooking instruction and the many possible options too choose from. Furthermore, customers also had a positive attitude toward the *overall concept* of the meal kit providers (55%) and particularly enjoyed the convenient *time expenditure* (34%) this service offered.

Interestingly the results showed that the customers had a neutral attitude towards the three categories *price, packaging*, and *special diet*. Especially the neutrality towards the code *price* was surprising, since buying meal kits is more expensive than buying the individual ingredients at the supermarket. But it seems that users did not mind paying extra money in order to have a higher level of convenience.

However, five categories were also rated negatively and hence leave room for improvement. Most notably the *functionality* of the app was rated really negatively (50%). Most reviews concerned the technical problems and unstability of the app. In this context two mayor problems were identified. Not only did the newest update led to instability of the app but many users also criticized that the App only works in Portait mode on an IPad device.

Besides, some improvement regarding the *customer service* (30%) is needed, since the majority reported a negative experience, particularly involving reclamation and reachability problems.

The rating for *subscription model* (13%) also shows a negative tendency. However, reviews within this category mostly originate from HelloFresh customers. Those complained about having difficulties to cancel their HelloFresh subscription, since the function to do so is appearantly very hidden within the app. Another negative point was that users are kind of forced to create an account to be able to see the recipes and meal options available for HelloFresh. In addition, the code *delivery* was also rated negatively since several customers complained about lost or delayed parcels. Lastly, a few customers also complained about payment problems, which consequently resulted in a negative rating for *payment.*

3.2.3 Customer Satisfaction Drivers

Next, the below driver analysis table shows the customer success factors of meal kit providers. Figure 6 provides deeper information on the influence of the single codes on customer satisfaction (Csat). Caplena's Csat Driver Anaysis is based on a multiple regression model. The regression coefficient is used to calculate the relative influence of a code/category on the target variable - in this case, the star rating from the review. The position of the single codes in the chart then results from the amount of positive or negative influence on customer satisfaction (x-axis) and the number of times the certain code was mentioned (y-axis). In the following passage, the position of the single codes gets displayed the following way: (counts/ relative impact). Based on the position of the codes one can then identify strengths and weaknesses of the meal kit providers (Caplena, 2021).

On the right side of the graph one can see the positive influencing factors. Results illustrate that an *easy to use app* (747/0.54) had the strongest relative impact on a positive customer satisfaction, whereas a *positive overall concept* (1398/0.46) was the most mentioned positive code. Other key strengths of meal kit providers that could be identified, were *delicious recipes* (1252/0.33) and *convenient time expenditure* (747/0.31). Some categories with medium strength on positive Csat were the *good quality of groceries* (569/0.15) and a *high amount of recipe options too choose from* (459/0.22). Meanwhile, rather unimportant strengths were the two categories *good customer service* (244/0.2) and the possibility to *improve ones cooking skills through meal kits* (119/0.2). Surprisingly the code *easy to follow recipes* (654/0.08) was mentioned quite often but overall had only a rather small influence on positive customer perception.

Regarding the negative left side of this chart, it becomes obvious that the code technical problems that lead to an unstable app (877/-0.82) had by far the biggest negative influence on customer satisfaction. Positioned some distance behind are difficulties to cancel the subscription (241/-0.54) as well as a negative perception towards the overall concept (281/-0.37) of the meal kit provider. Moreover, poor customer service (584/0.31) also had a quite bad influence on satisfaction. Despite many complaints concerning missing delivery content (422/-0.18), customer satisfaction does not appear to be significantly influenced by this category. The same phenomen can be seen for customers having reclamation (530/-0.15) or reachability problems (442/-0.02).

Figure 6: *Csat Driver Analysis*
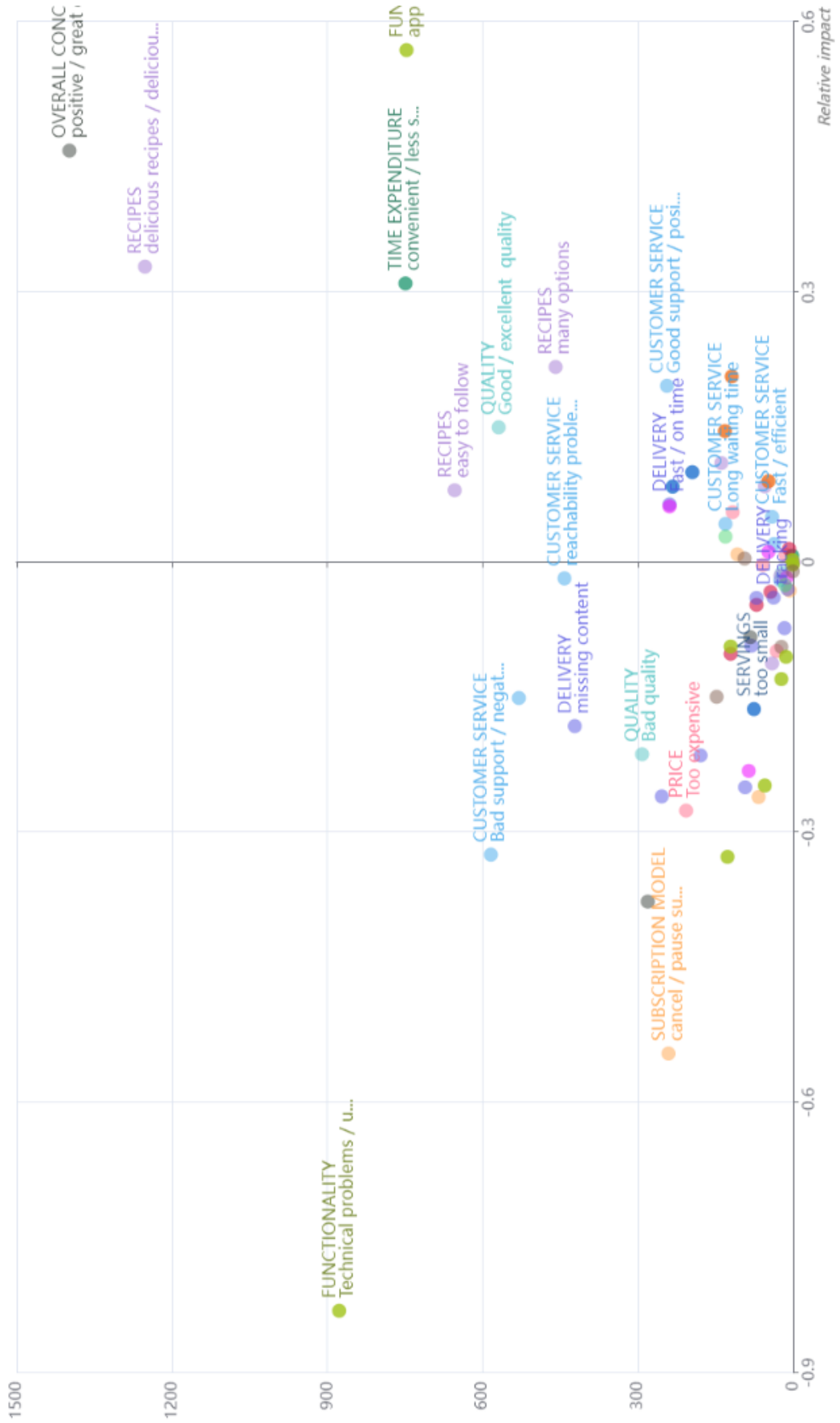
Consequently, meal kit providers should do some improvement work to guarantee their customers a problem-free order process and additionally make it easy for them to cancel their subscription. Likewise, some improvement regarding customer service is needed in order to avoid reachability or reclamation problems. Meanwhile meal kit providers should continuously focus to offer high quality ingredients and a good variety of delicious recipes that can be cooked within a convenient time frame.

3.2.4   Cultural Differences

After examining the overall results of all reviews, this subchapter digs even deeper and investigates wether relevant cultural differences between customer satisfaction of US and German customers are evident.

Firstly, the customer satisfaction score of each respective country was inspected. Star ratings were translated the following way: 1 or 2 = unsatisfied; 3 = neutral; 4 or 5 = satisfied. The Csat Score was then calculated by Caplena using the below formular:

$$Csat\ Score = \frac{Satisfied}{reviews\ per\ country} * 100$$

$$Csat\ Score\ Germany = \frac{1410}{2260} * 100 = 52.9$$

$$Csat\ Score\ USA = \frac{849}{1875} * 100 = 45{,}3$$

Figure 7: *Csat scores – Germany vs. USA*
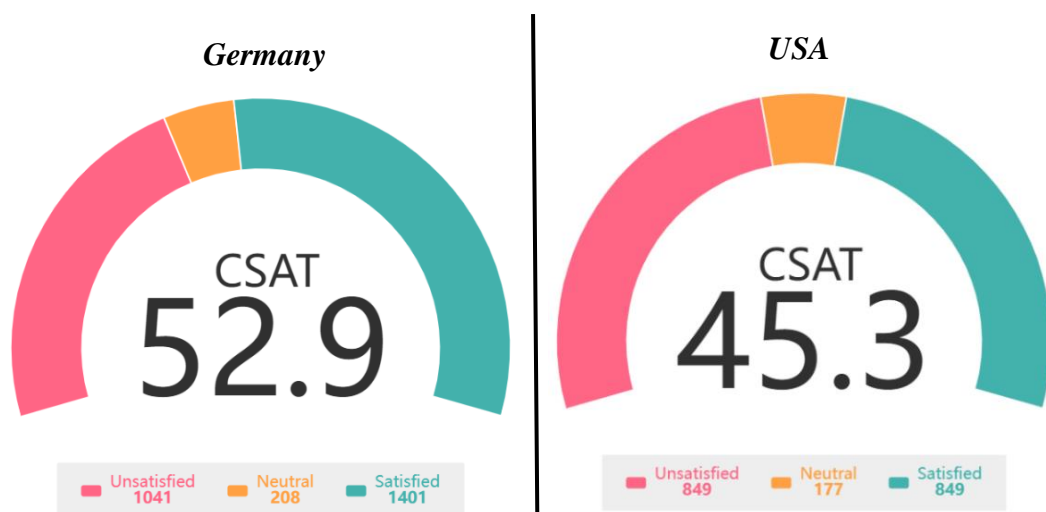
Although the same three apps were taken, figure 7 highlights that German customers overall have a higher Csat Score and hence were also more satisfied with the meal kit providers than Americans. Within the USA, the amount of satisfied an unsatisfied costumer is equal with 45,3% each, while in Germany the majority (52,9%) of reviewers was satisfied. Overall, it could be seen that in the US the Apps of all three providers were rated worse. But especially the CSat of Dinnerly US was really low compared to the corresponding German version. Since the US version of Dinnerly had a lot more reviews than the German version, it has to be considered that the effect of this single app on the overall Csat is higher in the US, which could partly explain the lower Csat score of the USA.

Additionally, the distribution of the coding categories differs a bit when compraring the results of the US reviews with the German ones (see appendix 3). While *functionality* was the most frequent code in Germany, in the US this category landed only on the third place. In comparison, the *overall concept* was the most frequent coding category within the US. Additional is is for example also evident, that the code *packaging* was mentioned way more often in Germany.

Table 4 represents the sentiment within the single categories for the two chosen countries. One can observe that the sentiments only differ in the case of the three categories: quality, price and delivery.

Table 3: *Sentiments per coding category - Germany vs. USA*

Sentiment	Germany	USA
Positive ☺	• Overall concept • Recies • Quality • Time expenditure • Servings • Customer retention • Improve cooking	• Overall concept • Recipes • Time expenditure • Servings • Customer retention • Improve cooking • Price
Neutral 😐	• Delivery • Price • Packaging • Special diet	• Quality • Special diet • packaging
Negative ☹	• Functionality • Customer Service • Subscription model • payment	• functionality • Delivery • customer service • subscription model • payment

German customers rated the *quality* positive whereas the US customers had a rather neutral attitude towards quality. A glance at the reviews revealed that it seems like in the US single ingredients within the meal kits arrived more frequently in a bad condition - either rotten or expired. Meanwhile, German customers praised the good quality of ingredients. In comparison the category *price* was rated exactly the other way around – positive in the US and neutral in Germany. This results from the fact that more Americans perceived the meal kits as affordable or were willing to pay extra money for the high level of convenience, whereas Germans rather felt that meal kits are too expensive. Lastly, US customers rated the *delivery* negative, especially concerning the number of lost parcels and delayed deliveries, whereas Germans rated the delivery as neutral. Consequently, one can only assume that the German carriers seem to be more reliable.

Lastly, comparing the Csat-Driver charts from the US and Germany one can overall see a similar distribution of the categories with some codes being slightly shiftet based on the country. Starting with the positive Csat influences, for both countries an *easy to use app* had the highest positive impact on satisfaction. Next, it is evident that a *positive overall concept* was mentioned more often in the German reviews (Ger: 865/ US: 535), however in both country this category has roughly an impact around 0.48. Another finding is, that in the US *convenience* has a higher relative impact on Csat than in Germany (Ger: 0.28/ US: 0.39). For German customers on the other hand, *many recipe options too choose from* (Ger: 0.25 / US: 0.16) are associated more positively. Coming to the negative influences, again the code *bad functionality* leads to the highest dissatisfaction in both markets. Otherwise, the study shows only three differences regarding other codes. First in Germany a *slow or delayed delivery* has a much higher negative influence than in the US (Ger: -0.51/ US: -0.16). This finding is very interesting, since as previously observed Americans had a more negative sentiment towards delayed deliveries than germans. Maybe this is because for Germans punctionality is a rather important part of their culture and values. Since Germans are known too be very price sensitive, it is not surprising that the code *too high prices* led to a higher dissatisfaction than in the US (Ger: -0.28/ US: -0.18). On the other hand, for American customers a *bad quality* was associated more negatively (Ger: -0.16 / US: -0.26).

Figure 8: *Csat Driver Analysis (Germany vs. USA)*

For Germany:
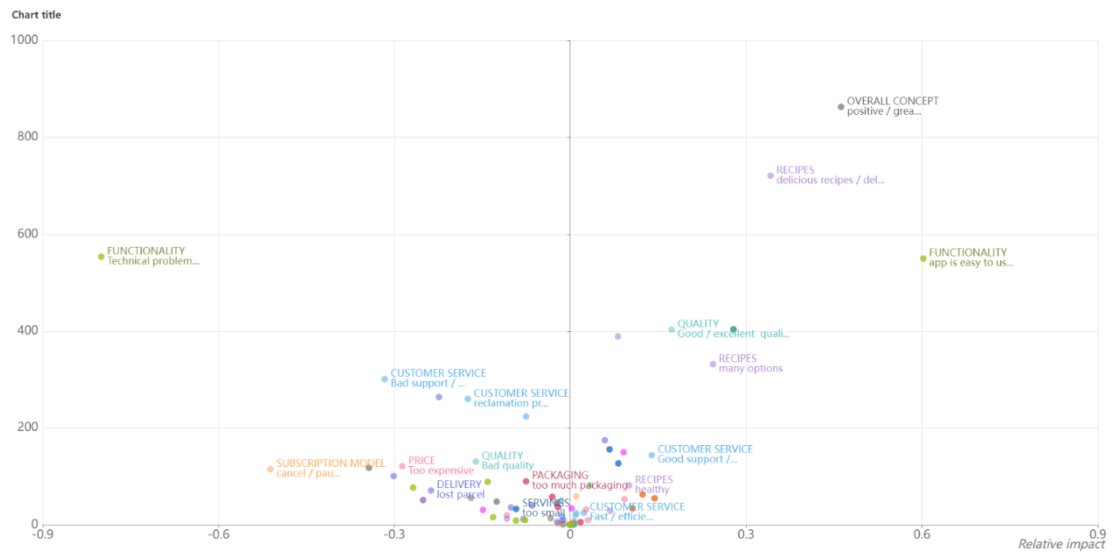
For the USA:
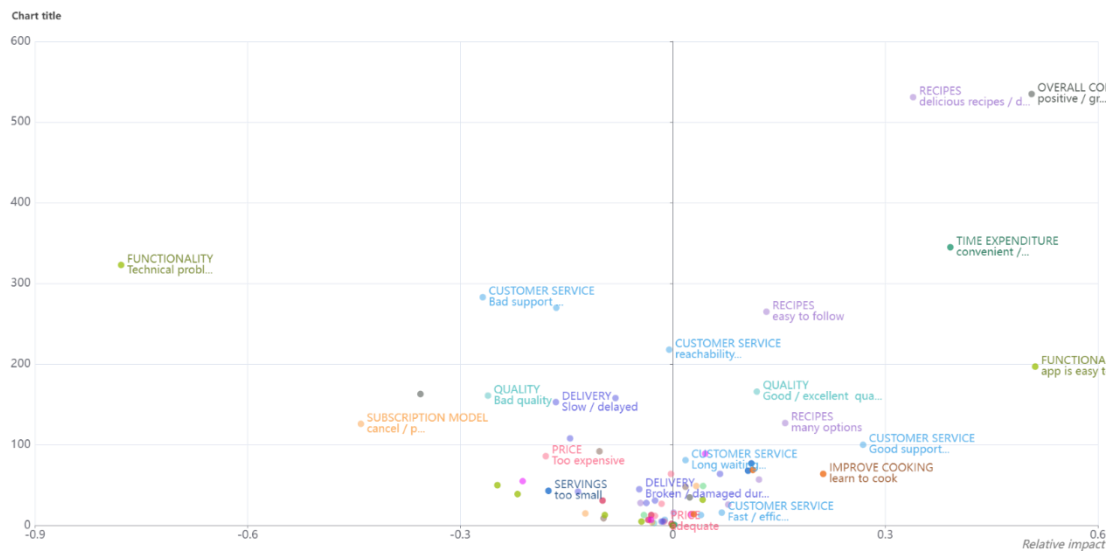
Hence, results indicate that customers from Germany and the USA overall showed similar wants and needs in regard to meal kit providers. Only slight differences seem to exist. While for German customers a punctual delivery and cheap prices were more important, Americans on the other hand valued the overall convenience of a meal kit service as well as the quality of the ingredients more. Those findings, especially the ones for Germany, enrich the online survey in the next chapter in order to gain even deeper insights into success factors of meal kits within Germany.

4 Online Survey among German customers

This chapter aims to obtain even deeper insights into Germans' attitude towards meal kits. To do so data was collected through an online survey as this empirical research design helps to answer the following four research questions:

1. What are the most known meal kit providers within Germany?
2. What are Success Factors of meal kit providers within the German market?
3. How much are Germans willing to pay for a portion within a meal kit?

This research design follows a deductive logic. A concept is developed, and the explanatory power of this concept is then tested statistically trough hypotheses. Quantitative data was collected trough the online survey and then analyzed descriptively as well as trough research hypotheses (Goldstein et al., p. 40).

4.1 Questionaire Design

Within this chapter the overall structure of the online survey as well as the used question types are demonstrated. The survey was created using the tool Unipark. Appendix 4 shows the whole questionnaire.

The questionnaire consists of six different parts:

It started with a cover page that explained the purpose of the survey and gave information about the average processing time. Furthermore, this page contained an assurance that the obtained data was treated anonymously and also included the authors contact information in case of further questions.

The second page of the survey collected sociademographical data about the single participants. Questions about gender, age, current professional situation as well as household size will help to later identify a more specific target group for meal kits.

Afterwards, several questions investigated the general attitude of respondants towards cooking and food, as for example the importance of eating organic groceries or buying only products that guarantee animal welfare. It was also assessed whether survey respondents have any special dietary preferences.

The fourth part of the questionnaire gave closer insights into the participants' general attitude towards meal kits as well as the motives and factors influencing them most while deciding for a meal kit provider. An additional question determined which meal kit providers the participants know in Germany.

Injecting a filter, on the fifth page respondents were asked different questions depending on whether they previously purchased a meal kit. For participants that have not tried out a meal kits yet, the reason behind this decision was explored. On the other hand, persons that already have experience with meal kits were asked from which provider they bought their meal kit and how happy they were with the service. Moreover, reasons that led to a potential stop of meal kit subscription are investigated. On the last page, all participants were again asked the same questions. This part of the questionnaire intended to find out if customers are also willing to purchase a meal kit directly in a local supermarket instead of online. Additionally, four predetermined questions about the optimal price per portion within a meal kit box were included within the questionaire to later conduct a price sensitivity analysis following the framework of van Westendorp (1976).

Regarding the different question types, a mixture of closed question with either single or multiple choice was included in order to assess data. Especially for some questions regarding nominal data, respondents could choose more than one answer at the same time. All those questiones had a defined number of possible response options. Additionaly in some cases a text field was incorporated within single closed questions in order to give participants the option to name different reasons of preferences in case non of the predefined option fitted for their experience. For certain questions - as for example to assess things customers liked about their meal kit provider - an open format was chosen in order to obtain more contextual feedback (Porst, 2011, p. 51-54).

For metric questions, it was decided to use a 7-point Likert Scale, since it provides a moderate level of granularity, allowing respondents to express their opinions more precisely than a scale with fewer points. It strikes a balance between simplicity and differentiation and captures subtle variations in attitudes or preferences without overstraining the participant of the online survey. A 7-point scale has been found to yield more reliable results compared to scales with fewer points (Hair, Black, Babin & Anderson 2019) and is is commonly used in various disciplines, including market research, social sciences and psychology. Its familiarity makes it easier for respondents respond to the scale accurately (Dillman, Smyth, Christian, 2014). It includes a balanced midpoint option, which allows respondents to express neutrality or ambivalence in their responses. On the other hand, resondants might use the neutral option "4" as a so called "escape category" when indecisive, but that is preferable to

force them in one direction when they really do not have a preference (Porst, 2011, pp. 77-86).

All those scales had to lowest scale value on the left (1 = really unimportant) side and were ascending towards the right side (7 = really important). Additionally, two behavioural intention scales were included, to measure how likely individuals are to show a certain behaviour. Those scales followed the same direction as the Likert scale and were ascending from the left (1 = very unlikely) towards the right side (7 = very likely). For all those scales, only the endpoints as well as the neutral point were verbally named. (Hair et al., 2020, pp. 244-246).

Generally, within reseach a longstanding controversery exists, whether Likert scale data can be treated as interval data and hence be used in parametric statistical tests such as ANOVA or regression Analysis. The issue is that that some researchers claim that Likert scales should only be treated as ordinal data because the single items possess clear order ranks. According to them, Likert scale data should therefore only be used in non-parametric tests (Jamieson, 2004, p.1217). However, within this thesis the advice of Norman (2010, pp. 625-632) as well as Murray (2013, pp. 260-262) is followed, as they both state that parametric test can be used for Likert scaled data without fearing that the conclusion drawn from the results could be wrong. Especially since all used Likert scales within this questionaire include seven categories.

4.2   Data Collection

The survey was open for participation between the 6th of May until the 18th of May. An invitation link for the survey created automatically by Unipark was published though social media networks such as LinkedIn, Whatsapp or Facebook. The target population for this survey were consumers living in Germany aged 18 or older. Additionally, a special focus was to find participants that have previous experience with meal kits. Thus, the invitation link was specifically sent into Facebook groups about the topics involving meal kits or certain meal kit providers. In addition, the authours used their private and professional network to distribute the link. In the end 454 individuals participated in this online survey. However, 34 of those participants discontinued the survey: 5 persons quit after the 1st page, 7 on the 3rd page and 22 participants on the 5th page. The high discontinuing rate for the last page can be explained by the fact, that this page involved the four open questions for the van Westendorp price analysis. Participants were likely unsure which price to write down

for those four mandatory questions and threrfore did not finish the survey. Consequently, 240 respondents completed the whole survey. Only the answers of those 240 participants were used for the main data analysis. Outcomes show that the net participation within this study was 87,59%. Furthermore, participants needed on average 6 minutes 33 seconds to complete the whole questionaire.

4.3 Data Analysis

In total 240 responses were included in the main data analysis. A combination of descriptive statistics and interferial statistics was used to analyze the obtained data. While descriptive statistics helped to assess characteristics of the sample, interferial statistics including hypothesis tests were used for examining relationships between certain variables (Hair et al., 2020, p. 331). In order to analyze the obtained data, the IBM software SPSS Statistics 26 was used. Additionally, Microsoft Excel was utilised to analyze the open text questions and to create graphs.

The first part of the data analysis mainly dealt with the descriptive statistics concerning the whole sample. Afterwards the second part investigated the overall attitude of participants towards meal kits. While the whole data set was used for the first two parts, the data is split in part three in order to specifically analyze the two groups of participants that have or have not bought meal kits before. The fourth part deals with customer satisfaction by analyzing the NPS of the single meal kit providers and investigating which factors are influencing their rating. Lastly, it was investigated whether the option to purchase meal kits within supermarkets is an appealing alternative for consumers.

Overall, 15 hypotheses were tested in course of this thesis. The analysis of interferial data can be devided into four different parts. Those, including the hypotheses, statistical methods used as well as the variables are displayed in table 4 on the next page.

Whenever it was researched whether a relationship metween two metric variables existed, the Pearson correlation coefficient was used. The Pearson correlation coefficient provides information about the strength and relationship between two variables. Furthermore, the sign before the Pearson correlation coefficient (-/+) indicates the direction of the relationship. In case of a prefect positive correlation between the two metric variables $r = +1$, in comparison a perfect negative correlation

results in r = -1. The closer the correlation coefficient remains to the value 0, the weaker is the relationship between the two variables (Cleff, 2015, p. 98).

To measure if single individual independent variables (IV) have a significant impact on a certain dependant veriable (DV), linear multiple regression analysis was applied. The advantage of linear multiple regression is that it also indicates the strength and direction of the relationship between the single IV and the DV (Cleff, 2015, pp. 136-145). While conducting the linear regression analyses it was of course tested if the variables met the relevant assumptions for linear regression models including collinearity, normality of error, homoscedasticity and finally no occurrence of autocorrelation. (Mooi et al., 2018, pp. 220-231).

Table 4: *Research Hypotheses and statistical methods*

	Hypotheses	SPSS Method used	Dependant V / Test V	Independant V/ Grouping V
Chapter 6.3: Attitude of participants towards meal-kits				
H1	A relationship between age and the overall attitude towards meal-kits exists.	Pearson Correlation	attitude towards meal kits (metric) age (metric)	
H2	Male and female participants have a different general attitude towards meal-kits.	Independant 2 Samples T-Test	attitude towards meal-kits (metric)	gender (grouping variable)
H3	The respondents general attitude towards meal-kits is affected by their cooking and eating habits.	Multiple Linear Regression	attitude towards meal kits (metric)	eating & cooking habits(metric)
H4	The importance of the six motives for buying a meal-kit have a positive impact on the general attitude towards meal-kits.	Multiple Linear Regression	attitude towards meal kits (metric)	motives for buying meal-kits (metric)
H5	The extracted factors from the factor analysis influence participants general attitude towards meal-kits.	Multiple Linear Regression	attitude towards meal kits (metric)	extracted factors from the factor analysis (metric)
Chapter 6.4: Previous experience with meal-kits				
H6	A relationship between the age groups and participant's prior experience with mean-kits can be identified.	KS test (expected frequency smaller than 5)	experience with meal-kits (nominal)	age groups (nominal)
H7	The mean for the future purchase intention of a meal-kit is different when comparing the age groups.	1-way ANOVA	future purchase intention (metric)	age groups (nominal)
H8	The average household size differs for individuals that have bought a meal-kit compared to those that have no experience with meal-kits.	1 way ANOVA	people living in household (metric)	experience with meal-kits (nominal)
Chapter 6.5: Customer satisfaction (MarleySpoon & HelloFresh)				
H9	Overall the NPS rating participants gave, is different based on the age group they belong to.	1-way ANOVA	NPS (metric)	age groups (nominal)
H10	Male and female customers of the two respective meal-kit providers (HelloFresh & Marley Spoon) gave significantly different NPS ratings.	Independant 2 Samples T-Test	NPS (metric)	gender (nominal)
H11	For both meal-kit providers (HelloFresh & Marley Spoon), the NPS rating is influenced positively by individuals eating and cooking habits.	Pearson Correlation	NPS (metric) Eating and cooking habits (metric)	
H12	For both meal-kit providers (HelloFresh & Marley Spoon), the NPS rating is influenced positively by the motives for purchasing meal-kits	Pearson Correlation	NPS (metric) Motives for purchasing meal-kits (metric)	
H13	For both meal-kit providers (HelloFresh & Marley Spoon), the NPS rating is influenced positively by the extracted success factors.	Pearson Correlation	NPS (metric) Extracted factors from the factor analysis (metric)	
Part 6.6: Purchasing meal-kits in local supermarkets				
H14	People over 30 are more likely to shop meal-kits in a supermarket than younger individuals.	1-way ANOVA	likelihoodto buy a meal-kit in a supermarket (metric)	age groups (nominal)
H15	People that have not previously purchased a meal-kit are more likely to buy a meal-kit in a supermarket than people who are subscribed to an online meal-kit provider	1-way ANOVA	likelihood to buy a meal-kit in a supermarket (metric)	experience with meal-kits (nominal)

Analysis of variance (ANOVA) tests were used to investigate the impact of several categorical and hence nominal variables on a metric dependant variable. By doing so

the variance in the means of the different groups of the nominal variable were compared in order to assess if a significant difference between the single groups could be determined. Since for all the conducted ANOVA only one categorical grouping variable was utilized, this thesis only includes one-way ANOVA tests (Cleff, 2019, pp. 188-192).

An independent two-sample T-test helped to identify, whether significant differences in the mean scores of two groups occured. In this thesis the T-test was used to compare if means of female and male participants were significantly different (Cleff, 2019, p. 157).

Lastly, a Kolmogorov-Smirnov (KS) test was used as an alternative for a Chi-square test of independence in the case of H6, since the expected frequency in some categories was below the value of 5 (Mooi et al., 2018, p. 164).

4.4 Reliability of the scales

Before starting with the actual analysis of the survey data, it had to be assessed whether scales were trustworthy. To check the internal consistency reliability of the 7-point Likert scale questiones within this questionnaire, Cronbach's alpha was used as a measure. Generally, coefficients under Cronbach's alpha range between 0 and 1. The closer the value is to 1, the more reliable the scale. Table 5 illustrates the resulting Cronbach alpha values for the single scales used within this survey.

Table 5: *Cronbach's alpha of the constructs*

Constructs	Number of items	Scale size	Cronbach's alpha
All scales	29	7	0,849
Eating & cooking habits	4	7	0,679
Motives for buying meal kits	5	7	0,734
Purchase influencing factors	15	7	0,711

The Cronbach alpha for the whole 29 items that were measured on a 7-point Likert scale resulted in 0,849, which indicates a high level of internal consistency. Additionally, as demonstrated in table 5 Cronbach alpha values of the three subscales were assessed. While the two scales purchase influencing factors as well as the motives for buying meal kits still indicated acceptable Cronbach alpha values above the

threshold of 0,7, the internal consistency for the the eating and cooking habits scale showed insufficient internal consistency (Pallant 2020, pp. 102-106). However, Pallant (2020, p. 102) points out that that Cronbach alpha is sensitive in regard to the number of items within a scale and that it is common that scales with only a few items result in a low Cronbach alpha value. Since the scale for cooking and eating habits only has 4 items the resulted Cronbach alpha of 0,670 is still pretty good.

5   Findings of the online survey

5.1   Descriptive Statistics

Within chapter 6 the results and findings of the online survey are presented. As a starting point the general descriptive statistics of the whole sample were reviewed.

As previously mentioned, the survey was completed by 240 participants. With 211 listings, most respondents were female (87,9%), while only 28 participants were male (28;11%). Additionally, a single person did not define its gender.

The histogram illustrated in figure 9 represents the overall age distribution of the survey participants. It is evident that, the youngest respondent was 20 years old while the oldest was 71 years old. The average age of all respondants resulted in 37,5 years. The recorded standard deviation was 12,625.

Figure 9: *Age Distribution of the overall sample*
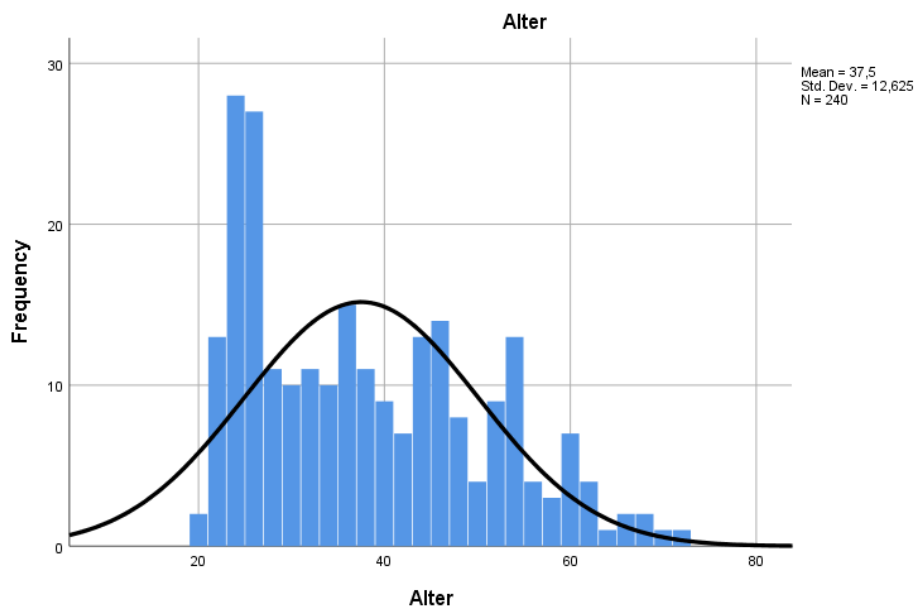
Table 6 on the following page provides information about the current professional situation of propands as well as the household size of the single participants. Starting with the assessment of the current professional situation, one can see that most of the respondents are currently employed either full-time (35,8%) or part-time (28,7%). In addition, around a quarter of all participants is at the moment still studying or doing an apprenticeship. Only 2,9% of all probands specified to be retired.

Table 6: *Professional Situation and Household size of the participants*

Professional situation	Frequency	Percent
Student / apprentice	62	25,8%
Full-time job	86	35,8%
Part-time job	69	28,7%
Self-empoyed	16	6,7%
Retired	7	2,9%
Total	240	100%
Persons living within a household	Frequency	Percent
1	43	17,9%
2	102	42,5%
3	45	18,8%
4	37	15,4%
5	11	4,6%
≥ 6	2	0,8%
Total	240	100%

Regarding the size of the household most of the survey respondent's life in a household of two (42,5%). The frequency of individuals living either alone or in a household of three or four is really close to each other. Meanwhile only 5,4% of all participants reported to live in a household with five or more people.

It was also interesting to see if propands reported a special diet. Out of all 240 survey participants 70 individuals reported special diet preferences. Since the corresponding question allowed participants to select multiple diet preferences at once, in the end 98 answers indicating a diet preference were collected. Table 7 gives closer into the distribution of those 98 answers.

Table 7: *Participants with special dietary preferances*

Special diet	Amount
vegatarian	42
vegan	12
halal	0
low carb/calorie-reduced	27
gluten free	5
lactose free	12

Overall, the most selected diet preference was vegetarian (42). Interestingly 54,77% (23 individuals) out off all the recorded vegetarians also had other dietary preferences at the same time. Especially the combinantion of vegetarian and low carb was frequent, with 11 determined cases. But also, the two combinations of vegetarian and lactose free as well as vegetarian and vegan occurred 5 times each. Another interesting result was that 83,33% of all vegans (equals 10 individuals) additionally had other dietary preferences. Moreover, 8 survey participants used the implemented text field to

indicate wether they had other dietary preferences. The following results were found out through this open question: flexitarian (5), reduced sugar (2), high in protein (1) and fructose free (1).

Generally, it was unexpected that no survey participant choose halal as a special diet preference, especially since around 4,4 million Muslims are living in Germany, which equals 5,4% of the whole population of Germany (BMI, 2022). Compared to the 2% of Germans that are living vegan (BMEL 2022, p.12), the probability of encountering a person with halal eating habits should usually be higher than the probability to encounter a vegan. Nevertheless, 12 individuals with vegan dietary preferences were identified. Hence, in future research it should get investigated if purchasing a meal kit is maybe also dependant on religious affiliation.

When comparing which meal kit providers German participants have previously heard of, the majority only know the three biggest providers and has never heard of alternative ones. As presented in figure 10, HelloFresh is by far the best-known meal kit provider within Germany with 95,42% of all survey participants being aware of this brand. Marley Spoon (56,25%) occupies the second place and Dinnerly (41,25%) the third place when it comes to customer awareness.

Figure 10: *Most known German meal kit providers*
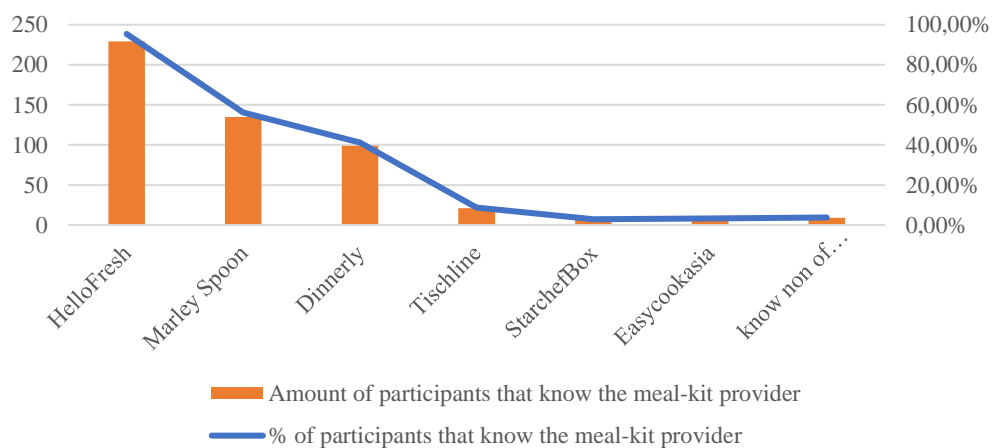
The remaining meal kit suppliers within this table are only known by less than 10% of all respondents, which indicates that they definity have to do some work in order to rise awareness and reach more customers. Another surprising fact is that only nine survey participants do know non of the listed meal kit providers. Hence one can conclude that the majority of Germans is aware about the concept of meal kits and at least familiar with HelloFresh.

5.2 Underlying success factors of meal kits

To sum up the large number of variables that influence customers while buying meal kits into a fewer number of factors, an exploratory factor analysis was conducted. This statistical method uses the correlation of the individual items with each other to aggregate them into a small number of independent dimensions or factors (Cleff, 2015, pp. 217-218). Initially the factorability of the 15 items that influence customers while buying meal kits was examined. Those factors were measuread on a 7-point Likert scale were 1 indicated that the item was very unimportant to individuals, whereas a rating of 7 showed that the participants perceived this item as very important.

As recommended by Mooi et al. (2018, p.281) the varimax rotation method was used within this factor analysis, as it increases the interpretability of the resulted factors. Principal component analysis (PCA) was then used to determine the smallest number of factors that represent the interrelationships among variables in the best way. In order to carry out a PCA certain requirements had to be met (Mooi et al. 2018, pp. 266-272). Firstly, the measurement scales for the 15 items had to be appropriate. Cronbach's Alpha for those 15 items was calculated and resulted in 0,734. As this value indicates that scales internal consistency is acceptable (Pallant, 2020, pp. 102 - 106), no problems should occur during the factor analysis. The collected sample size of 240 individuals is also large enough for PCA. As a last requirement the single items needed tp be sufficiently correlated. A look at the correlation matrix revieled that significant correlation between the majority of items existed.

Besides, the suitability of data was additionally examined by looking at the the Kaiser-Meyer-Oklin-Coefficient (KMO) as well as the Bartlett's Test of Sphercity. The KMO of the dataset is 0,743, which indicates that a good interrelation of the variable exists, and data is consequently suitable for conducting a factor analysis (Cleff, 2015, p.220). Additionally, also the significant Bartlett's Test of Sphercity (p = .000) indicates a good applicability of a factor analysis (Cleff 2015, pp. 219-220).

The first run-trough of the factor analysis came to the result that 60,50% of variance in the 15 variables can be explained by five common extracted factors. Since this value is really close to the threshold of 60% (Hair et al., 2020, p. 432) the correlation matrix as well as the below communalities table were examined to identify if any items should be kept out of the factor analysis. While the Correlation matrix indicates whether a significant relationship between the single items exists, the communalities table gives information about the proportion of each variable's variance that can by explained by

the extracted factors (Cleff, 2015, pp. 218-221). In their research Moii et al (2018, p. 277) as well as Larose (2015, p. 109) indicate that communalities with a value below 0,5 can be considered as too low, as it would imply that the extracted factors account to less than 50% of the item's variance. To assure that each variable is representative for the extracted factors it can therefore be considered to eliminate items with communality after factor extraction of below 0,5 from the factor analysis. Abiding this suggestion, it was decided to exclude the item *branded products* from the factor analysis as its communality (0,386) was far below this threshold (see table 8). But this decision was also based on the fact that the correlation matrix revieled that the item *branded products* did only share significant weak correlations of with two other items. The reasearcher also tought about removing the item *price* from the factor analysis as its communality was also slightly below 0,5. However it was decided to keep this factor and see how communality will develop in the rerun of the factor analysis after extraction of other unfitting items.

Table 8: *Communalities of the single items of the factor analysis*

	Initial	Extraction
Price	1,000	,431
Branded products	1,000	,386
Organic products	1,000	,633
Freshness of the products	1,000	,606
Diverse and yummy dishes	1,000	,642
Many Vegetarian/Vegan/Low carb/ etc. dishes	1,000	,512
Many international dishes	1,000	,696
Easy to follow cooking instructions	1,000	,627
Fast preperation	1,000	,692
Fitting portion size	1,000	,591
Reliable customer service	1,000	,612
Flexible subscription (can be paused / cancelled at any time)	1,000	,696
Punctual delivery at my desired time	1,000	,673
Sustainable packaging	1,000	,686
Easy order process	1,000	,591

Extraction Method: Principal Component Analysis.

To decide if further items needed to be excluded, an additional look was taken at the rotated component matrix. Although all items had a factor loading over 0,5, the item *Many vegetarian/vegan/low carb/etc. dishes* showed a critical cross loding between Factor 2 and Factor 3. Since the cross loding difference had a value of only 0,034 and hence was far below the critical value of 0,2 (Cleff, 2015, pp. 225-227), this item was also excluded from the analysis. Afterwards the factor analysis was repeated with the remaining 13 items.

Table 9: *Rotated Component Matrix (1ˢᵗ run-though of the factor analysis)*

	Component				
	1	2	3	4	5
Price				,596	
Branded products					-,522
Organic products		,789			
Freshness of the products		,350			,655
Diverse and yummy dishes			,717		
Many Vegetarian/Vegan/Low carb/ etc. dishes		,514	,480		
Many international dishes			,808		
Easy to follow cooking instructions			,349	,649	
Fast preperation				,791	
Fitting portion size				,326	,665
Reliable customer service	,770				
Flexible subscription (can be paused / cancelled at any time)	,818				
Punctual delivery at my desired time	,745	,335			
Sustainable packaging		,767			
Easy order process	,630	,323			

Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The first observation after the second run through was, that now all the remaining items had communalities over 0,5 (see appendix 6). As suspected even the communality of the item *price*, that previously laid below the threshold of 0,5 had now an acceptable communality value. In the second run neither critical factor loadings, nor additional

critical cross loadings could be identified (table 11), so that the remaining five factors could now be investigated closer.

According to the commonly used Kaiser-criterion only factors with an eigenvalue greater than 1 get retained (Cleff, 2015, p. 224). Abiding by this rule, the conducted factor analysis resulted in five factors each having an eigenvalue greater than 5. As illustrated in table 10, overall, 66,03% of the variance in the 13 variables can be explained by the combined effects of those five factors. With an eigenvalue of 2,355 factor 1 explains the largest percentage of overall variance, namely 18,12%. Factor 2 was respondible for 13,34% of the total variance, while the remaining factors each accounted to a bit more than 11% of the overall variance.

Table 10: *Total Variance explained by the five common factors*

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,474	26,723	26,723	3,474	26,723	26,723	2,355	18,118	18,118
2	1,633	12,563	39,286	1,633	12,563	39,286	1,734	13,336	31,454
3	1,252	9,627	48,913	1,252	9,627	48,913	1,541	11,851	43,305
4	1,166	8,965	57,879	1,166	8,965	57,879	1,499	11,530	54,835
5	1,060	8,151	66,029	1,060	8,151	66,029	1,455	11,194	66,029
6	,867	6,667	72,696						
7	,683	5,256	77,952						
8	,639	4,916	82,869						
9	,587	4,516	87,384						
10	,464	3,568	90,953						
11	,437	3,362	94,315						
12	,381	2,931	97,246						
13	,358	2,754	100,000						

Extraction Method: Principal Component Analysis.

Lastly, the single factors were given names and interpreted based on the results from the final rotated component matrix illustrated below. In this course it was assessed to which factor each of the 13 individual items can be assigned.

As visible in table 11, factor 1 consists of the four items *reliable customer service*, *flexible subscription*, *punctual delivery at my desired time* as well as an *easy order process.* Since all those items relate to either reliability or flexibility of the order-to-delivery (OTD) process, this factor was referred to as "*flawless OTD*".

Factor 2 that includes the two items *organic products* and *sustainable packaging* relates to the overall sustainability of single meal kit companies. Subsequently, this factor was also called *Sustainability*.

The three items, *price, easy to follow cooking instructions* and *fast preparation* all loaded onto the third factor. Since those three items have something to do with the

customers perception of the cooking process process and price, factor 3 was called *"Combination of price and convenient preparation"*.

Next the two items, *diversity of dishes* and *amount of international dishes* were assigned to Factor 4, which was consequently labelled *"variety of dishes"*.

Lastly the remaining two items *freshness of the products* and *fitting portion size* both loaded on factor 5. Both of those items are linked to ingredients, either directly with their freshness or indirectly with the amount needed in order to have a good portion size. Therefore, it was chosen to label this factor *"condition of the ingredients"*.

Table 11: *Rotated Component Matrix (2nd run-though of the factor analysis)*

	Component				
	1	2	3	4	5
Price			,670		
Organic products		,815			
Freshness of the products		,307			,669
Diverse and yummy dishes				,732	,347
Many international dishes				,831	
Easy to follow cooking instructions			,665	,342	
Fast preperation			,728		,325
Fitting portion size					,767
Reliable customer service	,802				
Flexible subscription (can be paused / cancelled at any time)	,818				
Punctual delivery at my desired time	,723	,361			
Sustainable packaging		,800			
Easy order process	,602	,338			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Interestingly, those five resulting factors are comparable to the coding categories that had the highest relative impact on customer satisfaction within the Caplena research (Chapter 4). Especially an unproblematic order and delivery process, a good quality of ingredients as well as the overall variety of dishes offered by the providers, also showed a high influence within the Caplena research. Hence, meal kit providers should focus to fulfill those requirements in order to attract customers successfully.

To be able to use the resulted factors in other statistical methods, the compute variable function was then used to create the mean value of the single factors. This step was taken as it is more understandable to have values on a scale of seven instead of the single either positive or negative factor scores. Especially since the five extracted factors get used within a regression analysis in the upcoming chapter.

5.3 Attitude towards meal kits

After the underlying factors for purchasing meal kits were determined in the previous part, this chapter investigated which variables had an influence on the overall attitude of partcipants towards meal kits.

As a starting point the average attitude of the whole 240 persons sample towards meal kits was examined and resulted in a mean attitude of 5,22. Since the attitude was measured on a seven-point scale (1=negative very, 4=neutral, 7=very positive), a result of 5,22 signifies that the participants overall have a rather positive general attitude towards meal kits.

Afterwards a closer look was taken if a positive relationship between the age of the participant and the overall attitude towards meal kits could be identified (H1). The insignificant Pearson correlation coefficient ($r(240) = .048$, p= .459) showed that the attitude of the individuals was not positively influenced by age and therefore H1 could be rejected.

Next an independent samples t-test was conducted to examine whether males and females have a different general attitude towards meal kits (H2). The test indicated significant results ($t(240) = -2,789$, $p = .006$), with female participants (N = 211; M = 5,32) reporting a slightly more positive attitude towards meal kits than male respondants (N = 28; M = 4,50). But overall, both groups showed a positive attitude above the neutral value of 4. Those results indicate that H2 is indeeed true, and the overall attitude towards meal kits varies based on gender.

In the following part, several linear multiple regressions were performed to see which metric independent variables (IV) had a significant influence on the particpants attitude towards meal kits as a dependant variable (DV).

The first multiple regression (H3) determined if individuals eating and cooking habits (IV) influenced their attitude towards meal kits (DV). Overall the regression analysis showed significant results ($F(5, 234) = 3,766$, p= .003, $R^2 = .074$). But the T-Test indicated that only the individual's *importance of yummy food* had a significant effect

on the overall attitude towards meal kits (B= .283, p= .000), while the rating of the other four eating and cooking habits - *healthy diet; eating organic products; importance of animal welfare; cooking oneself* - only had an insignificant contribution (see table 14). Hence one can overall accept H3 under the reservation that only the *importance of yummy food* had a significant positive influence on the participants attitude towards meal kits.

Table 12: *Multiple Regression: Attitude (DV); Eating and cooking habits (IV)*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,156	,903		2,388	,018
importance yummy food	,551	,132	,283	4,176	,000
importance healthy diet	,040	,121	,026	,329	,743
importance organic products	-,019	,088	-,019	-,221	,825
importance animal welfare	-,045	,086	-,042	-,524	,601
importance cook yourself	-,080	,080	-,071	-1,002	,317

Another Multiple regression was conducted to investigate (H4) whether the six motives for buying meal kits (IV) had a significant impact on the participants overall attitude towards meal kits (DV). The analysis revieled significant results (F(6, 233) = 18,666, p= .000, R² = .325). Subsequently, H4 can be confirmed, as 32,5% of the variance of the attitude towards meal kits can be explained by the five motives for buying meal kits. The T-test showed that only three out of the five motives had a significant impact on the attitude. The motive *easier meal preparation process* has the highest positive impact on attitude (B= .344, p= .000), followed by the *possibility to try out new recipes* trough meal kits (B= .170, p= .014) and the prospect of *saving time while shopping groceries* (B= .154, p= .018). Meanwhile the remaining three motives for buying meal kits (*improve cooking, eat healthier; producing less food waste*) only had an insignificant effect on the overall attitude towards meal kits as illustrated in table 13.

Table 13: *Multiple Regression: Attitude (DV); Motives for buying meal kits (IV)*

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	,837	,457		1,832	,068
mealprep gets easier	,365	,070	,344	5,188	,000
I save time during grocery shopping	,146	,061	,154	2,375	,018
I try out new recipes	,192	,077	,170	2,488	,014
I improve my cooking skills	,030	,048	,040	,630	,529
I eat healthier	-,003	,074	-,003	-,045	,964
I waste less food	,040	,066	,040	,601	,549

Within the third multiple regression it was researched which of the five previously identified buying factors (Chapter 6.2) effected the individuals' overall attitude towards meal kits (see H5). Again, the overall model showed significant results (F(5, 234) = 5,631, p= .000, R² = .107), which led to the acceptance of H5. However, only two out of the five extracted purchasing factors revealed a significant t-test. While Factor 2 *sustainability* had a negative effect on the overall attitude of meal kits (B= -.217, p= .001), the factor *variety of dishes* had a positive effect on the overall attitude (B= .197, p= .003). The piece of evidence that the factor *sustainability* had a negative influence on the overall attitude was really surprising, as it was previously assumed that this factor would improve the overall attitude. Especially since nowadays sustainability becomes more and more important to many customers.

Table 14: *Multiple Regression: Attitude (DV); Factors of factor analysis (IV)*

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2,768	,934		2,963	,003
Mean_Factor1	,216	,123	,125	1,756	,080
Mean_Factor2	-,260	,080	-,217	-3,239	,001
Mean_Factor3	-,103	,093	-,070	-1,101	,272
Mean_Factor4	,261	,088	,197	2,954	,003
Mean_Factor5	,253	,123	,135	2,056	,041

Comparing the R-square values of the three completed multiple regressions it becomes obvious, that the motives for purchasing meal kits (R^2 = .323) have the strongest association with the general attitude towards meal kits. Meanwhile the factors influencing the purchase of a meal kit (R^2 = .107) as well as the individual cooking and eating habits (R^2 = .074) showed only weak associations with an individual's overall attitude towards meal kits. Based on those results, it is advisable for meal kit providers to pronounce motives for buying meal kits within their marketing activities. They should especially mention that meal kits enable customers to have an easier meal preparation process, save time while grocery shopping and additionally support consumers to try out new recipes, as those variables had the strongest positive influence on the overall attitude towards meal kits.

5.4   Experience of the participants with meal kits

After examining peoples' overall attitude towards meal kits, this chapter gives closer insight into the participants prior experience with meal kits. The below graph represents whether single survey participants possess prior experience with meal kits. In order to analyse the dataset within this chapter closer, the obtained data was split into two groups: A) the participants that have not purchased a meal kit yet (N = 73) and B) participants that have prior experience with meal kits (N = 167). Survey partcipants that have either tried out a meal kit (N = 15), are currently subscribed to a meal kit service (N = 106) as well as probands that resigned or paused their subscription after some time (N = 46) are counted to group B.

Figure 11: Experience of the single participants with meal kit services
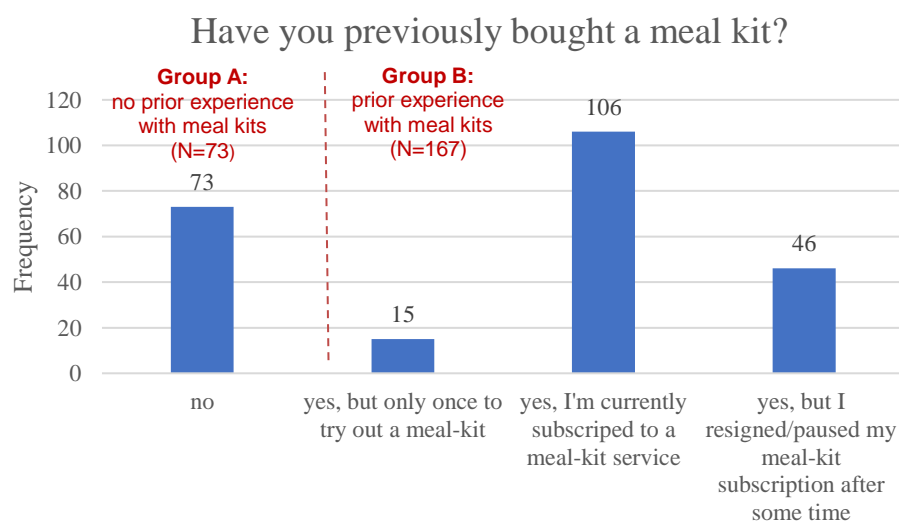
Before starting with the actual analysis, the variable age was computed in order to receive different age groups that could then be used as grouping variable within ANOVA. For this process the same age groups as in the Statista Global consumer survey (2022) report about HelloFresh were selected. Since 5 survey participants within this sample were older than 65 and did therefore fit in none of the predefined age groups, it was decided to simply expand the fifth age group and call it older than 55 years. First the reseacher thought about adding a sixth age group for people older than 54. However, this would have distorted the statistical results when conducting for example ANOVA, since with only 5 cases this group would have been a lot smaller than all the other age groups. Therefore, participants were assigned to one of the following five age groups: 18-24, 25-34, 34-44, 45-54 and older than 55.

5.4.1 Group A: No prior purchase of a meal kit

At first, the group of the 73 survey respondents that have never tried out a meal kit were investigated in order to study the reasons behind their decision. The below table illustrates the final age distribution of the 73 people that have not previously purchased a meal kit.

Figure 12: *Age distribution of participants that have never purchased a meal kit*
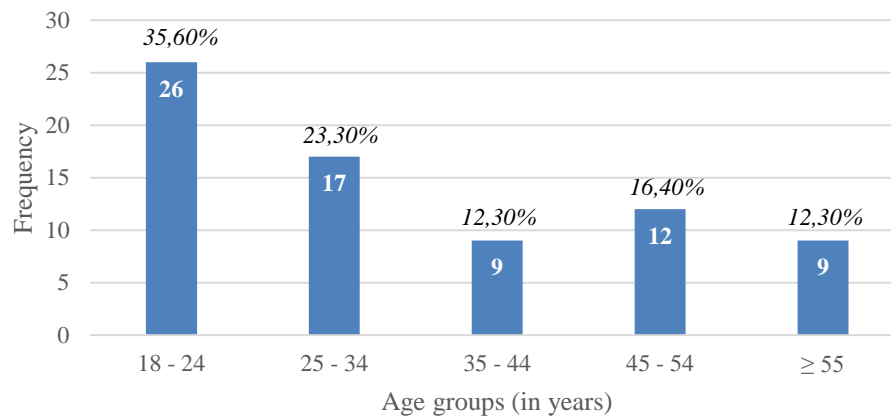
It becomes obvious that rather young people (18-24) do not have prior experience with meal kits. The background why in particular younger generations have not purchased meal kits before becomes clearer when regarding the reasons that led to their decision, presented in table 17. For the survey question underlying this table, participants had the possibility to select multiple reasons at once. Therefore, the number of answers adds up to more than 73. Results showed that especially younger people do not want to sign up for an obligatory subscription in order to receive a meal kit. In addition, they

prefer to buy groceries in supermarkets and perceive meal kits as too expensive. But overall, the obligatory subscription is the biggest purchase barrier for 64,38% of participants. Surprisingly, almost all participants are aware of the concept of meal kits even tough they have not bought one themselves. Only 7 individuals claim to have never heard about the concept of meal kits before. The two people that selected the reason "Meal kit providers do not offer dishes suitable for my special diet." are both vegans, with one of them being additionally gluten intolerant. Since the two biggest meal kit companies in Germany, HelloFresh and Marley Spoon, do not offer fully vegan meal kits yet, this reason is understandable.

Table 15: *Reasons of Participants for not purchasing meal kits*

	Age group					Total
	18 - 24	25 - 34	35 - 44	45 - 54	≥ 55	
The price per portion is too expensive.	9	11	4	5	1	**30**
I prefer to buy my groceries in a supermarket.	15	5	2	5	6	**32**
Meal kit providers do not offer dishes suitable for my special diet.	0	0	1	0	1	**2**
I do not want to sign up for a subscription to get a meal kit.	18	9	7	8	7	**47**
I have never heard about the concept of meal kits before.	4	1	0	0	2	**7**

Afterwards a one-way ANOVA was executed in order to assess (H7) if the mean for the future purchase intention of a meal kit (DV) is different based on the age group the participants belong to (IV). Scheffe's Method was used as the single age groups of the independent variable had different sample sizes (Mooi 2018, p.188). Even though results show insignificant differences in the means of age groups ($F(4; 69) = 2,089$, $p= .092$, $\eta2 = .108$) and H7 had to be rejected (see appendix 13)., the below means plot illustrates that the future purchase intention is declining slightly with rising age. The mean results are based on the seven-point likelihood scale with the following structure: 1= very unlikely, 4 = neutral, 7 = verly likely. The overall mean for future purchase intention for all age groups is 4,43, which consequently implies that people that have not tried a meal kit yet are not that likely to purchase a meal kit in future as the mean of 4,43 is located rather close to the neutral point of 4. When comparing the agewise future purchase intention, people out of the first three age groups (18 – 44) are still a bit likely to purchase a meal kit is future, as their means are located over the neutral

point of four. In comparison participants that are older than or as old as than 45 are unlikely to purchase a meal kit in future.

Figure 13: *Means Plot for the future purchase intention of meal kits*
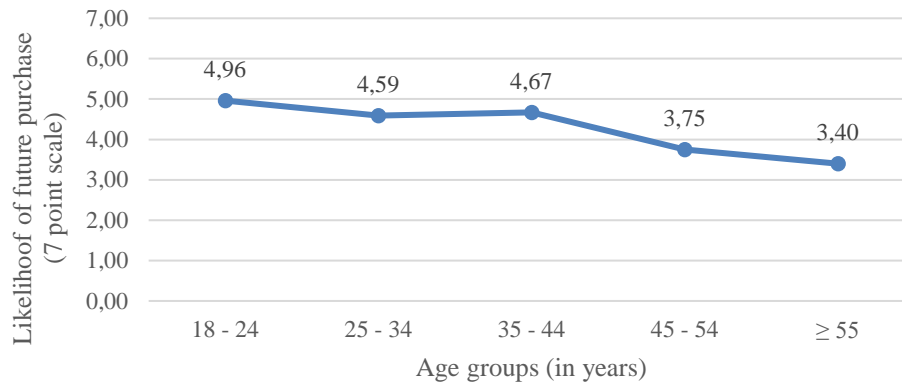
5.4.2 Group B: Prior purchase of a meal kit

To analyze the group of participants that have previous experience with meal kits, the same procedure was used. Again, the distribution of those 5 age groups is represented in on the graph on the right side of figure 14, while the graph on the left side illustrates the results of the Statista Global Condumer Survey (2022) report.

Figure 14: *Age distribution of meal kit customers*
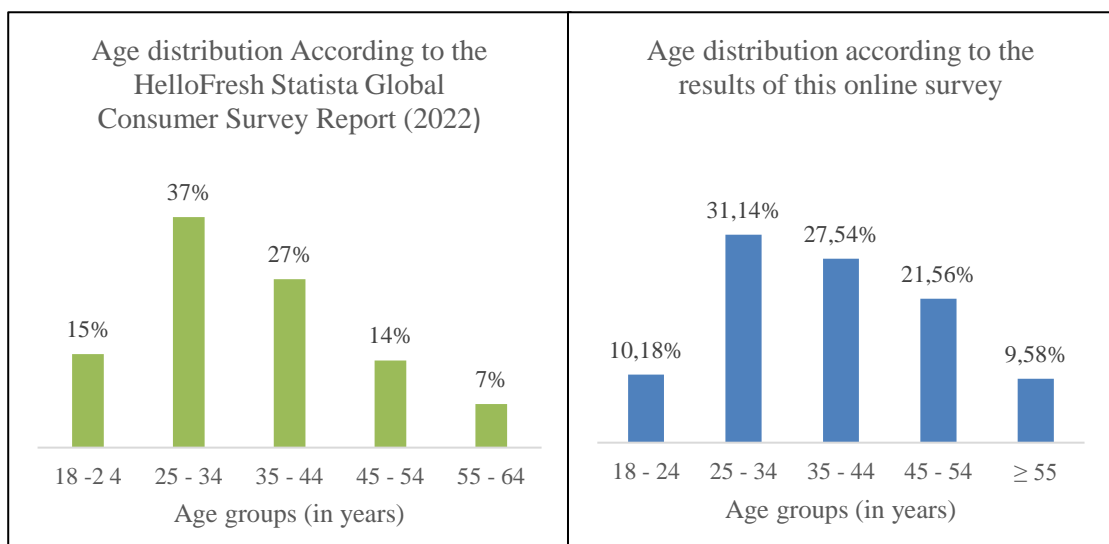
Alltogether the structure of the age distribution within this survey is similar to the distribution of the HelloFresh Statista (2022) report. It is evident that exactly like in the Statosza report, most meal kit customers are Millenials. Especially people that are between 25 and 44 years have previously purchased meal kits. However, compared to

the HelloFresh Report, approximately 7,5% more people between 45 and 54 years have bought meal kits within this online survey. Additionally, also within this online survey approximately 3,6% more customers of meal kits were older than 55 years. The higher number of older customers could be a result of the fact that customers of various German meal kit providers were included within this study. It is possible that the customers of HelloFresh show the same age distribution as in the HelloFresh report, while other providers rather attract older customers. Those circumstances get explored in a later part of this thesis (chapter 6.5.1).

To support statistically, that a relationship between the two nominal variables *experience with meal kits* and *age group* exists (H6), an additional KS-test was used. As this test showed significant results ($D(240) = 0.299$, $p = .000$), H6 can be confirmed. Moreover, also the significant Phi coefficient between those two variables ($\varphi = 0,423$, $p = .000$) supported that they are interrelated.

As a next step it was compared if the reported household size differs when for individuals that have experience with meal kits in comparison to those that do not have experience (H8). To answer this assumption a one-way ANOVA was conducted to test if the means for household size are significantly different for the four groups of the independent variable. Results indicated that no significant differences in household size can be found ($F(3; 236) = 0,959$, $p = .413$, $\eta 2 = .012$) and consequently H8 could be rejected (see appendix 14). Overall, the mean for persons living within a household was between 2,07 and 2,58 for all four groups of the independent variable. Consequently, consumers of meal kits mainly live in a householf of two or three.

Graph 15 shows from which provider the individuals that already have experience with meal kits bought their box from. It is obvious that more than half of all respondents bought their meal kit from HelloFresh (61,2%). Meanwhile 35,8% of the participants purchased their meal kit from MarleySpoon. As only 3% of all survey respondents bought their meal kit from other providers, no further analyses are conducted for those. Hence the following chapters only focus on the two providers HelloFresh and Marley Spoon.

Figure 15: *Distribution of providers the meal kit was purchased from*
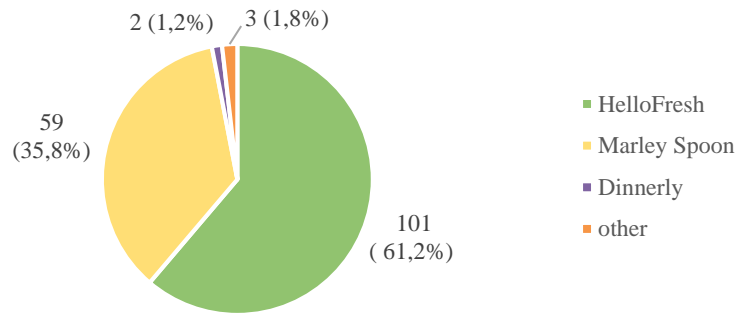
5.5 HelloFresh versus MarleySpoom

Within this chapter the customers of HelloFresh and Marley Spoon get investigated closer to see if certain customer characteristics exists. It was examined in how far their customers differ. Furthermore, it was studied which reasons led customers to cancel their subscription from each of the provider and how satisfied they were with the meal kit provider.

5.5.1 Customer characteristics

Table 16 gives closer insights into the agewise distribution of the customers of customers of HelloFresh and Marley Spoon.

Table 16: *Age of consumers - HelloFresh vs. Marley Spoon*

Age group	HelloFresh		Marley Spoon	
	Amount	**Percent**	**Amount**	**Percent**
18 - 24	16	16%	0	0%
25 - 34	34	34%	15	25%
35 - 44	24	24%	20	34%
45 - 54	16	16%	20	34%
≥ 55	11	11%	4	7%
Total	101	100%	59	100%

For HelloFresh most consumers belong to the age group between 25-43 years (34%), while for Marley Spoon more than half of all customers are between 35 and 54 years old. Generally, one can see that HelloFresh rather attracts younger customers, especially when regarding the age group from 18 until 24 years old, whereas the customers of MarleySpoon tend to be a bit older. This was also previously suspected comparing the agewise distribution of this survey with the Statists HelloFresh Report (2022) in chapter 6.4.2. Consequently, one can conclude that the higher amount of customers above 44 years is a result of the inclusion of Marley Spoon within this

survey. If only HelloFresh was analyzed the agewise distribution would be really close to the results of the Statista Global Consumer Survey (2022) report.

The younger target group of HelloFresh can also be seen when regarding the current professional situation of customers of the two respective companies, as highlighted in table 17. While 26,7% of all HelloFresh customers are students, Marley Spoon does not attract students at all. Instead, 55,9% of their customers have a full-time job. Comparing the value with the 35,6% of HelloFresh buyers that have a full-time job. One can see that for HelloFresh customers are distributed more equally among the different professional situations. However, HelloFresh does not have any retired customers, while around 5% of Marley Spoon customers belong to this group.

Table 17: *Professional Situation of customers - HelloFresh vs. Marley Spoon*

Professional situation	HelloFresh		Marley Spoon	
	Frequency	Percent	Frequency	Percent
Student / apprentice	27	26,70%	0	0%
Full-time job	36	35,60%	33	55,90%
Part-time job	31	30,70%	16	27,10%
Self employed	7	6,90%	7	11,90%
retired	0	0%	3	5,10%
Total	101	100%	59	100%

Table 18 indicates how the single individuals became aware of the respective meal kit provider. Obviously, more than 45% got aware of both HelloFresh and Marley Spoon through social media or influencer marketing. Interestingly, this marketing method did not only attract young customers, but also customers older than 55 years. The second most frequent awareness raiser were recommendations by friends or collegues. Especially for Hellofresh around 44,6% of all customers became aware this way. Other marketing channels, as print marketing through posters or magazines, e-mail marketing as well as TV commercials were not as successful for meal kit providers, as less than 10% of all individuals became aware though this marketing methods. Therefore, meal kit providers should focus on social media and influencer marketing. Furthermore, they should try to achieve a high customer retention and satisfaction in order to be recommended to other people by their current customers.

Table 18: *Successful Marketing Channels of meal kit providers*

	Age groups (years)					Total amount	%
	18 - 24	25 -34	35 - 44	45 - 54	> 55		
Recommendation by friends collegues							
HelloFresh	8	16	9	6	6	45	44,56%
Marley Spoon	0	5	7	5	2	19	32,20%
Poster / Magazine							
HelloFresh	0	0	3	0	3	6	5,94%
Marley Spoon	0	0	1	1	0	2	3,39%
Social Media / Influencer							
HelloFresh	11	20	6	6	4	47	46,53%
Marley Spoon	0	8	7	10	2	27	45,76%
E-Mail Marketing							
HelloFresh	0	1	0	1	1	3	2,98%
Marley Spoon		0	2	2	0	4	6,78%
TV commercial							
HelloFresh	1	2	4	1	1	9	8,91%
Marley Spoon	0	1	1	0	0	2	3,39%

However, as the below crosstabulation (table 19) illustrates that customer retention can become quite difficult for single meal kit providers. Results show that especially HelloFresh has a rather low customer retention. Interestingly, 93,3% out of the 15 people that only tried out a meal kit once purchased it from HelloFresh. The same structure can be seen when looking at the distribution of the 46 individuals that cancelled or paused their meal kit subscription. Here again the majority belong to HelloFresh (73,9%).

Table 19: *Customer Retention - HelloFresh vs. Marley Spoon*

	yes, but only once to try out a meal kit	yes, I'm currently subscriped to a meal kit service	yes, but I resigned/paused my meal kit subscription after some time	Total
HelloFresh	14	53	34	101
Marley Spoon	0	50	9	59

In general, this table highlights that MarleySpoon seems to have more loyal customers as overall 50 (84,7%) survey respondents out of they 59 that purchased their meal kit from Marley Spoon still have a regular sunscription, while only 15,3% of all participants discontinued using Marley Spoon. Meanwhile HelloFresh only retained 52,5% of its customers in the long-term run. A lot more HelloFresh customers just tried out the meal kit onecof cancelled their subscription. This could be a problem for HelloFresh only happy long-term customers might recommend their meal kit provider

to others. In addition, long-term customers bring the most mones to a company and HelloFresh is currently losing a lot of money for acquiring new customers. Therefore, the following chapter will investigate the reasons of the participants for discountinuing to use their meal kit service in more detail.

5.5.2 Reasons for quitting meal kit services

Figure 16 gives closer insight into the reasons why the 61 survey participants that belong to the two groups 1) only tried out a meal kit once (N = 15) and 2) cancelled/paused the meal kit subscription (N = 46) discontinued using a meal kit service. Within the graph the quitting reasons for HelloFresh customers are pigmented in green and those for Marley Spoon in yellow.

Figure 16: *Reasons for discontinuing the meal kit subscription*
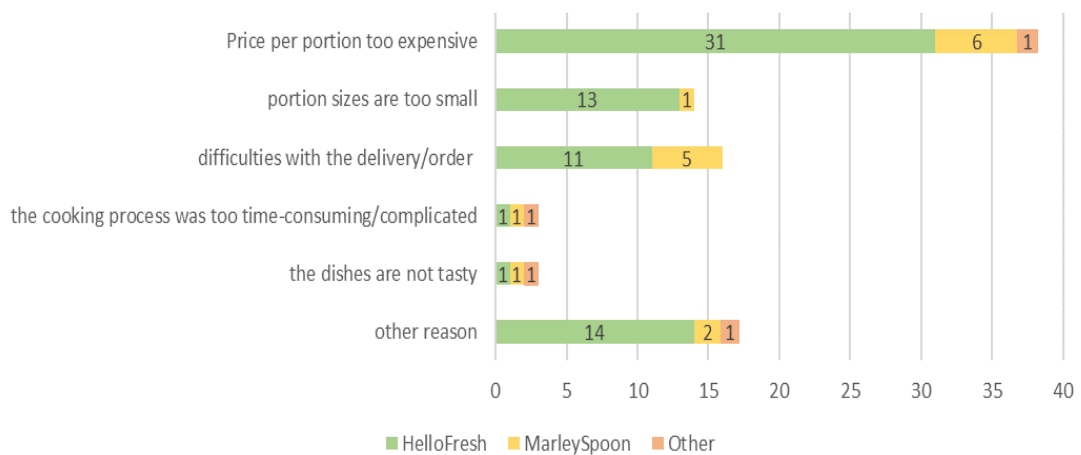
Overall, 38 participants claim that they did not continue using meal kits since the portion prices are too expensive for them. Interestingly, a lot more HelloFresh customers (N = 31) stated this reason than customers of Marley Spoon (N = 6), although Marley Spoon's meal kit prices are more expensive. In addition, 16 people recorded difficulties with the delivery or ordering of meal kits and 14 induviduals regarded the portion sizes as insufficient. Meanwhile the distastefulness of dishes as well as the time-consuming cooking process were only selected as reasons for cancellation by 3 persons each. So to sum it up the two main reasons for quitting meal kit servides, are their high prices as well as difficulties during the order or delivery process. Moreover, 17 survey respondents used the included text field and listed other reasons for dropping their meal kit subscription. Those are listed in the table 20 on the next page.

Table 20: *Other reasons for quitting the meal kit subscription*

HelloFresh	Marley Spoon
- Too little variety of dishes - Rude customer service - No time too cook a dish from a meal kit everyday - The meal kit service is not sustainable - Bad quality of groeceries	- My family does not like the dishes - I do not need regular meal kits, especially in summer

5.5.3 Customers' satisfaction with HelloFresh and Marley Spoon

Additionally, using the predetermined Net Promoter Score (NPS) question it was explored, how happy customers were with their meal kit providers. The NPS is a popular customer satisfaction metric, as it takes the rational as well as the emotional dimension of the relationship between the company and the customers into account (Greve & Benning-Rohnke, 2010, pp. 42-43). The NPS measures on a scale from 0 to 10 the degree to which people would recommend their meal kit provider to others. Based on their answer customers get placed in three groups: Persons that voted either 9 or 10 fall into the group of so-called promotors, that are exited about the product and would recommend it to others. The second group of passives includes people that voted 7 or 8 and therefore have a rather indifferent feeling towards the product. The most critical customer group, known as detractors, consists of individuals that voted 6 or less. Those customers are unlikely to purchase the product again and could even adivce others not to buy it. The following fomular is afterwards used to calculate the NPS for the single meal kit providers (Deutsches Institut für Marketing, 2018).:

$$NPS = \%\ promotors - \%\ detectors$$

Starting with the provider HelloFresh the following NPS was determined for the 101 survey participants that purchased their meal kit from this provider:

$$NPS = \left(\frac{37}{101} - \frac{26}{101}\right) * 100 = 10,9$$

The same procedure was used to calculate the NPS for the 59 Marley Spoon customers:

$$NPS = \left(\frac{38}{59} - \frac{3}{59}\right) * 100 = 59,3$$

Overall, the NPS can reach a value between -100 and +100. The lower the NPS of a company is, the more customers have a critical attitude towards the firm. Therefore, it is first of all a good result that HelloFresh and Marley Spoon both achieved a positive NPS. While HelloFresh reached a rather average NPS, the results of Marley Spoon are remarkable (Greve & Benning-Rohnke 2010, p.45). Those results also correspond with the higher customer retention rate of Marley Spoon that was detected in the previous chapter. However, it should be mentioned, that the NPS value for HelloFresh is mainly that low because a lot of participants voted 7 or 8 and therefore fall into the category of passives that get not incorporated into the formula for NPS calculation. Overall, 38 out of the 101 HelloFresh customers were passives, this equals 37,6% of all users.

Afterwards a one-way ANOVA was performed to see if the NPS rating differs based on the age group the individual participants belong to (H9). The test showed significant results ($F_{(4; 162)} = 2,615$, p= .037, $\eta2$ = .061) and therefore H9 was accepted. Eta-square indicated that 6,07% of variation of the NPS rating can be explained by the age groups. A closer look at the means plot in figure 17 demonstrates that out of all age groups, the youngest participants (18-24) gave the lowest NPS rating. The NPS value of 7,65 implies that most of the single individuals within this age range fall into the group of passives and have a rather neutral feeling towards their meal kit provider. Although the second age group (25-34) lists a higher NPS rating (M = 8,77), they are also mainly passives. Those results could be expected as previous descriptive statistics already showed that especially younger people dropped their meal kit subscription and consequently are of couse not that happy with the provider. According to the NPS ratings, only the age group 35-44 (M = 9,00), as well as the age group 45-54 (M = 9,71) are promotors of meal kit delivery services, while the remaining three age groups show rather passive feelings towards their meal kit provider.

Figure 17: *Means Plot: NPS rating of different age groups*
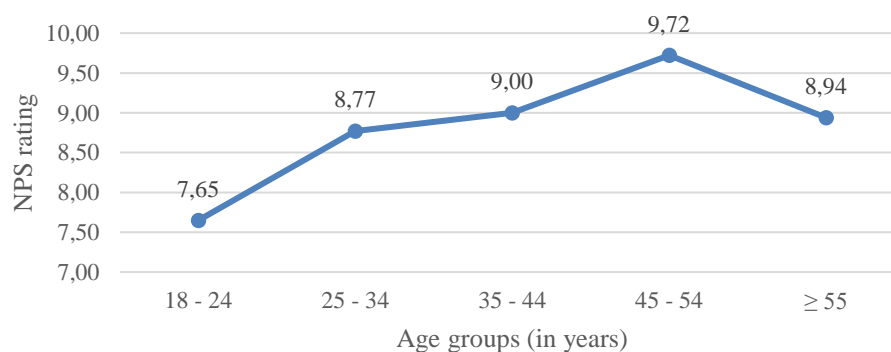
In addition, an independent sample t-test (H10) was used to determine whether a difference in the mean of the NPS of the two providers exist if one compares male and female respondents. The test indicated significant results for the provider HelloFresh (t(101) = -2,366, p = .038), with female participants (N = 90; M = 8,69) reporting a way higher avage NPS than male respondants (N = 11; M = 6,09). Consequently, H10 had to be accepted when regarding HelloFresh. For Marley Spoon, on the other hand, the results were insignificant (t(59) = 0,510, p = .612). As a conclusion this implies that customers of Marley Spoon would recommend the provider to the same amount no matter what gender they belong to. The mean values from the descriptive statistics highlight the same result with females (N = 54, M =9,85) having a similar avage NPS as men (N = 5, M = 10,20). Hence, H10 had to be rejected for MarleySpoon. However, when looking at the results one has to keep in mind that way more females than males completed the study. This could have possibly led to contorted data.

As a next step it was explored if a relationship between the NPS ratings of the single meal kit providers with other metric variables, including cooking and eating habits (H11), motives for buying meal kits (H12) and the extracted success factors (H13) exists. For this process the pearson correlation coefficient was used as it also provides information about the strength and direction of association between single variables. Table 21 gives an overview if the single variables significantly correlated with the NPS value of each meal kit provider. Significant correlations were marked in different colours based on their strength: blue = correlation of small strength; yellow = medium strong correlation, pink = correlation of large strength.

Results highlight that the NPS voting of HelloFresh shares significant correlations with six other metric variables, while the NPS voting of Marley Spoon is only correlated significantly with three other variables.
First, it should be mentioned that non of the five eating and cooking habits had a significant correlation with the NPS rating. Therefore, it can be concluded that NPS rating does not get influenced by individual's eating and cooking habits and H11 can consequently be rejected.

Table 21: *Pearson Correlations with the variable NPS (HelloFresh & Marley Spoon)*

Pearson Correlation of:

			HelloFresh	Marley Spoon
			NPS	NPS
small strength (blue)				
medium strength (yellow)				
large strength (pink)				

			HelloFresh NPS	Marley Spoon NPS
Eating & Cooking Habits	importance yummy food	Pearson Correlation	0,175	0,092
		Sig. (2-tailed)	0,081	0,488
		N	101	59
	importance healthy diet	Pearson Correlation	0,050	-0,043
		Sig. (2-tailed)	0,618	0,749
		N	101	59
	importance organic products	Pearson Correlation	0,122	-0,007
		Sig. (2-tailed)	0,226	0,961
		N	101	59
	importance products from animal welfare	Pearson Correlation	0,024	-0,027
		Sig. (2-tailed)	0,813	0,838
		N	101	59
	importance cook yourself	Pearson Correlation	0,131	0,052
		Sig. (2-tailed)	0,193	0,695
		N	101	59
Motives for buying meal-kits	mealprep gets easier	Pearson Correlation	,295**	,464**
		Sig. (2-tailed)	0,003	0,000
		N	101	59
	I save time during grocery shopping	Pearson Correlation	,330**	,563**
		Sig. (2-tailed)	0,001	0,000
		N	101	59
	I try out new recipes	Pearson Correlation	,210*	0,121
		Sig. (2-tailed)	0,035	0,362
		N	101	59
	I improve my cooking skills	Pearson Correlation	0,136	0,119
		Sig. (2-tailed)	0,175	0,371
		N	101	59
	I eat healthier	Pearson Correlation	0,102	,422**
		Sig. (2-tailed)	0,311	0,001
		N	101	59
	I waste less food	Pearson Correlation	,329**	0,206
		Sig. (2-tailed)	0,001	0,117
		N	101	59
Extracted success factors of meal-kits	Mean_Factor1	Pearson Correlation	0,193	-0,132
		Sig. (2-tailed)	0,053	0,317
		N	101	59
	Mean_Factor2	Pearson Correlation	0,051	-0,102
		Sig. (2-tailed)	0,611	0,442
		N	101	59
	Mean_Factor3	Pearson Correlation	-,197*	-0,133
		Sig. (2-tailed)	0,048	0,314
		N	101	59
	Mean_Factor4	Pearson Correlation	0,107	-0,106
		Sig. (2-tailed)	0,288	0,423
		N	101	59
	Mean_Factor5	Pearson Correlation	-0,027	0,055
		Sig. (2-tailed)	0,787	0,677
		N	101	59

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Continuing with the motives for purchasing meal kits several significant pearson correlations could be found. For HelloFresh the two motives *mealprep gets easier* (r(101) = .295, p = .03) and *I try out new recipes* (r(101) = .210, p = .035) shared positive correlations of small strength with the NPS rating of HelloFresh. The motives *I save time during grocery shopping* (r(101) = .330, p = .001) as well *as I waste less food* (r(101) = .329,p = .001) were even discovered to be moderately positively correlated with NPS. Meanwhile peoples NPS rating of Marley Spoon was positively influenced by the following three motives. There was a positive correlation of medium strength between *mealprep gets easier* and NPS (r(59) = .464, p = .000) as well as between *I eat healthier* and NPS (r(59) = .422, p = .001). Additionally, *I save time during grocery shopping* was observed to be strongly correlated with Marley Spoon's NPS (r(59) = .563, p = .000). Consequently, the NPS rating of the providers HelloFresh and MarleySpoon was influenced positively by different variables. H12 can be accepted, as several motives for buying meal kits shared a positive relationship with the overall NPS rating. While for both providers the motive I save time during grocery shopping was most positively correlated with NPS, for HelloFresh the second strongest correlation was found for the motive *I waste less food*, whereas for Marley Spoon the second strongest correlatoion was recorded for the motive *mealprep gets easier*.

Lastly regarding the correlations between the extracted five success factors from the factor analysis as well the NPS rating only one significant pearson correlation could be noted. It was surprising to see that the extracted factor 3 *combinantion of price and convenient preparation* shared a significant negative pearson correlation of small strenghth with the NPS rating of HelloFresh (r(101) = -.197, p = .048). Although this correlation was only of small strength, it is an indication that for HelloFresh those two variables move in opposite directions. Consequently, H13 can also be rejected, as non of the factors had a positive influence on the NPS.

As a last step for assessing NPS ratings a look was taken at the two open questions within the questionnaire that gave participants the option to state what they like or dislike about their meal kit provider. Those two open questions gave closer insights into why customers would recommend or not recommend their current meal kit provider to others. First of all, a look is taken at the common factors, customers reported for both HelloFresh and MarleySpoon illustrated in table 22. It was interesting

to see that customers often perceived the same factors as negative or rather positive regardless of the provider the meal kit was bought from-

Table 22: *Common factors customers like/dislike about their meal kit provider*

Like	Dislike
• Variety and diversity of dishes (including international dishes) • Tastiness of the dishes • Delivery on the customers desired date • Easy to follow recipe instructions • Flexible subscription that can be paused at anytime • Quality and freshness of the ingredients • Easy order process • Save time during the meal preperation process • Less food waste	• Too expensive • Delivered ingredients shortly before expiration date → only add ingredients with longer storage life • Sometimes certain ingredients are missing • Some serving sizes are too small (especially for dishes including meat) • Wish for more flexibility when it comes to sizes of meal kits (e.g. meal kit for 5 person household) • Wish for even higher sustainability (less plastic packaging, more organic products, reusable cool bag)

Nevertheless, each of the two meal kit providers also had some specific reasons why the customers liked them. For example, HelloFresh customers often mentioned that they appreciate that HelloFresh has its own delivery service and does not rely on third party carriers, as this leads to a consistent punctual delivery. On contrary, delayed deliveries were negatively mentioned by quite a few Marley Spoon customers because Marley Spoon delivers through the carrier UPS deliveries arrived unpunctual or got lost. Moreover, MarleySpoon customers highlight that they like those even existing long-term customers get regular vouchers, whereas HelloFresh customers complained that the provider only offers vouchers for new customers. In addition, HelloFresh consumers also criticized that it is difficult to cancel the subscription and that they receive too much spam e-mails from the provider. Customers of Marley Spoon gave the improvement suggestion that the provider should allow its customers to unsubscribe from small ingredients as for example homey, certain spices or herbs, as a lot of customers usually already have them at home.

5.6 Willingness to purchase meal kits in a local supermarket

Within the survey one question about the respondents' willingness to purchase a meal kit in a local supermarket was included, since it is interesting to see whether individuals will make use of this purchasing option. Therefore, participants were asked on a seven-point likert scale how likely they would purchase a meal kit within a

supermarket. The results can be seen in the below graph. The distribution of answers shows that the majority of respondents (62%) would at least rather likely purchase a meal kit in supermarkets. 13% of all partakers had a neutral attitude, while the remaining 25% indicated that they are unlikely to buy meal kits in supermarkets. Overall, the mean value of the whole sample was 4,67.

Figure 18: *Willingness of customers to purchase meal kits in local supermarkets*
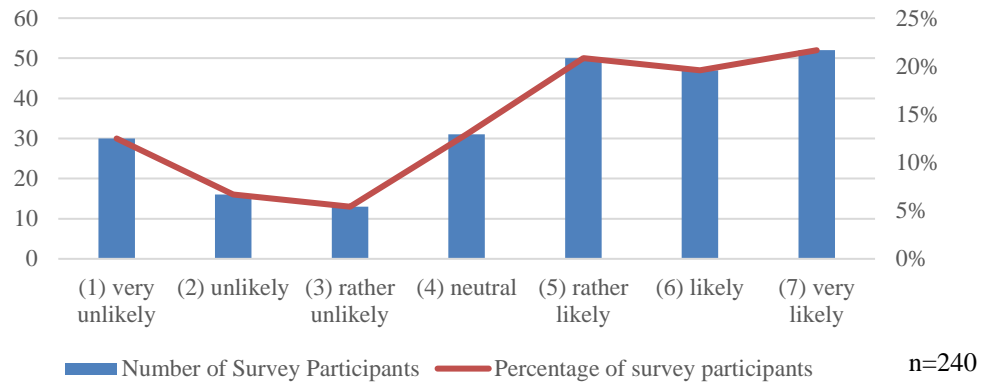
Originally, a One-way ANOVA should have been used to assess whether single age groups are more likely to purchase meal kits within a supermarket (H14). However, the significant test of homogeinity (p= .002) on SPSS showed, that an ANOVA could not be used, since the assumption of homogeinity of variance has been violated. Therefore, a Kruskal-Wallis test was conduced, as is is an equivalent for ANOVA (Moii et al. 2018, p.167). As expected the Kruskal-Wallis test showed significant results (H(4) = 12,363, p = .015). The mean for purchasing meal kits within a supermarket was not identical across the sub-sampled age groups, as illustrated in figure 19. While the horizontal axis represents the five age groups in years, the vertical axis shows how likely customers are to purchase meal kits in a supermarket on a 7 point scale.

Although Ramo (2020, p.38) implied that customers aged between 35 and 44 likely buy their meal kits in local grocery stores while younger customers prefer to purchase them online, this survey showed different results. In this study the age group of 35-44 still had a relatively high mean purchase intention, however partcipants between 18-24 possessd an even higher purchase intention of meal kits in supermarket. In addition, this means plot also shows, that older generations do not have a higher purchase intention of meal kits in the supermarket than younger generations, as the two age groups older than 44 have the lowest means for buying meal kits in a supermarket

Figure 19: *Means Plot: Supermarket purchase intention for different age groups*
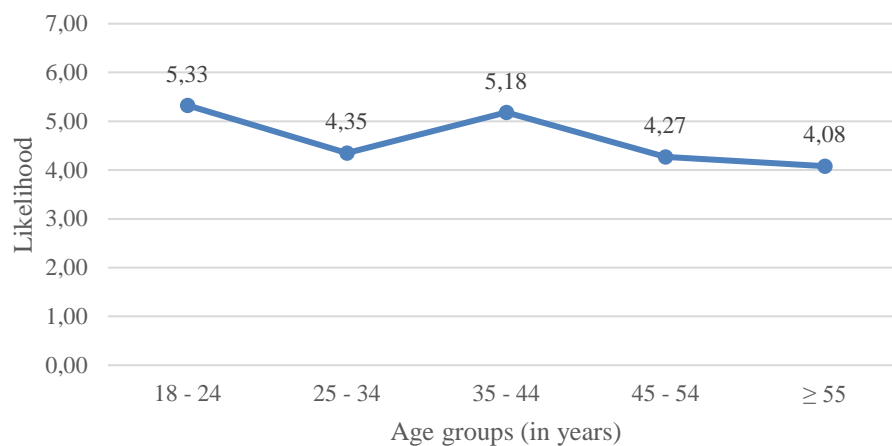
To test the last hypothesis (H15) - that people who have never purchased a meal kit online aremore likely to purchase a meal kit within a supermarket - another Kruskal-Wallis test was performed, as again the test of homogeinity within the One-way Anova was significant (p= .002). However this time the Kruskal-Wallis test exposed insignificant results (H(3) = 2,678, p = .444). Hence, one can conclude that people's willingness to purchase meal kits in supermarkets is not significantly different depending on wether they have previous experience with meal kits or not. Still, when comparing the means of the four sub-groups one can determine that people that have cancelled or paused their meal kit subscription (M = 5,13) and people that have not bought meal kits before (M = 4,73) are a bit more likely to purchase meal kits in a supermarket than the other two groups (see appendix 19). This result could be explained by the fact, that those individuals did not like the obligatory subscription when it comes to online meal kit providers. When purchasing meal kits directly in a grocery store, on the other hand, no subscription is necessary.

5.7   Van Westendorp Price Analysis

As a last part of this online survey data analysis, van Westendorp's Price Sensitivity Meter (PSM) was used in order to assess how much customers are willing to pay for a portion within a meal kit. Through the following four predetermined survey questions, data about the customers price perception was collected (van Westendorp, 1976). Of course, the wording of the single questions was adapted to provide information on the optimal portion price for a meal kit:

1. At what price in euro would you consider a portion within a meal kit as too expensivem so that you would definitely not consider buying it? (too expensive)

2. At what price in euro do you consider a portion within a meal kit is starting to become expensive, but you would still consider buying it? (not expensive)

3. At what price would you consider a portion within a meal kit to be a bargain - a great buy for the money? (not cheap)

4. Below what price in euro would you consider a portion within a meal kit to be priced so low that you feel that the quality can't be very good? (too cheap)

Afterwards the obtained data from those four questions was cumulated and plotted into the below price map (figure 20). The horizontal axis highlights the price in euro that the survey participants stated, whereas the vertical axis represents the cumulative percentages of individuals that named each respective price. Meanwhile, the intersections of the single chart lines represent four important price points.

Figure 20: *Price Sensitivity meter for meal kits (based on: van Westendorp, 1976)*
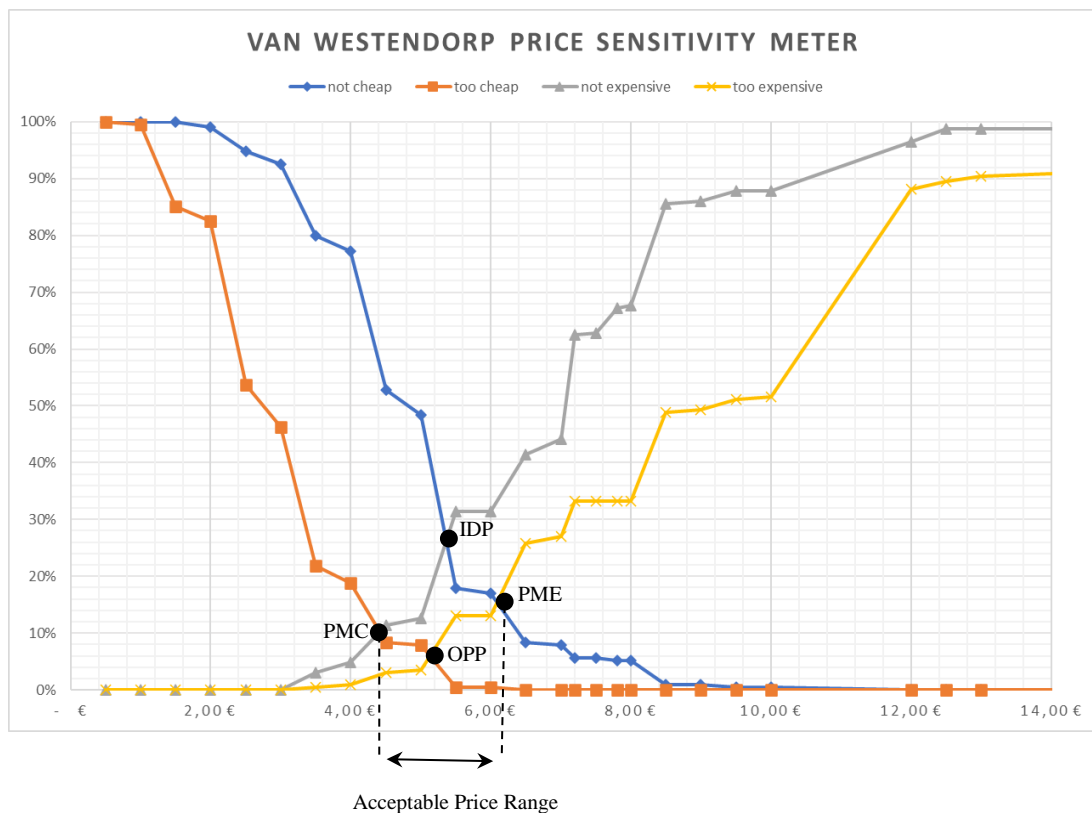
The interjection between "not cheap" and "not expensive" is the so-called indifference price point (IDP). At this point the proportion of customers that regard the price as not cheap is equivalent to the proportion of customers that believe that the price is not

expensive (Kloss & Kunter 2016, p.47). Within this dataset, the corresponding value for this point is 5,36€. According to van Westendorp (1976) IDP usually represents the price of a product of the market leader, or the median price actually paid by customers.

At the optimal price point (OPP) the same percentage of respondents think of the price as either "too expensive" or "two cheap". At this spot the maximal number of respondants find the price acceptable und the restistance against slight price changes is the lowest (van Westendorp, 1976). Consequently meal kit companies can maximize sales by setting their portion price at 5,13€.

Allthogether an acceptable price range of 1,68€ could be identified, with the point of marginal cheapness (PMC) being 4,41€ and a point of marginal expensiveness (PME) at 6,09€ (Kloss & Kunter 2016, p.47). This price range could be a result the fact that customers are willing to pay different amounts of money depending of the dishes. For example, for a meal kit only containing vegetarian dishes they could be willing to pay less than for a meal kit containing a recipe with meat or fish. If the product is priced higher than 6,09€ your customer will lose interest in buying. On the other hand, a meal kit portion priced lower than 4,41€ risks that customers perceive that product as low in quality and hence donot buy it.

Comparing those results with the current portion prices of HelloFresh and Marley Spoon, illustrated in the below table, one recognizes that several meal kit sizes are priced too high. The portion prices with a blue background fall into the identified acceptable price range for meal kits (4,41€ up to 6,09€), while the price cells with a white background are all currently priced over the PME of 6,09€ per portion.

Table 23: *Prices per Portion - HelloFresh vs. Marley Spoon*

		HelloFresh			Marley Spoon	
		2 persons	3 persons	4 persons	2 persons	4 persons
Dishes per week	2	8,38 €	6,62 €	6,19 €	–	6,99 €
	3	6,50 €	5,75 €	4,69 €	7,80 €	5,74 €
	4	6,19 €	5,46 €	4,72 €	6,99 €	5,12 €
	5	5,75 €	5,10 €	4,38 €	6,58 €	–

Especially meal kits with only two dishes per week as well as the majority of meal kits for two persons are currently priced too expensive. This is a problematic result as it was previously identified that the majority of participants (44,3%) that posess a current subscription to a meal kit live in a household of two. Additionally, 52,2% of the respondents that canceled or paused their meal kit subscription are living in a household od two. This high cancellation rate could be a result of overpriced portion sizes for meal kits with dishes for two persons. Because for households with four persons a cancellation rate of only 15,2% was reported and as the below table shows portion prices for a four-person meal kit lie within the acceptable price range.

Interestlingly, as suggested by van Westendorp (1976) most prices of the German meal kit market leader HelloFresh are positioned quite close to the IDP of 5,36€. While HelloFresh managed to choose fitting portion prices for most of their meal kit sizes, Marley Spoon has to undertake several price adjustments as currently most of their meal kit portions are overpriced. Even when they see themselves as more premium than HelloFresh, there is the chance that they are hey are losing sales and be not able to achieve the majority of customers due to their high prices.

6 Conclusion

6.1 Implications of Findings

The main objective of this thesis was to investigate the relevant customer success factors of meal kit providers in Germany. To do this, the AI text analytics tool Caplena was used to identify relevant success factors, which were then further explored through an online survey. The results of both types of research showed that the following three factors are most important to customers when it comes to meal kits. Firstly, customers want a hassle-free order-to-delivery process, which includes a flexible subscription option, an easy meal kit ordering process and on-time delivery. In addition, meal kit providers should offer their customers a good combination of fair price and convenience in order to achieve high customer satisfaction. Finally, it was found that a wide variety of dishes to choose from is also highly valued by customers.

Interestingly, it was found that customer attitudes and satisfaction were also significantly influenced by the motives for buying meal kits. In particular, the two motives of saving time when shopping and making the meal planning process easier were found to strongly influence customer attitudes towards meal kits. Therefore, it is advisable for meal kit providers to highlight these two motives in their communication strategy.

The findings also suggest that there are few cultural differences in the value proposition and offerings of meal kit providers. While the core product remains the same, frameworks such as price, recipe selection, number of meals available per week or marketing approach are usually adapted to local standards. Similarly, the success factors for meal kit providers differ only slightly between the US and Germany. While the overall convenience of the meal kit service played a major role for Americans, German customers, for example, put more emphasis on price.

When it comes to the level of awareness of meal kits, Germans are mostly only familiar with the three biggest meal kit providers within Germany: HelloFresh, MarleySpoon and Dinnerly. If taking this one step further and looking at the providers the individuals bought their meal kits from, only HelloFresh and MarleySpoon recorded a noteworthy number of customers. Results indicated that both providers mainly attract millennial customers. However, Marley Spoon attracted a higher number of customers 35 years or older, whereas HelloFresh was more known among younger customers.

Additionally, the online survey came to the result that Germans are willing to pay between 4,41€ and 6,09€ for a portion within a meal kit depending on the dish. When

observing the current prices of popular online meal kit providers it becomes obvious that especially the portion prices for meal kits for two persons are too high. This could become problematic for meal kit providers as most customers that have a regular subscription are living in a household of two. By lowering prices of two-person meal kits within the acceptable price range, those providers would be able to attract more customers and thereby also raise sales.

Outcomes revealed that even though HelloFresh is the clear market leader in Germany, they do not have the most loyal customers. When comparing the NPS and customer retention rate of HelloFresh with Marley Spoon, one can see that customers are more satisfied with Marley Spoon. Therefore, HelloFresh definitely has to undertake several steps to increase customer loyalty and satisfaction. For example, they could also give vouchers to existing customers instead of only handing them out to individuals that newly try out HelloFresh's meal kits. In general, HelloFresh should focus more on retaining existing customers before aquireing new ones since it is questionable whether new customers will stay in the long-term run.

Although customers are very satisfied with Marley Spoon, there is still room for improvement. For example, MarleySpoon should invest more in marketing to increase brand awareness and attract more customers. They could also set up their own delivery service instead of relying on third party carriers, as this would ensure greater reliability and punctuality.

Finally, the literature review and the results of the online survey showed that it is doubtful whether selling meal kits in local supermarkets will be successful in Germany. Much of the convenience is lost with this shopping option, and participants showed a rather neutral likelihood of buying a meal kit directly from the grocery store. Nevertheless, it could be a good alternative for customers who do not want to subscribe or who prefer to shop the traditional way. Especially as many customers in the survey said that they do not buy meal kits because of the subscription requirement.

It will be interesting to see how the German meal kit industry develops over the next few years, especially if sales remain as high after the COVID-19 pandemic is over.

6.2 Research Limitations

Although the research was able to provide a deeper insight into the meal kit industry, there are certain limitations to the research methods. Firstly, due to time restrictions the research was limited to the success factors of meal kit providers in the US and

Germany. In other countries, consumer decision factors and priorities will obviously be different, especially as eating habits, food prefernces, food purchasing and food preparation are strongly influenced by culture and geographical differences.

A major limitation within the literature section was that the researchers did not have access to internal data from the meal kit providers. Only data that was publicly available or published in scientific databases served as a foundation of the study. The possibility to access internal data could have led to more in-depth research on the current status quo of the German meal kit industry.

In addition, the sample for the Caplena research was drawn exclusively from the IOS App Store, as this is the only app that allows differentiation by country. Therefore, including reviews from the Google Play store might have led to different results. Apple users in the US tend to have a higher average income than Google users. The market shares of IOS and Android in June 2022 according to Kantar (2023) and ComScore (2023) differ in Germany, where the IOS market share is around 33%, and the US, where the IOS market share is over 50%. This could also affect the comparability of the data.

While online surveys generally score highly in terms of ease of administration, cost-effectiveness and speed of data collection, they do have some limitations. Sampling and self-selection bias reduce the generalisability to the wider population. For example, the vast majority of respondents in this study were female, which may have been influenced by the subject matter. Groups that may not spend so much time online, have technical limitations such as unreliable internet access or are not part of the authors' network were less likely to participate. This results in a non-response bias that reduces the validity of the survey finding (Shih and Fan 2008). All online surveys can be susceptible to response quality issues, such as respondents providing inaccurate or incomplete information, or rushing through the survey without careful consideration.

It would also have been interesting to include questions about religion or the ethnical background into the questionnaire since it was quite surprising that no respondent selected halal as special dietary preference although muslims are the second largest ethical group within Germany. Through this approach more detailed information into the sociodempgraphical background of meal kit customers could have been obtained

and it could have been observed if people from various ethnical backgrounds have different attitudes towards meal kits.

6.3 Future Research

While this thesis has provided a deeper insight into the adaptation of meal kit services and specifically examined the German meal kit industry, there are still several areas for future research into the meal kit industry.

It would be interesting to investigate which countries are currently the most attractive for meal kit providers to enter and what specific criteria are used to select appropriate markets and entry modes, thereby investigating partnerships and collaborations. International meal kit providers could forge innovative partnerships with other food-related businesses, such as grocery stores, restaurants or food delivery platforms. This could allow for cross-promotion, expanded distribution channels and new service offerings according to individual country market environments. Future research in this area could take a closer look at the potential success factors of meal kits in Asian countries, especially in view of their large and growing populations. In general, there is still comparatively little research on meal kits in the Asian market and it would be interesting to see how this innovative food offering in Asia differs from those in Europe or the US due to unique market conditions such as culture.

Consumer behaviour in the innovative food category of meal kits is still evolving and new audiences and needs are emerging, offering huge potential for consumer research. Meal kit companies are likely to continue to focus on providing customisable options to meet individual preferences, dietary restrictions and health goals. Researchers could further assist them in recommending ideal choices of ingredients, portion sizes and specialised meal plans. With increasing demand for health-conscious food, meal kit providers could expand their range of nutritious and balanced meal options. This could include incorporating more plant-based, gluten-free or allergen-friendly recipes into their meal options. As consumers seek culinary variety and new taste experiences, meal kit providers may offer a wider range of regional and global cuisines, bringing international recipes and ingredients into customers' kitchens. However, the benefits of product choice must be balanced against the internal costs of complexity.

In many markets, customers are increasingly concerned about the environment and interested in sustainable lifestyles. Meal kit services could further prioritise sustainability by using environmentally friendly packaging materials, reducing food

waste and working with local and organic suppliers with fair production processes. There may even be niches in certain markets for meal kit providers with a dedicated and credible 'organic/sustainable' positioning. Research could help to quantify demand, assess price points and likely success criteria.

Meal kit companies could explore incorporating smart technology and data-driven features to improve the customer experience. This could include personalised recipe recommendations, integration with smart kitchen appliances and improved delivery tracking systems. Advances in artificial intelligence could be incorporated into meal recommendations and weekly suggestions for individual customers.

To cater for busy lifestyles, meal kit companies could continue to streamline their processes, improve delivery logistics and offer quicker meal preparation options, such as ready-to-cook or pre-cooked meals, in addition to their original offering. Future research could look more closely at whether customer success factors differ when comparing traditional meal kits, where the customers have to cook and prepare everything themselves, with meal kits that already contain certain pre-cooked or pre-prepared ingredients. This approach could be taken a step further by comparing the satisfaction drivers of ready-to-eat meal delivery services with those of ready-to-cook meal kits. The results could help to identify the extent to which the socio-demographic characteristics of the customers differ, for example whether men prefer to buy ready meal delivery services because they do not have to cook.

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Appendixes

Appendix 1

Caplena Coding Scheme

IMPROVE COOKING

- IMPROVE COOKING: try out new recipes
- IMPROVE COOKING: learn to cook
- IMPROVE COOKING: enjoy cooking

CUSTOMER SERVICE

- CUSTOMER SERVICE: Good support / positive
- CUSTOMER SERVICE: Bad support / negative
- CUSTOMER SERVICE: Fast / efficient
- CUSTOMER SERVICE: Long waiting time
- CUSTOMER SERVICE: Competent / friendly
- CUSTOMER SERVICE: Incompetent / badly trained
- CUSTOMER SERVICE: reclamation problem
- CUSTOMER SERVICE: reachability problem

DELIVERY

- DELIVERY: Fast / on time
- DELIVERY: Slow / delayed
- DELIVERY: Broken / damaged during delivery
- DELIVERY: shipping cost
- DELIVERY: wrong content
- DELIVERY: tracking
- DELIVERY: missing content
- DELIVERY: lost parcel
- DELIVERY: delivery adress impossible
- DELIVERY: cancel / skip delivery problem

SUBSCRIPTION MODEL

- SUBSCRIPTION MODEL: fixed
- SUBSCRIPTION MODEL: flexible
- SUBSCRIPTION MODEL: Subscription trap
- SUBSCRIPTION MODEL: cancel / pause subscription problem

TIME EXPENDITURE

- TIME EXPENDITURE: takes too long
- TIME EXPENDITURE: convenient / less stress

SERVINGS

- SERVINGS: too small
- SERVINGS: sufficient / right amount
- SERVINGS: less food waste

PAYMENT

- PAYMENT: payment difficulties
- PAYMENT: refund
- PAYMENT: no refund
- PAYMENT: payment option

OVERALL CONCEPT

- OVERALL CONCEPT: positive / great concept
- OVERALL CONCEPT: negative / bad concept
- OVERALL CONCEPT: room for improvement

PRICE

- PRICE: Cheap / affordable
- PRICE: Too expensive
- PRICE: adequate
- PRICE: intransparent
- PRICE: worth the extra money

QUALITY

- QUALITY: Good / excellent quality
- QUALITY: Bad quality
- QUALITY: organic

PACKAGING

- PACKAGING: sustainable
- PACKAGING: plastic
- PACKAGING: too much packaging
- PACKAGING: not recyclable

RECIPES

- RECIPES: easy to follow
- RECIPES: healthy
- RECIPES: kid friendly
- RECIPES: many options
- RECIPES: delicious recipes / delicious dishes
- RECIPES: confusing/missing instructions
- RECIPES: limited options
- RECIPES: good recipe cards
- RECIPES: no recipe cards

Appendix 2

Distribution of codes US vs. Germany

Rank	Germany	USA
1	Functionality (1233)	Overall concept (726)
2	Overall Concept (1004)	Recipes (695)
3	Recipes (997)	Functionality (639)
4	Delivery (589)	Delivery (440)
5	Quality (537)	Customer Service (422)
6	Customer Service (477)	Time Expenditure (346)
7	Time Expenditure (405)	Quality (326)
8	Servings (267)	Subscription model (183)
9	Customer Retention (213)	Price (174)
10	Price (201)	Servings (168)
11	Subscription model (191)	Customer retention (162)
12	Packaging (147)	Payment (117)
13	Improve cooking (131)	Improve cooking (117)
14	Payment (91)	Special diet (56)
15	Special diet (84)	Packaging (48)

a) USA
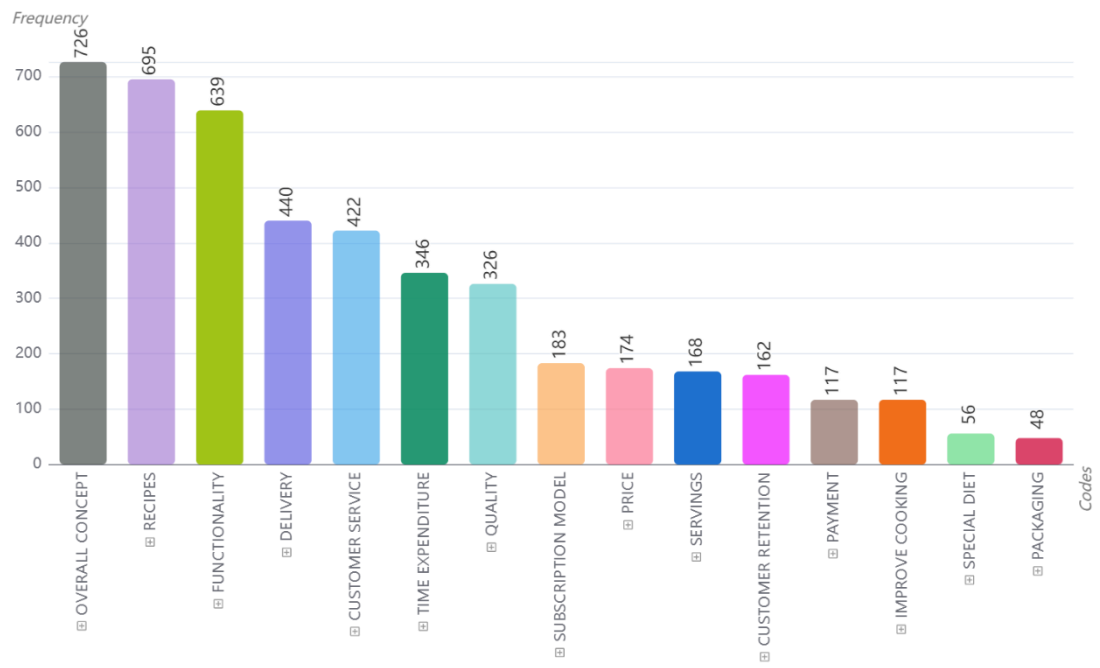
b) Germany
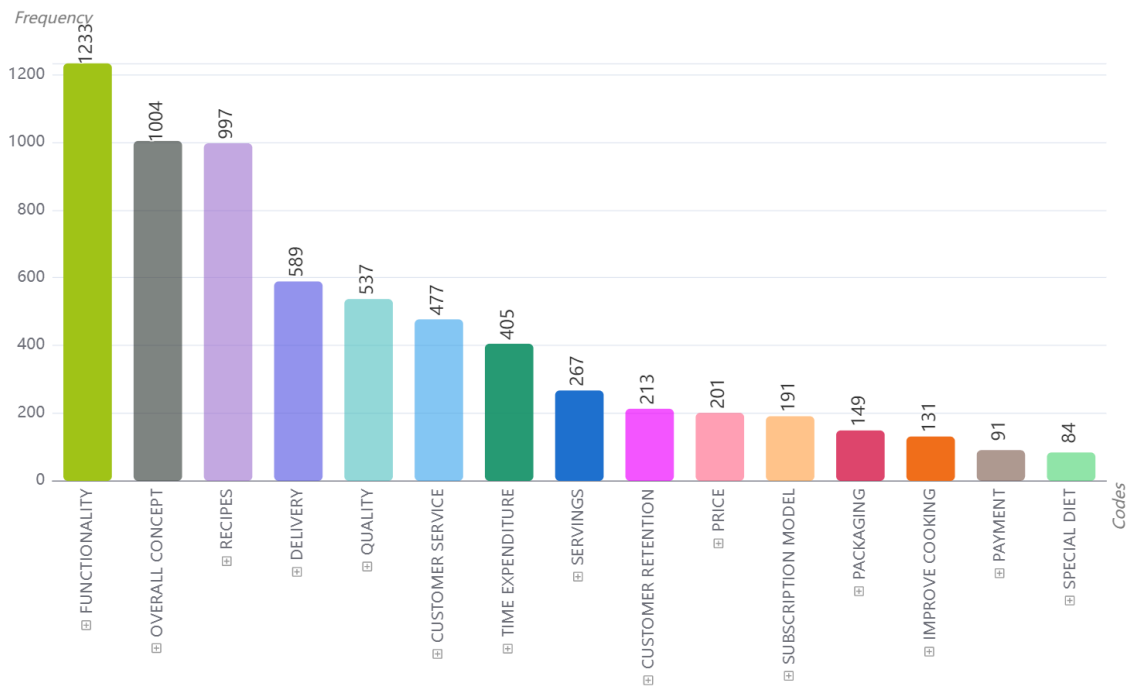
Appendix 3

Sentiment per category USA vs. Germany

a) USA
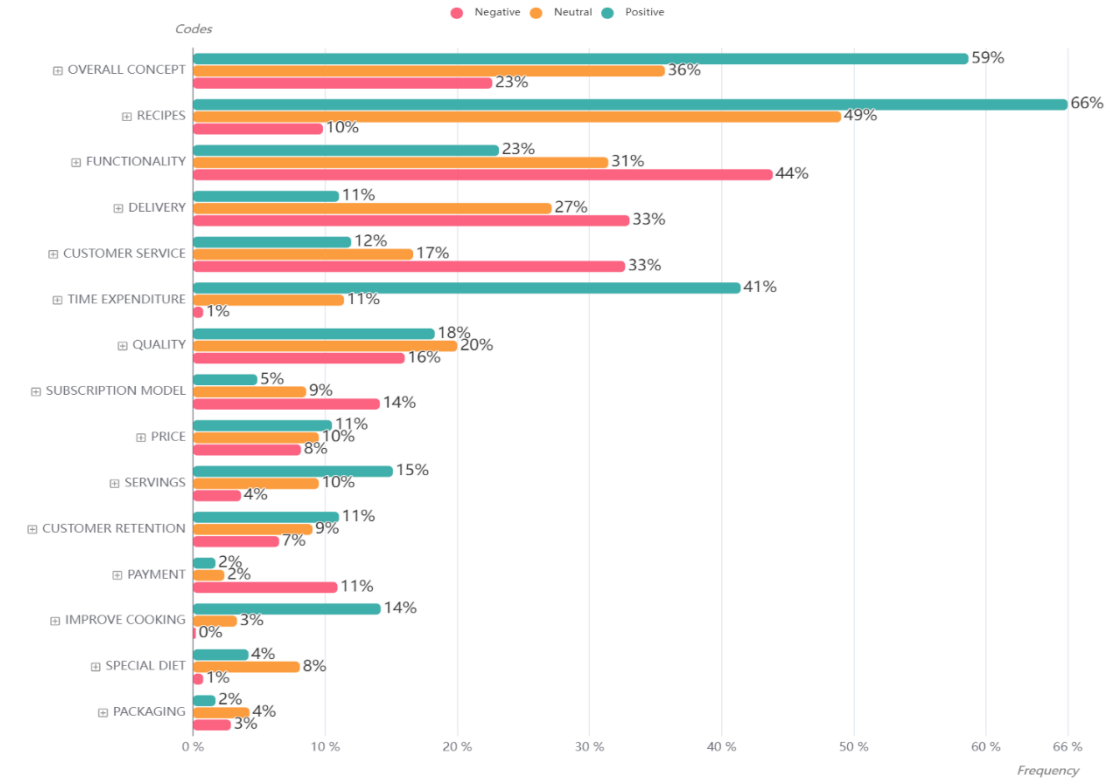
b) Germany
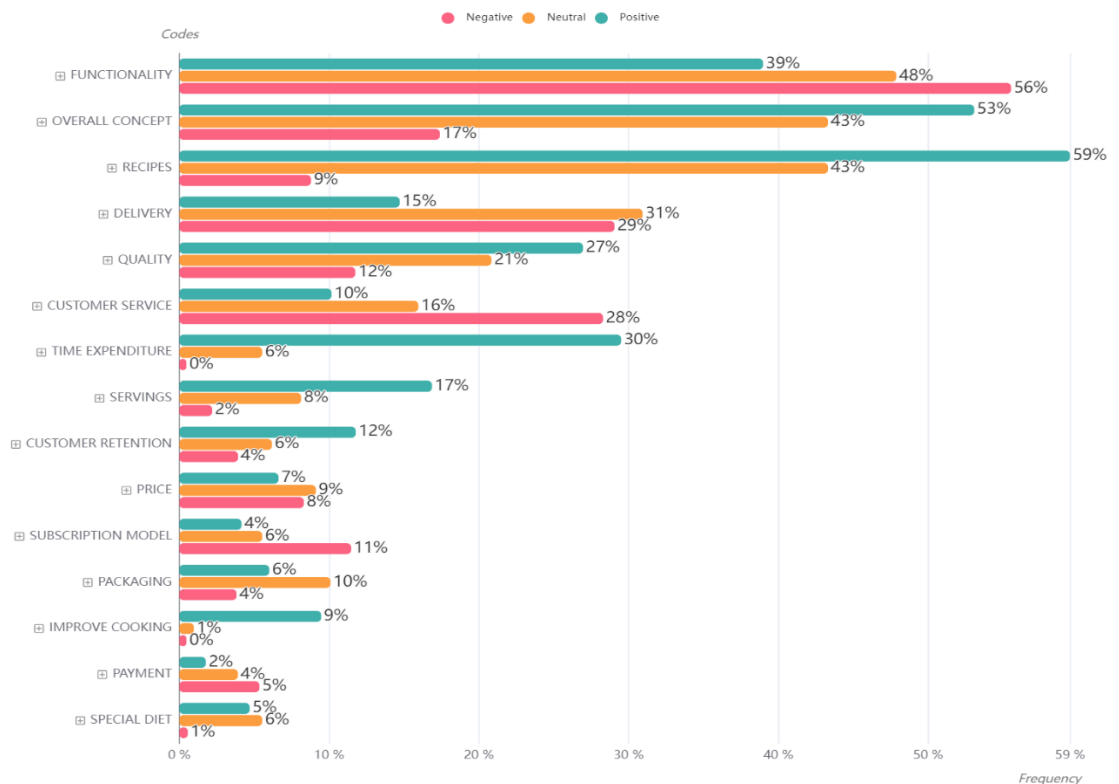
Appendix 4

Layout of the Questionaire

Danke für die Teilnahme an meiner Online-Umfrage zum Thema Kochboxen.
Eine Kochbox ist eine online bestellte Box, welche mit Rezepten und allen zum Kochen
benötigten Zutaten direkt zum Kunden nach Hause geliefert wird (siehe Bild unten).

Diese Umfrage ist Teil meiner Masterarbeit. Es dauert ungefähr 10min, um alle Fragen zu
beantworten. Alle Daten und Angaben werden anonym behandelt.
Im Falle weiterer Fragen, bin ich unter der untenstehenden E-Mail Adresse erreichbar.

Ronja Jäger
ronja.janine.jaeger@w.thm.de
Technische Hochschule Mittelhessen

Bitte geben Sie Ihr Geschlecht an.

○ männlich

○ weiblich

○ keine Angabe

Wie alt sind Sie?

Wie ist Ihre momentane berufliche Situation?

○ Student / in Ausbildung

○ in Vollzeit angestellt

○ in Teilzeit angestellt

○ selbstständig

○ pensioniert / in Rente

Für wie viele Personen kochen Sie regelmäßig in Ihrem Haushalt?

○ 1

○ 2

○ 3

○ 4

○ 5

○ 6 oder mehr

Wie wichtig ist (es) Ihnen ...

	un-wic-htig			ne-utral			sehr wic-htig
... leckeres Essen?	O	O	O	O	O	O	O
... gesunde Ernährung?	O	O	O	O	O	O	O
... Bio Produkte zu essen?	O	O	O	O	O	O	O
... Fleisch- & Milchprodukte aus artgerechter Tierhaltung zu essen?	O	O	O	O	O	O	O
... selbst zu kochen?	O	O	O	O	O	O	O

Haben Sie bestimmte Essgewohnheiten?
Falls NICHT, können Sie diese Frage überspringen.

☐ vegetarisch

☐ vegan

☐ halal

☐ low carb / kalorienreduziert

☐ glutenfrei

☐ laktosefrei

sonstige |

Wie würden Sie Ihre allgemeine Meinung / Einstellung zum Thema Kochboxen beschreiben?

O sehr negativ

O

O

O neutral

O

O

O sehr positiv

Welche der folgenden Kochboxanbietern sind Ihnen bekannt?

☐ HelloFresh

☐ Marley Spoon

☐ Dinnerly

☐ Tischline

☐ StarchefBox

☐ Easycookasia

☐ ich kenne keinen der aufgelisteten Anbieter

sonstige |

Wie wichtig sind Ihnen die folgenden Motive beim Kauf von Kochboxen?

	un- wic- htig			ne- utral			sehr wic- htig
die Planung von Mahlzeiten ist einfacher	○	○	○	○	○	○	○
ich spare Zeit beim Lebensmitteleinkauf	○	○	○	○	○	○	○
ich probiere neue Rezepte aus	○	○	○	○	○	○	○
ich verbessere meine Kochkünste	○	○	○	○	○	○	○
ich ernähre mich gesünder	○	○	○	○	○	○	○
ich verschwende weniger Lebensmittel	○	○	○	○	○	○	○

Wie wichtig sind Ihnen die folgenden Faktoren beim Kauf einer Kochbox?

	un- wic- htig			ne- utral			sehr wic- htig
Preis	○	○	○	○	○	○	○
Markenprodukte (z.B. Nudeln von Barilla)	○	○	○	○	○	○	○
Bioprodukte	○	○	○	○	○	○	○
Frische der Produkte	○	○	○	○	○	○	○
viele leckere und unterschiedliche Gerichte	○	○	○	○	○	○	○
Große Auswahl an Gerichten für Vegetarier / Veganer / kalorienbewusste Ernährung / etc.	○	○	○	○	○	○	○
Große Auswahl an internationalen Gerichten	○	○	○	○	○	○	○
Nachvollziehbare Schritt-für-Schritt-Anleitungen für die Rezepte	○	○	○	○	○	○	○
schnelle Zubereitung	○	○	○	○	○	○	○
passende Portionsgröße	○	○	○	○	○	○	○
zuverlässiger Kundenservice	○	○	○	○	○	○	○
flexibles Abonnement (kann jederzeit gekündigt / pausiert werden)	○	○	○	○	○	○	○
pünktliche Lieferung zu meiner Wunschzeit	○	○	○	○	○	○	○
nachhaltige Verpackung	○	○	○	○	○	○	○
einfacher Bestellvorgang	○	○	○	○	○	○	○

Haben Sie schon einmal eine Kochbox ausprobiert?

○ nein

○ ja, aber nur einmalig zum Probieren

○ ja, ich habe ein regelmäßiges Abo

○ ja, aber ich habe mein Kochboxabo nach einiger Zeit wieder gekündigt / pausiere es derzeit länger

XXV

Filter 1 (falls noch nie eine Kochbox ausprobiert)

Haben Sie schon einmal eine Kochbox ausprobiert?

○ nein

○ ja, aber nur einmalig zum Probieren

○ ja, ich habe ein regelmäßiges Abo

○ ja, aber ich habe mein Kochboxabo nach einiger Zeit wieder gekündigt / pausiere es derzeit länger

Warum haben Sie noch nie eine Kochbox gekauft?

☐ der Preis pro Portion ist mir zu teuer

☐ ich kaufe meine Lebensmittel lieber direkt im Supermarkt

☐ es gibt keine passenden Gerichte für meine spezielle Ernährungsweise

☐ ich möchte kein Abonnement für eine Kochbox abschließen

☐ ich habe zuvor noch nichts über das Konzept von Kochboxen gewusst

sonstige |

Wären Sie bereit eine Kochbox auszuprobieren?

○ sehr unwahrcheinlich

○

○

○ neutral

○

○

○ sehr wahrscheinlich

Filter 2 (falls schoneinmal eine Kochbox ausprobiert)

Falls Sie schon einmal aufgehört haben eine Kochbox zu nutzen, welche Gründe führten zu dieser Entscheidung?

☐ Preis pro Portion zu teuer

☐ die Gerichte schmecken mir nicht

☐ der Kochvorgang war zu aufwendig / kompliziert

☐ Schwierigkeiten bei der Lieferung / Bestellung

☐ zu kleine Portionen

sonstige |

Bei welchem Anbieter haben Sie ihre letzte / derzeitige Kochbox gekauft?

○ HelloFresh

○ Marley Spoon

○ Dinnerly

○ Tischline

○ StarchefBox

○ Easycookasia

○ sonstige |

Wie sind Sie auf diesen Kochboxanbieter aufmerksam geworden?

☐ Weiterempfehlung durch Freunde / Bekannte

☐ Plakat oder Zeitschrift

☐ Social Media / von einem Influencer beworben

☐ E-mail Marketing

☐ Fernsehwerbung

sonstige |

Was gefällt Ihnen besonders gut an Ihrem Kochboxanbieter?

|

Was gefällt Ihnen nicht gut an Ihrem Kochboxanbieter? Welche Verbesserungsvorschläge haben Sie?

|

Wie wahrscheinlich ist es, dass Sie ihrem Freund / Kollegen Ihren Kochboxanbieter weiterempfehlen würden?

○ 0

○ 1

○ 2

○ 3

○ 4

○ 5

○ 6

○ 7

○ 8

○ 9

○ 10

(Ende der Filter)

**Momentan sind Kochboxen fast ausschließlich online kaufbar.
Wären Sie auch bereit eine Kochbox im örtlichen Supermarkt zu kaufen?**

○   sehr unwahrscheinlich
○
○
○   neutral
○
○
○   sehr wahrscheinlich

**Die nächsten 4 Fragen beziehen sich auf den optimalen Preis für eine Mahlzeit (=
Portion für eine Person) in einer Kochbox.**

**Zu welchem Preis in Euro wäre eine Mahlzeit in einer Kochbox zu teuer, sodass Sie
diese auf keinen Fall kaufen würden?**

**Zu welchem Preis in Euro würden Sie eine Mahlzeit in einer Kochbox zwar als teuer
bezeichnen, jene aber vielleicht trotzdem kaufen?**

**Zu welchem Preis in Euro wäre eine Mahlzeit in einer Kochbox günstig, also ein
gutes Angebot?**

Vielen Dank für Ihre Teilnahme!

Appendix 5:

Cronbach's Alpha

a)   all 7-point Likert Scales (29 items)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,849	,856	29

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
importance yummy food	144,50	333,185	,187	,555	,849
importance healthy diet	145,03	323,835	,426	,740	,844
importance organic products	146,07	322,530	,302	,772	,847
importance products from animal welfare	145,32	317,428	,347	,663	,845
importance cook yourself	145,34	343,788	-,108	,639	,857
mealprep gets easier	146,14	315,708	,425	,626	,843
I save time during grocery shopping	145,99	319,548	,314	,657	,846
I try out new recipes	145,73	305,762	,627	,807	,836
I improve my cooking skills	146,95	315,750	,371	,669	,845
I eat healthier	146,12	315,095	,425	,709	,843
I waste less food	145,82	312,256	,453	,673	,842
Price	145,28	319,192	,316	,619	,846
Branded products	147,82	340,202	-,049	,558	,860
Organic products	145,93	312,283	,447	,724	,842
Freshness of the products	144,53	329,102	,249	,388	,848
Diverse and yummy dishes	145,04	311,354	,650	,715	,838
Many Vegetarian/Vegan/Low carb/ etc. dishes	145,65	301,135	,564	,561	,837
Many international dishes	146,26	308,193	,491	,689	,840
Easy to follow cooking instructions	145,86	311,351	,471	,679	,841
Fast preperation	145,72	330,699	,194	,666	,849
Fitting portion size	145,35	323,163	,382	,505	,844
Reliable customer service	145,32	316,277	,393	,738	,844
Flexible subscription (can be paused / cancelled at any time)	144,34	315,953	,570	,792	,840
Punctual delivery at my desired time	144,64	314,783	,548	,792	,840
Sustainable packaging	144,99	313,082	,520	,817	,840
Easy order process	144,88	317,012	,568	,718	,840
general attitude towards meal-kits	147,04	323,711	,382	,527	,845
Future purchase intention	146,43	319,016	,289	,562	,848
Purchase intention meal-kit supermarket	146,14	317,571	,305	,569	,847

b) Factors influencing a meal kit purchase (15 items)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,711	,742	15

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Price	76,82	75,824	,136	,092	,719
Branded products	79,50	76,686	,074	,100	,731
Organic products	77,40	71,638	,320	,321	,696
Freshness of the products	75,58	76,563	,308	,233	,700
Diverse and yummy dishes	75,90	72,997	,436	,348	,687
Many Vegetarian/Vegan/Low carb/ etc. dishes	77,11	66,691	,372	,232	,691
Many international dishes	77,35	69,358	,354	,261	,692
Easy to follow cooking instructions	76,73	71,512	,307	,353	,698
Fast preperation	76,97	75,443	,198	,239	,709
Fitting portion size	76,31	75,997	,219	,200	,706
Reliable customer service	76,28	72,363	,331	,316	,695
Flexible subscription (can be paused / cancelled at any time)	75,46	73,856	,468	,449	,688
Punctual delivery at my desired time	75,83	71,127	,498	,470	,680
Sustainable packaging	76,48	69,272	,441	,431	,681
Easy order process	76,04	69,797	,576	,456	,672

c) Motives for purchasing meal kits (6 items)

Reliability Statistics

Cronbach's Alpha	N of Items
,734	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
mealprep gets easier	26,00	27,460	,465	,699
I save time during grocery shopping	26,10	26,735	,437	,707
I try out new recipes	25,82	26,541	,590	,669
I improve my cooking skills	27,75	25,285	,349	,751
I eat healthier	26,82	26,912	,544	,680
I waste less food	26,23	26,066	,526	,681

d) Cooking & Eating Habits (4 items)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,678	,684	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
importance yummy food	21,54	13,555	,270	,140	,686
importance healthy diet	22,19	10,817	,606	,371	,568
importance organic products	23,48	8,811	,576	,441	,552
importance products from animal welfare	22,63	9,848	,454	,373	,619
importance cook yourself	22,53	11,104	,321	,209	,681

Appendix 6:

Factor Analysis

1st run-trough

Correlation Matrix

		Price	Branded products	Organic products	Freshness of the products	Diverse and yummy dishes	Many Vegetarian/Vegan/Low carb/ etc. dishes	Many international dishes	Easy to follow cooking instructions	Fast preperation	Fitting portion size	Reliable customer service	Flexible subscription (can be paused / cancelled at any time)	Punctual delivery at my desired time	Sustainable packaging	Easy order process
Correlation	Price	1.000	.042	-.007	-.015	-.030	.106	.071	.177	.196	.038	-.005	.097	.071	.046	.055
	Branded products	.042	1.000	.129	-.083	.052	.074	.124	-.046	.026	-.077	-.045	-.056	.083	.055	.118
	Organic products	-.007	.129	1.000	.196	.129	.328	.095	.046	.005	-.071	.076	.167	.241	.486	.217
	Freshness of the products	-.015	-.083	.196	1.000	.293	.143	.132	.034	.050	.290	.190	.172	.261	.246	.267
	Diverse and yummy dishes	-.030	.052	.129	.293	1.000	.248	.396	.322	.017	.226	.146	.230	.243	.221	.353
	Many Vegetarian/Vegan/Low carb/ etc. dishes	.106	.074	.328	.143	.248	1.000	.321	.114	.040	.062	.099	.135	.140	.323	.202
	Many international dishes	.071	.124	.095	.132	.396	.321	1.000	.161	-.076	.101	.197	.196	.154	.188	.223
	Easy to follow cooking instructions	.177	-.046	.046	.034	.322	.114	.161	1.000	.378	.250	.157	.245	.093	-.051	.243
	Fast preperation	.196	.026	.005	.050	.017	.040	-.076	.378	1.000	.248	.052	.081	.090	.050	.176
	Fitting portion size	.038	-.077	-.071	.290	.226	.062	.101	.250	.248	1.000	.093	.131	.118	.048	.174
	Reliable customer service	-.005	-.045	.076	.190	.146	.099	.197	.157	.052	.093	1.000	.513	.405	.192	.355
	Flexible subscription (can be paused / cancelled at any time)	.097	-.056	.167	.172	.230	.135	.196	.245	.081	.131	.513	1.000	.540	.245	.465
	Punctual delivery at my desired time	.071	.083	.241	.261	.243	.140	.154	.093	.090	.118	.405	.540	1.000	.429	.550
	Sustainable packaging	.046	.055	.486	.246	.221	.323	.188	-.051	.050	.048	.192	.245	.429	1.000	.425
	Easy order process	.055	.118	.217	.267	.353	.202	.223	.243	.176	.174	.355	.465	.550	.425	1.000
Sig. (1-tailed)	Price		.258	.457	.410	.323	.051	.137	.003	.001	.280	.471	.067	.136	.241	.199
	Branded products	.258		.023	.099	.211	.128	.028	.240	.344	.117	.244	.194	.099	.196	.034
	Organic products	.457	.023		.001	.023	.000	.071	.240	.471	.138	.119	.005	.000	.000	.000
	Freshness of the products	.410	.099	.001		.000	.000	.020	.299	.222	.000	.002	.004	.000	.000	.000
	Diverse and yummy dishes	.323	.211	.023	.000		.000	.000	.000	.395	.000	.012	.000	.000	.000	.000
	Many Vegetarian/Vegan/Low carb/ etc. dishes	.051	.128	.000	.000	.000		.000	.000	.271	.170	.062	.018	.015	.000	.001
	Many international dishes	.137	.028	.071	.020	.000	.000		.006	.122	.059	.001	.001	.008	.002	.000
	Easy to follow cooking instructions	.003	.240	.240	.299	.000	.000	.006		.000	.000	.007	.000	.075	.214	.000
	Fast preperation	.001	.344	.471	.222	.395	.271	.122	.000		.000	.210	.105	.083	.221	.003
	Fitting portion size	.280	.117	.138	.000	.000	.170	.059	.000	.000		.075	.021	.034	.231	.003
	Reliable customer service	.471	.244	.119	.002	.012	.062	.001	.007	.210	.075		.000	.000	.001	.000
	Flexible subscription (can be paused / cancelled at any time)	.067	.194	.005	.004	.000	.018	.001	.000	.105	.021	.000		.000	.000	.000
	Punctual delivery at my desired time	.136	.099	.000	.000	.000	.015	.008	.075	.083	.034	.000	.000		.000	.000
	Sustainable packaging	.241	.196	.000	.000	.000	.000	.002	.214	.221	.231	.001	.000	.000		.000
	Easy order process	.199	.034	.000	.000	.000	.001	.000	.000	.003	.003	.000	.000	.000	.000	

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,743
Bartlett's Test of Sphericity	Approx. Chi-Square	767,058
	df	105
	Sig.	,000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,629	24,194	24,194	3,629	24,194	24,194	2,434	16,226	16,226
2	1,676	11,172	35,366	1,676	11,172	35,366	1,926	12,841	29,067
3	1,375	9,169	44,535	1,375	9,169	44,535	1,724	11,491	40,558
4	1,257	8,377	52,912	1,257	8,377	52,912	1,600	10,664	51,222
5	1,138	7,588	60,500	1,138	7,588	60,500	1,392	9,278	60,500
6	,967	6,446	66,946						
7	,860	5,735	72,681						
8	,706	4,709	77,390						
9	,647	4,312	81,702						
10	,582	3,883	85,585						
11	,552	3,677	89,262						
12	,460	3,070	92,332						
13	,436	2,908	95,240						
14	,378	2,517	97,757						
15	,336	2,243	100,000						

Extraction Method: Principal Component Analysis.

Scree Plot
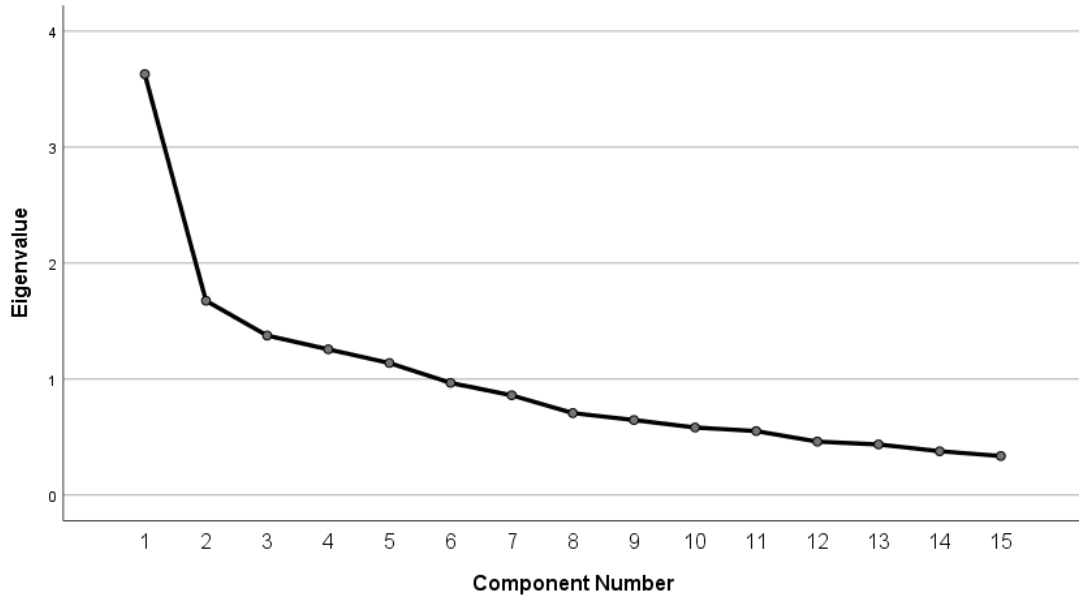
Component Matrix[a]

	Component				
	1	2	3	4	5
Price				,514	
Branded products			,342	,323	-,307
Organic products	,434	-,495			,323
Freshness of the products	,470			-,395	,476
Diverse and yummy dishes	,565		,307	-,444	
Many Vegetarian/Vegan/Low carb/ etc. dishes	,448		,501		
Many international dishes	,455		,379	-,328	-,480
Easy to follow cooking instructions	,377	,628			
Fast preperation		,576		,437	,305
Fitting portion size	,318	,515		-,314	,341
Reliable customer service	,550		-,480		
Flexible subscription (can be paused / cancelled at any time)	,667		-,417		
Punctual delivery at my desired time	,708		-,359		
Sustainable packaging	,605	-,444			,310
Easy order process	,748				

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

2nd run-though:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,744
Bartlett's Test of Sphericity	Approx. Chi-Square	682,965
	df	78
	Sig.	,000

Communalities

	Initial	Extraction
Price	1,000	,541
Organic products	1,000	,671
Freshness of the products	1,000	,601
Diverse and yummy dishes	1,000	,695
Many international dishes	1,000	,718
Easy to follow cooking instructions	1,000	,647
Fast preperation	1,000	,699
Fitting portion size	1,000	,666
Reliable customer service	1,000	,658
Flexible subscription (can be paused / cancelled at any time)	1,000	,706
Punctual delivery at my desired time	1,000	,669
Sustainable packaging	1,000	,720
Easy order process	1,000	,592

Extraction Method: Principal Component Analysis.

Scree Plot
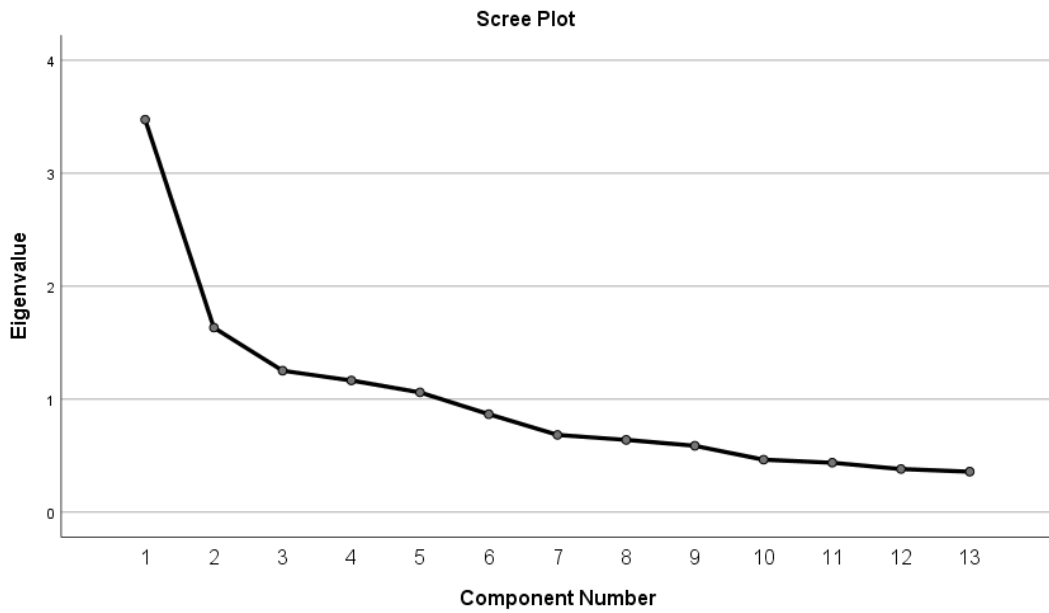
Component Matrix[a]

	Component				
	1	2	3	4	5
Price		,346	,390		,463
Organic products	,398	-,441		,527	
Freshness of the products	,478		-,346		-,429
Diverse and yummy dishes	,557		-,571		
Many international dishes	,425		-,481		,523
Easy to follow cooking instructions	,388	,662			
Fast preperation		,612	,352	,360	
Fitting portion size	,335	,494	-,302		-,442
Reliable customer service	,575			-,516	
Flexible subscription (can be paused / cancelled at any time)	,694			-,389	
Punctual delivery at my desired time	,729				
Sustainable packaging	,584	-,444		,410	
Easy order process	,761				

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Appendix 7:

Pearson correlation (age, attitude) [H1]

Correlations

		Alter	Einstellung Kochboxen
age	Pearson Correlation	1	,048
	Sig. (2-tailed)		,459
	N	240	240
Attitude towards meal kits	Pearson Correlation	,048	1
	Sig. (2-tailed)	,459	
	N	240	240

Appendix 8:

Independent Sample T-Test (attitude, gender) [H2]

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Mean_attitude	male	28	4,5000	1,47824	,27936
	famale	211	5,3223	1,46399	,10079

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mean_attitude	Equal variances assumed	,582	,446	-2,789	237	,006	-,82227	,29478	-1,40300	-,24155
	Equal variances not assumed			-2,769	34,411	,009	-,82227	,29698	-1,42556	-,21899

Appendix 9
Multiple Regression - Attitude (DV); Eating & Cooking habits (IV) [H3]

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,273[a]	,074	,055	1,444	1,565

a. Predictors: (Constant), importance cook yourself, importance products from animal welfare, importance yummy food, importance healthy diet, importance organic products

b. Dependent Variable: general attitude towards meal-kits

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39,276	5	7,855	3,766	,003[b]
	Residual	488,020	234	2,086		
	Total	527,296	239			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,156	,903		2,388	,018		
	importance yummy food	,551	,132	,283	4,176	,000	,860	1,162
	importance healthy diet	,040	,121	,026	,329	,743	,629	1,589
	importance organic products	-,019	,088	-,019	-,221	,825	,559	1,789
	importance products from animal welfare	-,045	,086	-,042	-,524	,601	,627	1,596
	importance cook yourself	-,080	,080	-,071	-1,002	,317	,791	1,264

a. Dependent Variable: general attitude towards meal-kits

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,63	5,78	5,22	,405	240
Residual	-4,548	3,000	,000	1,429	240
Std. Predicted Value	-3,932	1,384	,000	1,000	240
Std. Residual	-3,149	2,078	,000	,989	240

a. Dependent Variable: general attitude towards meal-kits

Scatterplot
Dependent Variable: general attitude towards meal-kits
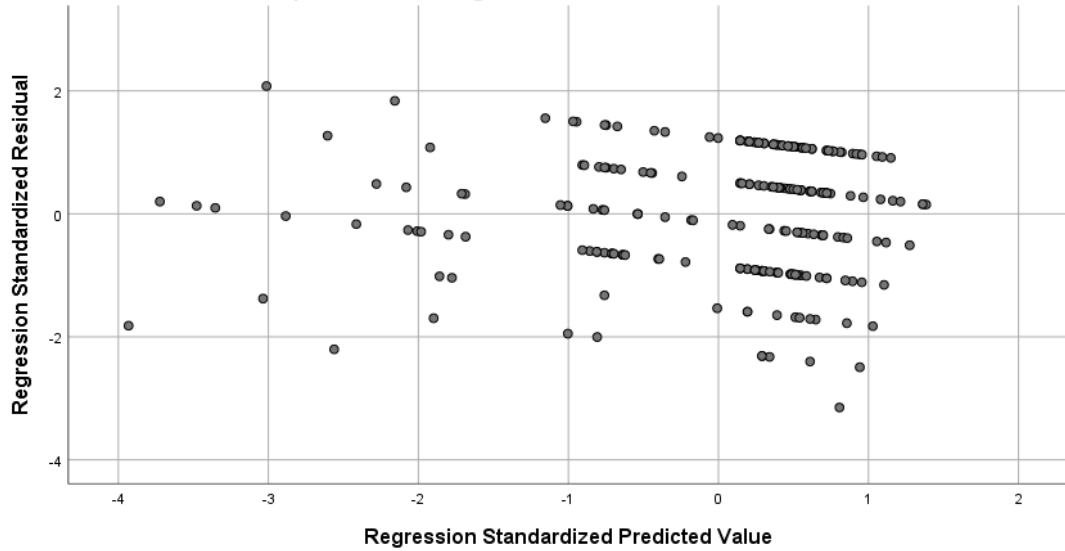
Appendix 10
Multiple Regression - Attitude (DV), Motives for buying meal kits (IV) [H4]

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,570[a]	,325	,307	1,236	1,818

a. Predictors: (Constant), I waste less food, I improve my cooking skills, I save time during grocery shopping, mealprep gets easier, I eat healthier, I try out new recipes

b. Dependent Variable: general attitude towards meal-kits

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	171,179	6	28,530	18,666	,000[b]
	Residual	356,117	233	1,528		
	Total	527,296	239			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,837	,457		1,832	,068		
	mealprep gets easier	,365	,070	,344	5,188	,000	,659	1,517
	I save time during grocery shopping	,146	,061	,154	2,375	,018	,694	1,441
	I try out new recipes	,192	,077	,170	2,488	,014	,621	1,611
	I improve my cooking skills	,030	,048	,040	,630	,529	,714	1,400
	I eat healthier	-,003	,074	-,003	-,045	,964	,650	1,540
	I waste less food	,040	,066	,040	,601	,549	,668	1,497

a. Dependent Variable: general attitude towards meal-kits

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1,61	6,24	5,22	,846	240
Residual	-4,047	4,297	,000	1,221	240
Std. Predicted Value	-4,270	1,201	,000	1,000	240
Std. Residual	-3,274	3,476	,000	,987	240

a. Dependent Variable: general attitude towards meal-kits

Scatterplot
Dependent Variable: general attitude towards meal-kits
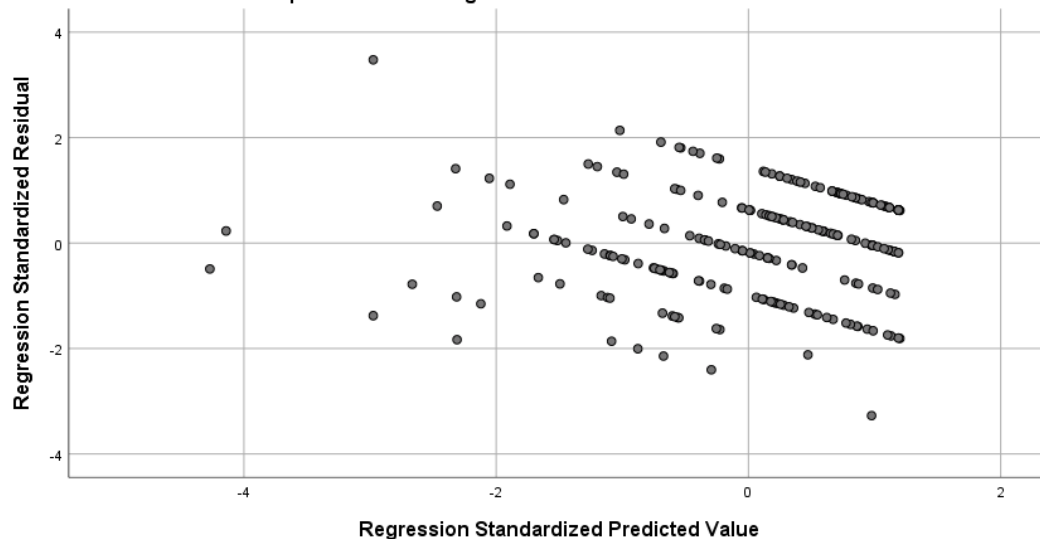
Appendix 11:
Multiple Regression - Attitude (DV) , 5 extracted factors from factor analysis (IV) [H5]

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,328[a]	,107	,088	1,418	1,608

a. Predictors: (Constant), Mean_Factor5, Mean_Factor2, Mean_Factor3, Mean_Factor4, Mean_Factor1

b. Dependent Variable: general attitude towards meal-kits

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56,632	5	11,326	5,631	,000[b]
	Residual	470,664	234	2,011		
	Total	527,296	239			

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	2,768	,934		2,963	,003		
	Mean_Factor1	,216	,123	,125	1,756	,080	,756	1,323
	Mean_Factor2	-,260	,080	-,217	-3,239	,001	,853	1,173
	Mean_Factor3	-,103	,093	-,070	-1,101	,272	,932	1,072
	Mean_Factor4	,261	,088	,197	2,954	,003	,858	1,166
	Mean_Factor5	,253	,123	,135	2,056	,041	,882	1,134

a. Dependent Variable: general attitude towards meal-kits

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3,96	6,57	5,22	,487	240
Residual	-4,247	2,682	,000	1,403	240
Std. Predicted Value	-2,590	2,763	,000	1,000	240
Std. Residual	-2,995	1,891	,000	,989	240

a. Dependent Variable: general attitude towards meal-kits

Scatterplot

Dependent Variable: general attitude towards meal-kits
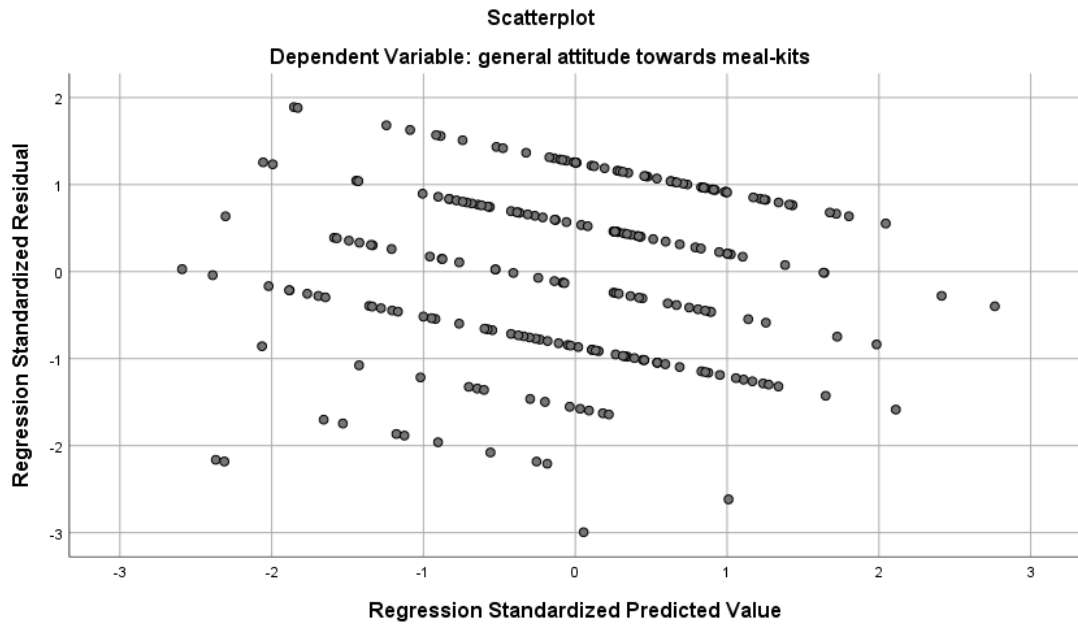
Appendix 12

KS-Test (Prior Purchase; age groups) [H6]

Bar Chart
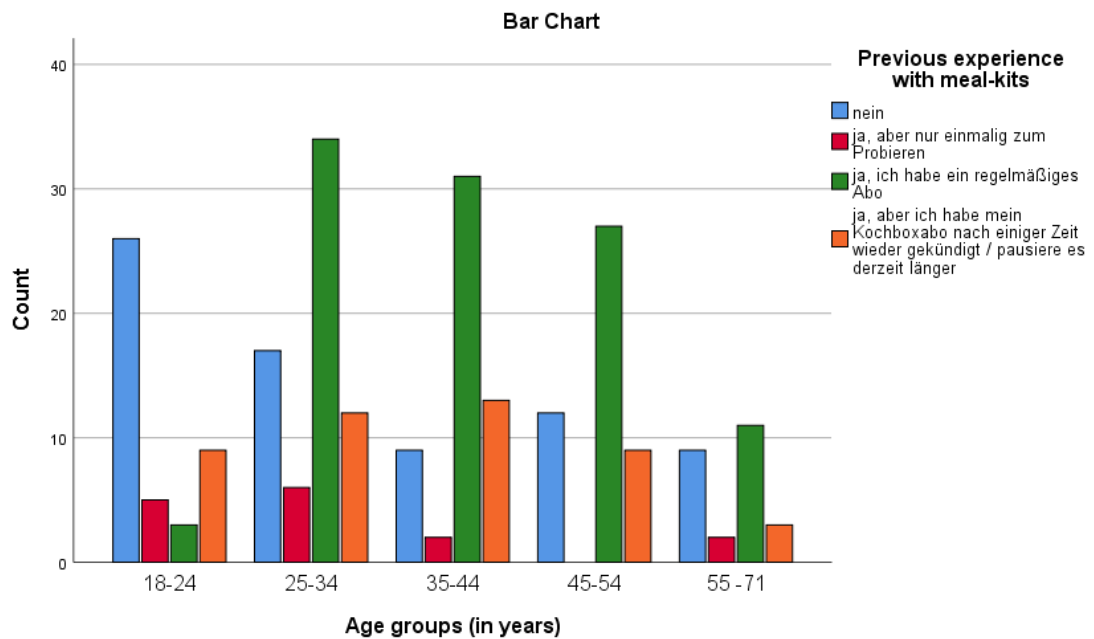
→ Expected frequeny in some categories smaller than 5, therefore the Chi-square test of independence cannot be used →1-Sample KS as alternative

Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Nominal by Nominal	Phi	,423			,000
	Cramer's V	,244			,000
Interval by Interval	Pearson's R	,143	,069	2,222	,027[c]
Ordinal by Ordinal	Spearman Correlation	,143	,070	2,233	,026[c]
N of Valid Cases		240			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

One-Sample Kolmogorov-Smirnov Test

		Age groups (in years)	Previous experience with meal-kits
N		240	240
Normal Parameters[a,b]	Mean	2,7625	2,52
	Std. Deviation	1,25338	1,116
Most Extreme Differences	Absolute	,195	,299
	Positive	,195	,218
	Negative	-,142	-,299
Test Statistic		,195	,299
Asymp. Sig. (2-tailed)		,000[c]	,000[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Appendix 13
1-Way ANOVA (future purchase intention , age group) [H7]

Descriptives

Mean_future_purchase_intention

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
1,00	26	4,9615	1,66086	,32572	4,2907	5,6324	1,00	7,00
2,00	17	4,5882	1,50245	,36440	3,8157	5,3607	1,00	7,00
3,00	9	4,6667	1,50000	,50000	3,5137	5,8197	2,00	7,00
4,00	12	3,7500	1,91288	,55220	2,5346	4,9654	1,00	6,00
5,00	10	3,4000	2,06559	,65320	1,9224	4,8776	1,00	7,00
Total	74	4,4324	1,76015	,20461	4,0246	4,8402	1,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Mean_future_purchase_intention	Based on Mean	,971	4	69	,429
	Based on Median	,784	4	69	,539
	Based on Median and with adjusted df	,784	4	68,650	,539
	Based on trimmed mean	1,004	4	69	,412
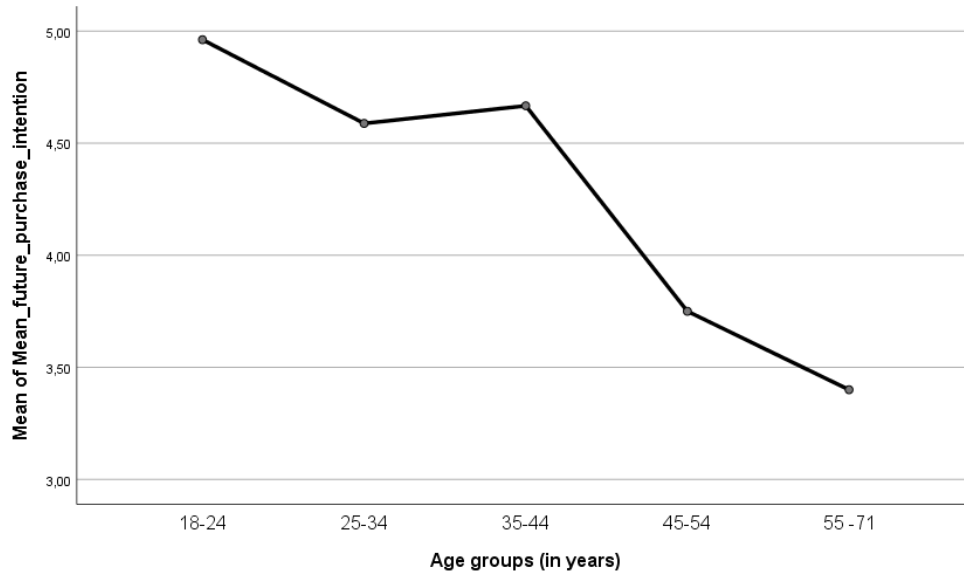
Appendix 14
1-way ANOVA (household size, prior purchase) [H8]

Descriptives

Household size

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
nein	73	2,49	1,180	,138	2,22	2,77	1	5
ja, aber nur einmalig zum Probieren	15	2,07	1,100	,284	1,46	2,68	1	4
ja, ich habe ein regelmäßiges Abo	106	2,58	1,146	,111	2,35	2,80	1	6
ja, aber ich habe mein Kochboxabo nach einiger Zeit wieder gekündigt / pausiere es derzeit länger	46	2,41	1,066	,157	2,10	2,73	1	5
Total	240	2,49	1,139	,074	2,34	2,63	1	6

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Household size	Based on Mean	,388	3	236	,762
	Based on Median	,417	3	236	,741
	Based on Median and with adjusted df	,417	3	231,438	,741
	Based on trimmed mean	,437	3	236	,727

ANOVA

Household size

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,734	3	1,245	,959	,413
Within Groups	306,228	236	1,298		
Total	309,963	239			
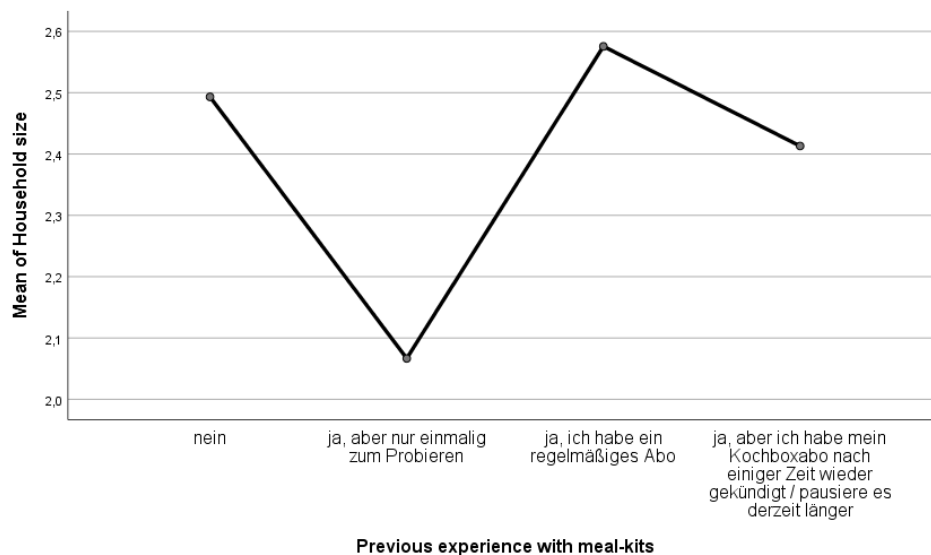
Appendix 15

1-way ANOVA (NPS; age groups) [H9]

Descriptives

Mean_NPS

	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
					95% Confidence Interval for Mean			
18-24	17	7,6471	2,49853	,60598	6,3624	8,9317	3,00	11,00
25-34	52	8,7692	2,25454	,31265	8,1416	9,3969	1,00	11,00
35-44	46	9,0000	2,56472	,37815	8,2384	9,7616	1,00	11,00
45-54	36	9,7222	1,46602	,24434	9,2262	10,2183	6,00	11,00
55-71	16	8,9375	2,26477	,56619	7,7307	10,1443	4,00	11,00
Total	167	8,9401	2,27533	,17607	8,5925	9,2877	1,00	11,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Mean_NPS	Based on Mean	1,292	4	162	,275
	Based on Median	,899	4	162	,466
	Based on Median and with adjusted df	,899	4	136,723	,466
	Based on trimmed mean	1,271	4	162	,284

ANOVA

Mean_NPS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	52,128	4	13,032	2,615	,037
Within Groups	807,273	162	4,983		
Total	859,401	166			
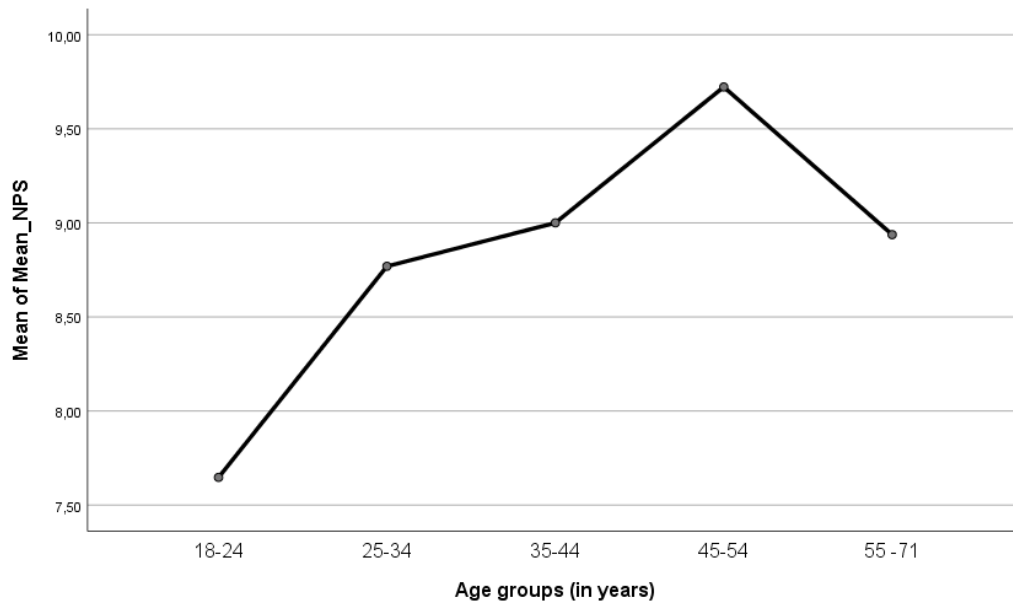
Appendix 16
Independent Samples T-Test (NPS; gender) [H10]

HelloFresh:

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Mean_NPS	male	11	6,0909	3,56243	1,07411
	famale	90	8,6889	2,16533	,22825

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mean_NPS	Equal variances assumed	8,711	,004	-3,469	99	,001	-2,59798	,74887	-4,08389	-1,11207
	Equal variances not assumed			-2,366	10,921	,038	-2,59798	1,09810	-5,01701	-,17895

Marley Spoon:

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Mean_NPS	male	5	10,2000	,83666	,37417
	famale	54	9,8519	1,49726	,20375

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mean_NPS	Equal variances assumed	1,405	,241	,510	57	,612	,34815	,68281	-1,01916	1,71545
	Equal variances not assumed			,817	6,680	,442	,34815	,42605	-,66917	1,36546

Appendix 17
Pearson Correlations [H11-H13]
HelloFresh

Correlations

		NPS	importance yummy food	importance healthy diet	importance organic products	importance products from animal welfare	importance cook yourself	mealprep gets easier	I save time during grocery shopping	I try out new recipes	I improve my cooking skills	I eat healthier	I waste less food	Mean_Factor1	Mean_Factor2	Mean_Factor3	Mean_Factor4	Mean_Factor5
NPS	Pearson Correlation	1	.175	.050	.122	.024	.131	.295**	.330**	.210*	.136	.102	.329**	.193	.051	-.197*	.107	-.027
	Sig. (2-tailed)		.081	.618	.226	.813	.193	.003	.001	.035	.175	.311	.001	.053	.611	.048	.288	.787
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
importance yummy food	Pearson Correlation	.175	1	.119	.137	.133	.386**	.074	.070	.133	-.069	-.099	.129	.212*	.114	-.167	.263**	.052
	Sig. (2-tailed)	.081		.238	.172	.185	.000	.460	.484	.184	.490	.325	.197	.033	.256	.096	.008	.606
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
importance healthy diet	Pearson Correlation	.050	.119	1	.513**	.302**	.358**	.193	.165	.152	-.067	.169	.247*	.077	.441**	.090	.290**	.156
	Sig. (2-tailed)	.618	.238		.000	.002	.000	.053	.100	.130	.507	.092	.013	.443	.000	.373	.003	.119
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
importance organic products	Pearson Correlation	.122	.137	.513**	1	.535**	.237*	-.052	.046	-.027	-.175	.011	.196*	.034	.679**	-.168	.258**	.090
	Sig. (2-tailed)	.226	.172	.000		.000	.017	.605	.646	.787	.081	.917	.050	.735	.000	.093	.009	.372
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
importance products from animal welfare	Pearson Correlation	.024	.133	.302**	.535**	1	.068	.048	.119	.076	-.206*	-.082	.230*	.127	.503**	-.048	.158	.115
	Sig. (2-tailed)	.813	.185	.002	.000		.500	.634	.237	.450	.039	.412	.021	.204	.000	.635	.114	.251
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
importance cook yourself	Pearson Correlation	.131	.386**	.358**	.237*	.068	1	.150	.034	.152	-.067	.035	.174	.163	.199*	-.176	.407**	.223*
	Sig. (2-tailed)	.193	.000	.000	.017	.500		.133	.739	.128	.509	.725	.081	.103	.046	.078	.000	.025
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
mealprep gets easier	Pearson Correlation	.295**	.074	.193	-.052	.048	.150	1	.348**	.205*	.045	.079	.365**	.341**	.033	.121	.067	.073
	Sig. (2-tailed)	.003	.460	.053	.605	.634	.133		.000	.039	.652	.435	.000	.000	.741	.229	.503	.073
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
I save time during grocery shopping	Pearson Correlation	.330**	.070	.165	.046	.119	.034	.348**	1	.134	.011	.258**	.358**	.330**	.136	-.033	.370**	.323**
	Sig. (2-tailed)	.001	.484	.100	.646	.237	.739	.000		.183	.911	.009	.000	.001	.177	.745	.000	.001
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
I try out new recipes	Pearson Correlation	.210*	.133	.152	-.027	.076	.152	.205*	.134	1	.367**	.109	.234*	.015	-.036	.077	.398**	.042
	Sig. (2-tailed)	.035	.184	.130	.787	.450	.128	.039	.183		.000	.280	.019	.885	.724	.445	.000	.677
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
I improve my cooking skills	Pearson Correlation	.136	-.069	-.067	-.175	-.206*	-.067	.045	.011	.367**	1	.420**	.014	.101	-.204*	.376**	.148	-.046
	Sig. (2-tailed)	.175	.490	.507	.081	.039	.509	.652	.911	.000		.000	.892	.314	.040	.000	.141	.649
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
I eat healthier	Pearson Correlation	.102	-.099	.169	.011	-.082	.035	.079	.258**	.109	.420**	1	.285**	.222*	.065	.202*	.070	.100
	Sig. (2-tailed)	.311	.325	.092	.917	.412	.725	.435	.009	.280	.000		.004	.026	.517	.043	.484	.322
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
I waste less food	Pearson Correlation	.329**	.129	.247*	.196*	.230*	.174	.365**	.358**	.234*	.014	.285**	1	.399**	.340**	-.073	.370**	.323**
	Sig. (2-tailed)	.001	.197	.013	.050	.021	.081	.000	.000	.019	.892	.004		.000	.000	.466	.000	.001
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Mean_Factor1	Pearson Correlation	.193	.212*	.077	.034	.127	.163	.341**	.330**	.015	.101	.222*	.399**	1	.310**	-.011	.232*	.179
	Sig. (2-tailed)	.053	.033	.443	.735	.204	.103	.000	.001	.885	.314	.026	.000		.002	.910	.020	.073
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Mean_Factor2	Pearson Correlation	.051	.114	.441**	.679**	.503**	.199*	.033	.136	-.036	-.204*	.065	.340**	.310**	1	-.176	.190	.109
	Sig. (2-tailed)	.611	.256	.000	.000	.000	.046	.741	.177	.724	.040	.517	.000	.002		.079	.057	.277
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Mean_Factor3	Pearson Correlation	-.197*	-.167	.090	-.168	-.048	-.176	.121	-.033	.077	.376**	.202*	-.073	-.011	-.176	1	-.089	.216*
	Sig. (2-tailed)	.048	.096	.373	.093	.635	.078	.229	.745	.445	.000	.043	.466	.910	.079		.375	.030
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Mean_Factor4	Pearson Correlation	.107	.263**	.290**	.258**	.158	.407**	.067	.370**	.398**	.148	.070	.370**	.232*	.190	-.089	1	.237*
	Sig. (2-tailed)	.288	.008	.003	.009	.114	.000	.503	.000	.000	.141	.484	.000	.020	.057	.375		.017
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
Mean_Factor5	Pearson Correlation	-.027	.052	.156	.090	.115	.223*	.073	.323**	.042	-.046	.100	.323**	.179	.109	.216*	.237*	1
	Sig. (2-tailed)	.787	.606	.119	.372	.251	.025	.073	.001	.677	.649	.322	.001	.073	.277	.030	.017	
	N	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Marley Spoon

Correlations

		NPS	importance yummy food	importance healthy diet	importance organic products	importance products from animal welfare	importance cook yourself	mealprep gets easier	I save time during grocery shopping	I try out new recipes	I improve my cooking skills	I eat healthier	I waste less food	Mean_Factor1	Mean_Factor2	Mean_Factor3	Mean_Factor4	Mean_Factor5
NPS	Pearson Correlation	1	.092	-.043	-.007	-.027	.052	.464**	.563**	.121	.119	.422**	.206	-.132	-.102	-.133	-.106	.055
	Sig. (2-tailed)		.488	.749	.961	.838	.695	.000	.000	.362	.371	.001	.117	.317	.442	.314	.423	.677
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
importance yummy food	Pearson Correlation	.092	1	.342**	.162	.100	.248	-.005	.029	-.065	-.053	.064	-.012	-.063	.050	.042	.118	.355**
	Sig. (2-tailed)	.488		.008	.222	.450	.058	.973	.829	.625	.693	.631	.927	.635	.709		.374	.006
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
importance healthy diet	Pearson Correlation	-.043	.342**	1	.466**	.455**	.243	-.177	-.057	-.007	.066	-.032	.264*	.166	.337**	.109	.299*	.149
	Sig. (2-tailed)	.749	.008		.000	.000	.064	.181	.668	.956	.620	.812	.043	.208	.009		.021	.260
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
importance organic products	Pearson Correlation	-.007	.162	.466**	1	.559**	.346**	-.079	.063	-.083	-.026	-.093	.284*	.085	.783**	-.174	.103	.128
	Sig. (2-tailed)	.961	.222	.000		.000	.007	.553	.634	.531	.847	.482	.029	.524	.000	.187	.440	.333
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
importance products from animal welfare	Pearson Correlation	-.027	.100	.455**	.559**	1	.194	.010	-.083	.265*	.170	.212	.409**	.071	.354**	-.074	.314*	.319*
	Sig. (2-tailed)	.838	.450	.000	.000		.140	.943	.531	.043	.198	.108	.001	.593	.006	.580	.015	.014
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
importance cook yourself	Pearson Correlation	.052	.248	.243	.346**	.194	1	.007	.000	.114	.170	-.046	.053	.124	.071	-.075	.169	.162
	Sig. (2-tailed)	.695	.058	.064	.007	.140		.958	.999	.390	.199	.727	.691	.351	.593	.572	.201	.221
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
mealprep gets easier	Pearson Correlation	.464**	-.005	-.177	-.079	.010	.007	1	.447**	.300*	.226	.408**	.109	-.001	-.078	.039	-.046	.053
	Sig. (2-tailed)	.000	.973	.181	.553	.943	.958		.000	.021	.085	.001	.411	.992	.556	.771	.727	.691
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
I save time during grocery shopping	Pearson Correlation	.563**	.029	-.057	.063	-.083	.000	.447**	1	.035	.104	.333**	.142	-.001	-.012	-.075	.031	.101
	Sig. (2-tailed)	.000	.829	.668	.634	.531	.999	.000		.791	.433	.010	.284	.992	.931	.572	.814	.447
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
I try out new recipes	Pearson Correlation	.121	-.065	-.007	-.083	.265*	.114	.300*	.035	1	.451**	.182	.286*	.147	.185	.278*	.016	.086
	Sig. (2-tailed)	.362	.625	.956	.531	.043	.390	.021	.791		.000	.168	.028	.266	.160	.033	.185	.518
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
I improve my cooking skills	Pearson Correlation	.119	-.053	.066	-.026	.170	.170	.226	.104	.451**	1	.391**	.323**	.292*	.000	.444**	.292*	.166
	Sig. (2-tailed)	.371	.693	.620	.847	.198	.199	.085	.433	.000		.002	.012	.025	.997	.000	.025	.210
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
I eat healthier	Pearson Correlation	.422**	.064	-.032	-.093	.212	-.046	.408**	.333**	.182	.391**	1	.359**	.129	-.001	.121	.046	.133
	Sig. (2-tailed)	.001	.631	.812	.482	.108	.727	.001	.010	.168	.002		.005	.330	.996	.361	.732	.314
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
I waste less food	Pearson Correlation	.206	-.012	.264*	.284*	.409**	.053	.109	.142	.286*	.323**	.359**	1	.359**	-.001	.121	.046	.225
	Sig. (2-tailed)	.117	.927	.043	.029	.001	.691	.411	.284	.028	.012	.005		.005	.996	.361	.732	.087
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean_Factor1	Pearson Correlation	-.132	-.063	.166	.085	.071	.124	-.001	.147	.266*	.292*	.129	.359**	1	.185	.353**	.127	.391**
	Sig. (2-tailed)	.317	.635	.208	.524	.593	.351	.992	.266	.042	.025	.330	.005		.160	.006	.339	.002
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean_Factor2	Pearson Correlation	-.102	.050	.337**	.783**	.354**	.071	-.078	-.012	.185	.000	-.001	-.001	.185	1	.444**	.025	.212
	Sig. (2-tailed)	.442	.709	.009	.000	.006	.593	.556	.931	.160	.997	.996	.996	.160		.000	.808	.107
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean_Factor3	Pearson Correlation	-.133	.042	.109	-.174	-.074	-.075	.039	-.075	.278*	.444**	.121	.121	.353**	.444**	1	.089	.118
	Sig. (2-tailed)	.314		.187	.187	.580	.572	.771	.572	.033	.000	.361	.361	.006	.000		.501	.374
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean_Factor4	Pearson Correlation	-.106	.118	.299*	.103	.314*	.169	-.046	.031	.016	.292*	.046	.046	.127	.025	.089	1	.209
	Sig. (2-tailed)	.423	.374	.021	.440	.015	.201	.727	.814	.585	.025	.732	.732	.339	.808	.501		.113
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
Mean_Factor5	Pearson Correlation	.055	.355**	.149	.128	.319*	.162	.053	.101	.086	.166	.133	.225	.391**	.212	.118	.209	1
	Sig. (2-tailed)	.677	.006	.260	.333	.014	.221	.691	.447	.518	.210	.314	.087	.002	.107	.374	.113	
	N	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59

. Correlation is significant at the 0.01 level (2-tailed).

*.** Correlation is significant at the 0.05 level (2-tailed).

Appendix 18

1-way ANOVA (Supermarket meal kits; age groups) [H14]

Descriptives

MEAN_supermarket_purchase_intention

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
18-24	43	5,3256	1,59942	,24391	4,8334	5,8178	1,00	7,00
25-34	69	4,3478	1,92374	,23159	3,8857	4,8100	1,00	7,00
35-44	55	5,1818	1,76479	,23796	4,7047	5,6589	1,00	7,00
45-54	48	4,2708	2,20965	,31893	3,6292	4,9124	,00	7,00
55 -71	25	4,0800	2,48193	,49639	3,0555	5,1045	1,00	7,00
Total	240	4,6708	2,00522	,12944	4,4159	4,9258	,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
MEAN_supermarket_purchase_intention	Based on Mean	4,410	4	235	,002
	Based on Median	3,294	4	235	,012
	Based on Median and with adjusted df	3,294	4	228,463	,012
	Based on trimmed mean	4,388	4	235	,002

➜ Kruskal Wallis Test as alternative

ANOVA

MEAN_supermarket_purchase_intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	56,401	4	14,100	3,663	,006
Within Groups	904,595	235	3,849		
Total	960,996	239			

MEAN_supermarket_purchase_intention

Scheffe[a,b]

Age groups (in years)	N	Subset for alpha = 0.05
		1
55 -71	25	4,0800
45-54	48	4,2708
25-34	69	4,3478
35-44	55	5,1818
18-24	43	5,3256
Sig.		,075

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
MEAN_supermarket_purchase_intention	Based on Mean	5,288	3	236	,002
	Based on Median	3,734	3	236	,012
	Based on Median and with adjusted df	3,734	3	233,312	,012
	Based on trimmed mean	5,362	3	236	,001

➔ Kruskal Wallis Test as alternative

ANOVA

MEAN_supermarket_purchase_intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15,726	3	5,242	1,309	,272
Within Groups	945,270	236	4,005		
Total	960,996	239			
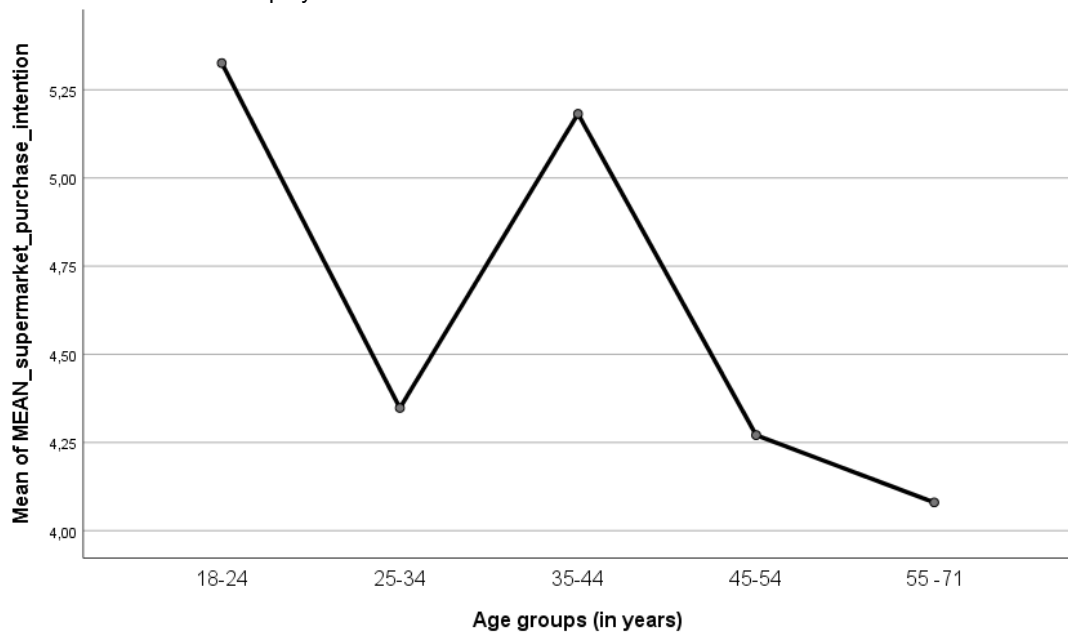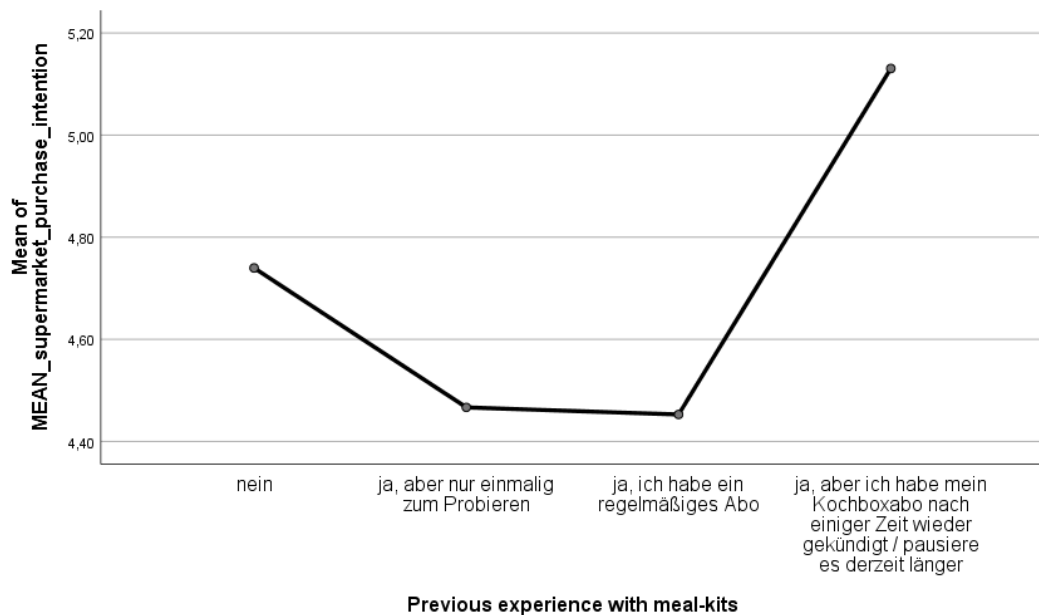
Kruskal-Wallis Test Differences in supermarket purchase intention in the means of the four groups for prior experience with meal kits

Ranks

MEAN_supermarket_purchase_intention	Previous experience with meal-kits	N	Mean Rank
	nein	73	119,80
	ja, aber nur einmalig zum Probieren	15	111,77
	ja, ich habe ein regelmäßiges Abo	106	116,07
	ja, aber ich habe mein Kochboxabo nach einiger Zeit wieder gekündigt / pausiere es derzeit länger	46	134,67
	Total	240	

Test Statistics[a,b]

	MEAN_supermarket_purchase_intention
Kruskal-Wallis H	2,678
df	3
Asymp. Sig.	,444

a. Kruskal Wallis Test
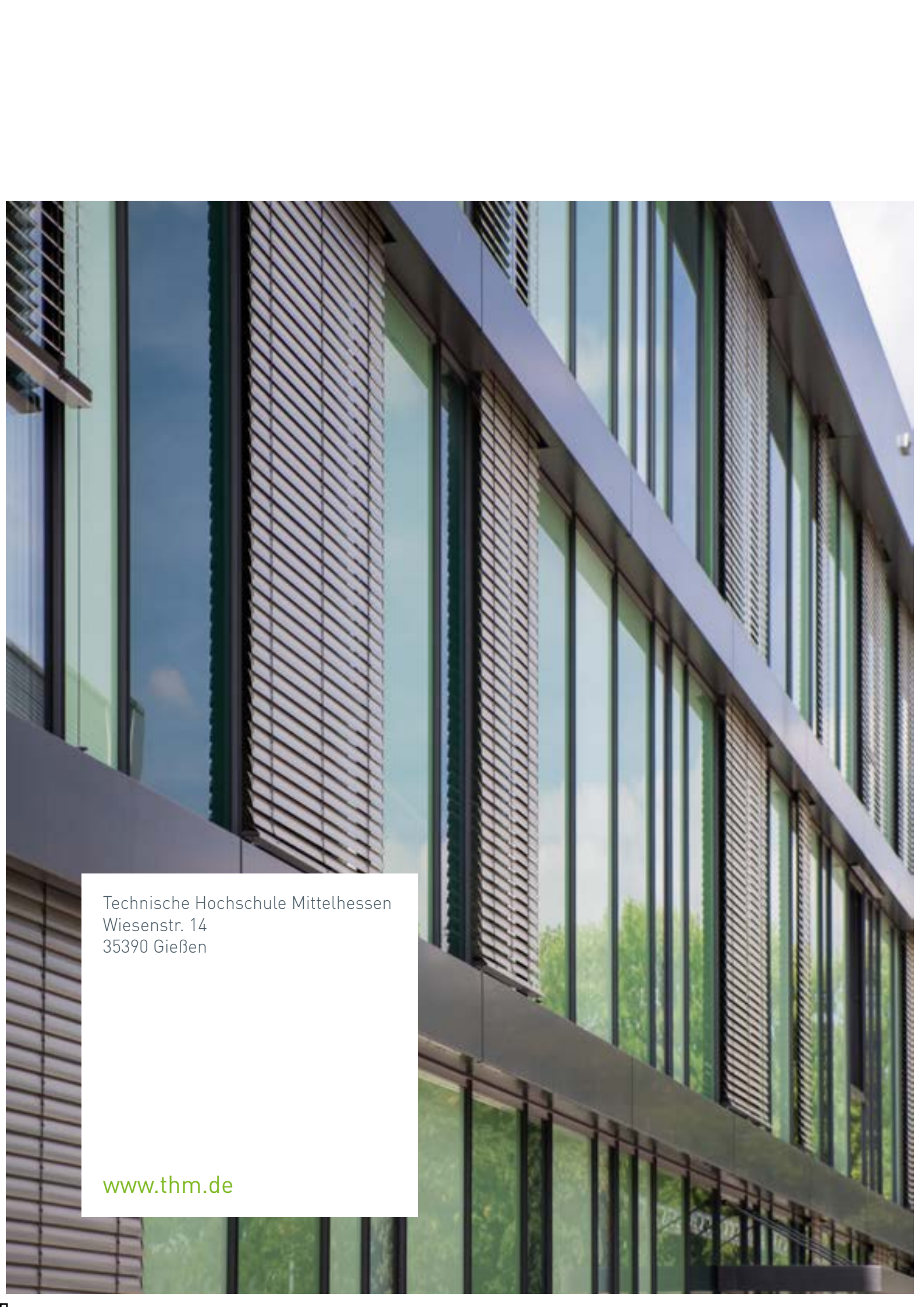b. Grouping Variable: Previous experience with meal-kits

Student Declaration

I declare that the submitted work has been completed by me the undersigned and that

I have not used any other than permitted reference sources or materials nor engaged in

any plagiarism. All references and other sources used by me have been appropriately

acknowledged in the work.

I further declare that the work has not been submitted for the purpose of academic

examination, either in its original or similar form, anywhere else.

(Place)_____   (Date)   _____ (Signature)

_____.

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